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Section 100: The EMS System

Policy 101: Quality Improvement Program

Revision 5/22/20
Effective 8/1/18

- I. Purpose:
- A. To establish a system wide Quality Improvement (QI) Plan for evaluating the Emergency Medical System of Santa Cruz County to foster continuous improvement in performance and quality patient care. To assist the EMS Agency, EMS Providers, Receiving Hospitals and Base Hospitals in defining standards, evaluating methodologies and utilizing the evaluation results for continued system improvement.
 - B. This policy describes the role, composition and procedure for regular assessment of key quality indicators and a process for categorizing incidents that are reviewed.
- II. Authority:
- A. California Code of Regulations, Title 22, Section 100136, 100141.2, 100166, 100167, 100168, and 100172. Health and Safety Code Division 2.5, Section 1797.220. California Evidence Code, Section 1157.7
- III. Definition:
- A. Quality Improvement (QI) means a method of evaluation of services provided, which includes defined standards, evaluation methodologies and utilization of evaluation results for continued system improvement. Such methods may include, but not be limited to, a written plan describing the program objectives, organization, scope and mechanisms for overseeing the effectiveness of the program.
 - B. This reference to Quality Improvement (QI) is comparable to State Regulations' reference to Continuous Quality Improvement.
- IV. Principles:
- A. To be effective, a Quality Improvement (QI) Plan must foster a positive working relationship between all components of the emergency medical system.
 - B. This document will allow each agency to continue meeting its own unique QI needs as well as providing an avenue for meaningful collaboration system wide. This QI Plan encourages the utilization of the processes that affect patient outcomes most significantly.
- V. Policy:
- A. At a minimum, the QI Plan shall include:
 - 1. Statement of quality improvement program goals and objectives.
 - 2. Description of how the Quality Improvement Plan is integrated into the Santa Cruz

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County EMS system.

3. Description of those processes used in conducting quality improvement activities, action plans and results.
4. Methods to document those processes used in quality improvement activities.
5. Common database from which to compare data system participants.
6. Methods to retrieve data from participating non-base receiving hospitals regarding patient diagnoses and disposition.

VI. Base Hospital Contributions:

- A. Implementation and maintenance of a Quality Improvement (QI) Plan in conjunction with prehospital care providers assigned to the base hospital.
- B. Designation of a representative to participate in the Santa Cruz County EMS QI Committee.
- C. Collection of outcome data on patients brought to the Base Hospital as outlined in the EMS CQI Plan.

VII. Provider Agencies Contributions:

- A. Implementation and maintenance of a Quality Improvement (QI) Plan in conjunction with assigned base hospitals and receiving hospitals.
- B. Evaluation of prehospital care performance standards.
- C. Designation of a representative to participate in the Santa Cruz County EMS QI Committee.

VIII. EMS Agency Contributions:

- A. Implementation and maintenance of a Quality Improvement (QI) Plan in conjunction with base hospitals, receiving hospitals, and provider agencies.
- B. Provide for a multidisciplinary team approach and provide staff support for the EMS QI Committee.
- C. Assist in ongoing monitoring and evaluation of clinical and organizational performance.
- D. Provide information to support system improvement of those processes that are important to the quality of patient care.
- E. Provide confidential patient outcome and informational system reports to assist in improving the functions targeted by the QI program.

IX. EMS Quality Improvement Committee

- A. The EMS Quality Improvement Committee membership shall consist of:
 1. EMS Medical Director

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2. EMS Program Manager
 3. Physician from each Base Hospital
 4. PLN from each Base Hospital
 5. EMSIA QA Manager
 6. EOA Ambulance CES Coordinator
 7. Emergency Medical Dispatch Program Manager
 8. Other representatives of the Santa Cruz County EMS community as approved by the EMS Medical Director and Program Manager
- B. The EMS Quality Improvement Committee will:
1. Meet monthly. The proceedings and records of this committee shall be free from disclosure and discovery. (CEC, Sect. 1157.7)
 2. Focus on system processes for improvement.
 3. Coordinate and compile focused studies/research on selected issues.
- C. At such time when the EMS Quality Improvement Subcommittees develop, the proceedings and records of the Subcommittees shall be free from disclosure and discovery. (CEC, Sect. 1157.7)
- X. Benchmark Quality Indicators
- A. The following quality indicators shall be continuously monitored and reported at Quality Improvement Committee meetings monthly.
1. Dispatch/EMD (see also Policy 306, *Emergency Medical Dispatch*)
 - a) Code 2/Code 3 returns
 - (1) All cardiac arrests
 - (2) Random audit
 - (3) Aqua reports/Drift reports (NetCom QA Program)
 2. Cardiac Arrest
 - a) Bystander CPR (PUB-1)
 - b) AED prior to arrival (CAR-1)
 - c) First Arrival time to rescuer CPR
 - d) Initial rhythm recorded
 - e) Defibrillation (number and dose)
 - f) Intubation (see #6)

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- g) ROSC (y/n) (CAR-2)
 - h) EtCO₂ readings (initial and continuous)
 - i) survival to ED discharge (CAR-3)
 - j) survival to hospital discharge (CAR4)
3. STEMI
- a) Arrival to EKG
 - b) ASA (ACS-1)
 - c) Scene time (ACS-3)
 - d) STEMI alert (ACS-4)
 - e) 911-to balloon
 - f) Appropriate destination (ACS-5)
4. Suspected Cardiac Ischemia
- a) 12 Lead EKG Obtained
 - b) 12 Lead EKG transmitted
 - c) 12 Lead EKG interpretation
 - d) STEMI alert
 - e) ASA given
 - f) NTG given
 - g) Morphine given
 - h) Destination Hospital
 - i) Mode of transport
5. Stroke
- a) Time Last Known Well
 - b) Stroke scale recorded (STR-1)
 - c) Blood Glucose recorded (STR-2)
 - d) Scene time (STR-3)
 - e) Stroke alert called (STR-4)
 - f) 911-to needle time
6. Trauma (see also Policy 107, *Trauma Quality Improvement and System Evaluation*)

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- a) Scene times (TRA-1)
- b) PAM scale recorded
- c) Appropriate destination (TRA-2)
- d) Advanced Airway Management (See Procedure 704 Advanced Airway Management)
- e) Indications for invasive airway
- f) Date/Time Airway Device Placement Confirmation
- g) Airway Device Being Confirmed
- h) Airway Device Placement Confirmed Method
- i) Tube Depth
- j) Type of Individual Confirming Airway Device Placement
- k) Crew Member ID
- l) Airway Complications Encountered
- m) Suspected Reasons for Failed Airway Management
- n) Waveform capnography readings through duration of care
 - (1) EtCO2 initial (SKL-2)
 - (2) EtCO2 continuous (SKL-2)

B. Additional quality indicators may be added as deemed necessary through the quality improvement process

XI. EMS Retrospective Review

- A. This section of the quality improvement policy establishes a framework for EMS system participants to categorize clinical questions that arise in the EMS system for ensuring proper reporting, analysis and follow-up. This is indented to encompass incidents with positive and negative outcomes. Every incident that may occur represents an opportunity for system improvement provided that the analysis is properly conducted with emphasis on identifying systemic contributing factors that may have led to the occurrence, and adequately reported to the Quality Improvement Committee.
- B. This section may be implemented by any EMS system participating agency/provider. It may be used by County EMS, Hospital, SCR911, and Prehospital Personnel alike. In all cases the concept of “Just Culture” should govern all incident investigations.
- C. Level I: Low level of concern or risk
 - 1. Description: This includes minor deviations in care or communication that do not affect

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the clinical outcome of the patient. Examples include failure to perform spinal immobilization in a patient who is neurologically intact, failure to get a base station consultation on a “grey area” trauma patient who is in fact appropriately managed locally, etc.

2. Indicated Actions: Level I incidents should result in on-the-spot feedback and communication between personnel, and an email/phone call FYI to QI staff.
3. Follow-up and Reporting: Agency level QI staff will close the loop with the personnel involved and may optionally report back to the reporting agency. Generally, these incidents need not be reported at the monthly EMS QI Committee meetings and monitored for trends.

D. Level II: Moderate level of concern or risk

1. Description: Significant deviations from the standard of care, repetitive occurrences, or serious communication conflicts between caregivers. Examples include medication administration errors, failure to transport a major trauma patient to the appropriate destination resulting in a delay of care, command and control issues occurring on scenes, etc.
2. Indicated Actions: A Level II Incident requires the involved agency to convene a review of the case. This review can be held with just the involved crew but may be expanded to include all involved EMS personnel (fire, transport, SCR911, hospital staff, etc.) as indicated.
3. Follow-up and Reporting: In all cases, Level II Incident investigations will result in a written document including analysis of the incident, and recommendations for remediation. This write up will be presented to County EMS and all involved agencies. All Level II Incidents will be presented at the County QI Committee meeting.

E. Level III: Highest level of concern or risk

1. Description: A Level III Incident includes substantial deviations in the standard of care that present a high level of risk to the patient and/or the EMS system. This may include possible negligent or grossly negligent behavior by a provider. Examples include abandoning a patient on scene, failing to check for/recognize an esophageal intubation, administering a drug that is clinically contraindicated, etc.
2. Indicated Actions: A Level III Incident will result in immediate notification of agency QI staff and County EMS staff. Responses to this level of incident may include an ASAP formal call review, temporary suspension of personnel County accreditation pending investigation, etc.
3. Follow-up and Reporting: All Level III Incidents will be presented at the County QI Committee meeting.

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F. Level IV: Exceptional Occurrences

1. Description: These may include publicly visible events, large-scale incidents, best practices, exemplary performance, etc.
2. Indicated Actions: Reviews may be held outside of the Level I-III structure for incidents not meeting those criteria, but which have the potential for system improvement.
3. Follow-up and Reporting: These events may result in a review with individual caregivers, unit crews, or all involved EMS, hospital, and dispatch personnel as indicated. These cases should be reported at the county QI committee meeting.

XII. Multiple Casualty Incidents (MCI) or Complex Incidents

A. A multiple casualty incident represents a non-routine event that, due to the number of patients or complexity of the situation, exceeds the capacity of a standard EMS response. An MCI often involves of multiple responders from multiple agencies and includes critical interventions. (see Reference 811: Multiple Casualty Incident Plan). Therefore, each MCI represents an important learning opportunity that can identify the need for policy, procedure or plan refinement and/or training needs.

B. Incident Review (Hot Wash)

1. A hot wash is the immediate discussion and performance evaluation by each respective agency. Typically, the most expedient opportunity for a hot wash is prior to clearing the scene/hospital or shortly thereafter, but generally should occur no later than 48 hours.
2. The strengths and weaknesses identified during the hot wash should be recorded by each agency in preparation for the subsequent After-Action Review (AAR).

C. After-Action Review (AAR)

1. The After-Action Review provides the opportunity for a multidisciplinary discussion of the Hot Wash findings from each agency and the preparation of a report summarizing the lessons learned.
2. The AAR is typically attended by the leadership or other representatives of each involved agency (Dispatch, Fire, EMS, Hospital, Law etc.)
3. The lessons learned from the AAR should be summarized and reported to each respective agency and to the EMS Agency within 14 days of the incident.
4. The EMS Agency will review the findings in the AAR and make policy, protocol or training recommendations, as needed, to the Prehospital Advisory Committee and other relevant committees.

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Policy 102: Trauma System Organization and Management

Revision 5/22/18
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- I. Purpose
 - A. To identify the role and responsibilities of Santa Cruz Emergency Medical Services Agency (EMS) as they relate to the trauma care system.
- II. Definition
 - A. Local EMS agency means the agency, department, or office having primary responsibility for administration of emergency medical services in a county and which is designated pursuant to the California Health and Safety Code.
 - B. "Trauma care system" or "trauma system" or "inclusive trauma care system" means a system that is designed to meet the needs of all injured patients. The system shall be defined by the local EMS agency in its trauma care system plan in accordance with California Trauma Care System Regulations.
 - C. P.A.M. is a scoring system for trauma patients consisting of Physiologic, Anatomic and Mechanistic criteria.
 - D. Adult patients are 15 years old and greater.
 - E. Pediatric patients are 14 years old or less.
- III. Policy
 - A. As the lead agency for the Santa Cruz County emergency medical services system, Santa Cruz EMS is responsible for planning, implementing, and managing the trauma care system. These responsibilities include:
 - 1. Assessing needs and resource requirements;
 - 2. Developing the system design, including the number of trauma center(s) and determining patient flow patterns;
 - 3. Assigning roles to system participants, including designation of the trauma center(s);
 - 4. Working with the designated trauma centers and other system participants, and with neighboring EMS systems on outreach and mutual aid services;
 - 5. Development of a trauma data system, including a trauma registry at the trauma center, trauma data collection from non-trauma centers, pre-hospital data collection;
 - 6. Monitoring of the system to determine compliance with appropriate state laws and regulations, local EMS agency policies and procedures, and contracts, and taking corrective action as needed;

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7. Public information and education;
 8. Evaluating the impact of the system and revising the system design as needed.
- B. To fulfill these responsibilities, Santa Cruz EMS will assign staff to the trauma care system. Other Santa Cruz EMS staff, including the EMS Medical Director, will participate in system monitoring, evaluation and problem-solving activities. Approximately ten percent (10%) of the agency's total staff time is devoted to the trauma care system.
- C. On a day-to-day basis, Santa Cruz EMS will oversee the quality assurance processes required of the trauma system and will investigate problems.

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Policy 103: Trauma System Data Collection and Management

Revision 5/22/18
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I. Purpose

- A. To establish requirements for data collection and management by trauma system participants.
- B. Authority for this policy is noted in Division 2.5, California Health and Safety Code, Sections 1798.162, 1798.163 California Code of Regulations Sections 100255, 100257.
- C. Definitions
 - 1. "Trauma Center" or "designated trauma center" means a licensed hospital, accredited by the Joint Commission on Accreditation of Healthcare Organizations, which has been designated as a Level I, II, III, or IV trauma center and/or Level I or II pediatric trauma center by the local EMS agency, in accordance with California Trauma Care System Regulations.
 - 2. "Trauma Receiving Facility" means a licensed hospital within the Trauma Service Area (Santa Cruz County), accredited by the Joint Commission on Accreditation of Healthcare Organizations, which receives trauma patients.

II. Policy

- A. Prehospital records -- In addition to normal patient information, pre-hospital providers shall, for all patients who meet the trauma triage criteria (See Policy 625 Trauma Patient Transport and Hospital Destination and Policy 626 Trauma Triage), record triage criteria met (See Protocol 700-T1 Trauma)
- B. Trauma Center -- The Trauma Center shall complete a trauma registry form for all patients who are determined in the field to have met the trauma triage criteria (See Policy 625 Trauma Patient Transport and Hospital Destination and Policy 626 Trauma Triage) or who are brought to the Trauma Center and are later determined to meet triage criteria, and who are admitted to the Trauma Center, or transferred to another Trauma Center.
- C. Trauma Receiving Facility -- The Trauma Receiving Facility shall complete a trauma registry form for all patients who are determined in the field to have met the trauma triage criteria (See Policy 625 Trauma Patient Transport and Hospital Destination and Policy 626 Trauma Triage) or who are brought to the Trauma Receiving Facility and are later determined to meet triage criteria, and who are admitted to the Trauma Receiving, or transferred to another hospital or Trauma Center.
- D. The trauma registry process shall include at least the following:
 - 1. Time of arrival and patient treatment in:
 - a) Emergency department or trauma receiving area

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- b) Operating room
- 2. Dates for:
 - a) Initial admission
 - b) Intensive care
 - c) Discharge
- 3. Discharge data, including:
 - a) Total hospital charges (aggregate dollars only)
 - b) Patient destination
 - c) Discharge diagnosis

III. Cooperation with other counties

- A. Where patients from the Santa Cruz EMS system are transported to a trauma center or trauma receiving facility in another EMS system, Santa Cruz EMS will seek patient information which is equivalent to that provided by a Santa Cruz trauma receiving facility.
- B. Where patients from another EMS system are transported to a Santa Cruz EMS trauma receiving facility, Santa Cruz EMS will attempt to provide patient information which is equivalent to that provided by that system's designated trauma centers or trauma receiving facilities.
- C. Hospitals and ambulance providers within the Santa Cruz EMS system are encouraged to cooperate with other EMS agencies in data collection and evaluation efforts.

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Policy 104: Trauma Service Area

Revision 5/22/18
Effective 8/1/18

I. Purpose

- A. To establish service areas for trauma patients in Santa Cruz County.
- B. Authority for this policy is noted in Division 2.5, California Health and Safety Code, Sections 1798.162, 1798.163 California Code of Regulations Section 100255

II. Definitions

- A. "Service area" means that geographic area defined by the local EMS agency in its trauma care system plan as the area served by a designated trauma center.
- B. "Trauma Center" or "designated trauma center" means a licensed hospital, accredited by the Joint Commission on Accreditation of Healthcare Organizations, which has been designated as a Level I, II, III, or IV trauma center and/or Level I or II pediatric trauma center by the local EMS agency, in accordance with California Trauma Care System Regulations.

III. Policy

- A. The entire County of Santa Cruz will be considered the service area.
- B. There are currently no trauma centers designated in the County of Santa Cruz.
- C. To provide optimal care for major trauma victims, patients meeting triage criteria, patients will be routed as specified. See Policy 625 Trauma Patient Transport and Hospital Destination and Policy 626 Trauma Triage.

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Policy 105: Trauma Mutual Aid and Coordination with Neighboring System

Revision 5/22/18
Effective 8/1/18

I. Purpose

- A. To ensure that critical trauma patients are treated at an appropriate facility, regardless of geopolitical boundaries and to facilitate coordination with neighboring systems.
- B. Authority for this policy is noted in Division 2.5, California Health and Safety Code, Sections 1798.162, 1798.163, 1798.170 California Code of Regulations Section 100255

II. Definition

- A. "Trauma Center" or "designated trauma center" means a licensed hospital, accredited by the Joint Commission on Accreditation of Healthcare Organizations, which has been designated as a Level I, II, III, or IV trauma center and/or Level I or II pediatric trauma center by the local EMS agency, in accordance with California Trauma Care System Regulations.

III. Policy

- A. Santa Cruz EMS will coordinate its trauma care system with those in neighboring EMS systems to ensure that patients are transported to the most accessible trauma facility equipped, staffed, and prepared to administer care appropriate to the needs of the patient. Written mutual aid agreements will be executed as necessary to ensure coordination with neighboring systems.
 - 1. Santa Cruz EMS will maintain contact with neighboring EMS agencies to monitor the status of trauma care systems in surrounding jurisdictions.
 - 2. Santa Cruz County will contact the Santa Clara and Monterey EMS agencies to seek appropriate trauma service coordination.
- B. Where patients from Santa Cruz County are transported to a trauma center in another EMS system, Santa Cruz EMS will seek trauma registry information.
- C. Where patients from another EMS system are transported to a Santa Cruz EMS receiving hospital, Santa Cruz EMS will attempt to provide a basic data set of patient information.
- D. Ambulance providers within Santa Cruz County are encouraged to cooperate with other EMS agencies in data collection and evaluation efforts of patients who are served by the Santa Cruz EMS system.

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Policy 106: Blank

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Reserved for Future Use

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Policy 107: Trauma Quality Improvement and System Evaluation

Revision 5/22/18
Effective 8/1/18

I. Purpose

- A. To establish a system-wide Quality Improvement (QI) program for evaluating the Santa Cruz EMS Trauma System to foster continuous improvement in performance and patient care. In addition, it will assist Santa Cruz EMS in defining standards; evaluating methodologies and utilizing the evaluation results for continued system improvement.
- B. Authority for this policy are found in Division 2.5, California Health and Safety Code, Sections 1798.162, 1798.163 California Code of Regulations Section 100255, 100258, 100265 and California Evidence Code, Section 1157.7

II. Definition

- A. "Quality Improvement" (or Quality Assurance) means a method of evaluation of services provided, which includes defined standards, evaluation methodologies and utilization of evaluation results for continued system improvement. Such methods may include, but not limited to, a written plan describing the program objectives, organizations, scope and mechanisms for overseeing the effectiveness of the program.

III. Policy:

- A. Trauma system participants within the Santa Cruz System will maintain a comprehensive quality program.
- B. Quality Improvement Plan:
 - 1. The Santa Cruz EMS Trauma QI Plan consists of the following elements:
 - a) An internal comprehensive quality improvement process (See Policy 101 Quality Improvement Program and System Evaluation)
 - b) A periodic local audit of the trauma care provided by receiving hospitals in Santa Cruz County.
 - c) An ongoing external medical audit of case reviews by the Trauma Audit Committees both in-county and out-of-county.
 - 2. Trauma Systems Review
 - a) Santa Cruz EMS will be responsible an annual review of the trauma system, which will be conducted at least every two (2) years. The template for this review will be developed and approved by the Quality Improvement Committee.

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Policy 108: Stakeholder Participation

Revision 5/22/18
Effective 8/1/18

I. Purpose

- A. To establish a mechanism for system stakeholders to provide input to the Agency on the growth and management of the Santa Cruz County Emergency Medical Services System.

II. Forums

A. Emergency Medical Care Commission (EMCC)

- 1. Acts in an advisory capacity to the Board of Supervisors on all matters relating to emergency medical services, to review the EMS related activities in the County, to provide residents of the County an opportunity to participate in the policy generation for the emergency medical services system, and to report the observations of the Commission to designated regulatory bodies

B. Prehospital Advisory Committee (PAC)

- 1. Comprised of representatives from each provider agency, hospitals, law enforcement, etc. The group focuses on the logistical and operational aspects of EMS. Meetings are held monthly. This group also focus on the clinical aspects of the EMS system delivery and is advisory to the Medical Director

C. Technical Advisory Group (TAG)

- 1. Designated by contract to monitor the performance of the Ambulance Agreement and evaluate the ambulance Contractor's compliance with Agreement terms and conditions. The findings and recommendations of the TAG are reported to the Health Services Agency Administrator. TAG meetings are usually held once a month via teleconference.

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Policy 109: 911 System Provider Roles

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. To clearly identify roles and responsibilities for providers of emergency medical services in Santa Cruz County.
- II. The EMS Agency
 - A. The EMS Agency is a government organization that is responsible for the development, management, and regulation of all aspects of the Santa Cruz County Emergency Medical Services System. The EMS Agency is also responsible for several other disaster and medical-health regulatory and management duties as authorized by the State regulation and County Ordinance.
 - B. The EMS Agency operates in accordance with federal, state and county laws and ordinances.
- III. Fire Service Providers
 - A. The fire service is responsible for overall scene management and ensuring the mitigation of hazardous situations or environments. At a minimum, that includes the provision of first response Basic Life Support (BLS) services as authorized by state regulation. They may also provide ALS level care and transport BLS and ALS patients under certain circumstances.
 - B. Fire Service providers operate in accordance with state regulations and the Santa Cruz County Pre-Hospital Care Policy.
- IV. EOA Contracted Ambulance Service Provider
 - A. The County has elected to provide ambulance transportation services through a single provider. The contracted ambulance service provider is responsible for providing Advanced Life Support (ALS) transportation services for the County of Santa Cruz.
 - B. Although the contracted ambulance service units may arrive at the scene of an emergency prior to the fire service units, the public safety agency responsible for the incident location is the lawful scene authority.
 - C. EOA contracted ambulance service providers operate in accordance with the state regulations, Santa Cruz County Pre-Hospital Care Policy, Santa Cruz County Ambulance Ordinance including associated Ambulance Permit Regulations, and any contracts and/or agreements established with the County.
- V. Non-EOA Approved Ambulance Services
 - A. Non-EOA approved ambulance services support 911 System operations as necessary. This may include assistance during periods of high call volume, multi-casualty incidents, and potential or actual disaster situations. When used in the 911 System, non-EOA approved ambulance

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services operate in the same fashion as the EOA contracted ambulance service provider.

- B. Non-EOA approved ambulance services may provide care and associated services at the BLS or ALS transport level depending on the type of permit issued by the EMS Agency.
- C. Non-EOA approved ambulance service providers operate in accordance with State regulations; Santa Cruz County Pre-Hospital Care Policy; Santa Cruz County Ambulance Ordinance, including associated Ambulance Permit Regulations; and any additional contracts and/or agreements established with the County.

VI. Air Resource Providers

- A. The County permits several air resource providers, which include air ambulances and rescue aircraft. These resources primarily provide critical patient transport when requested by the Incident Commander or established automatic flight areas. Air resources may also be used to provide first response service in the rural areas of the County.
- B. Air resource providers operate in accordance with State regulations; Santa Cruz County Pre-Hospital Care Policy; Santa Cruz County Ambulance Ordinance, including associated Ambulance Permit Regulations; and any additional contracts and/or agreements established with the County.
- C. The County may request the assistance of municipal, county, state, or federal air resources that are not permitted by the County. Reasons for such may include the need to transport personnel or supplies, provide event intelligence support, provide an airborne command platform, provide emergency patient transportation, provide rescue services, etc.

VII. Law Enforcement Providers

- A. Law enforcement, though not formally part of the EMS system, may provide basic first aid and **Naloxone** in cases of suspected opioid overdose.

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Policy 110: Policy Development and Implementation

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. The practice of pre-hospital emergency medicine is constantly changing and new methods of providing care frequently need to be incorporated into EMS policies and procedures. This policy is intended to provide a framework for reviewing, updating and creating EMS policies and procedures.
- II. Urgent vs. Non-Urgent Updates
 - A. Changes to EMS Policies and Protocols can require significant time and financial burdens on provider agencies and hospitals and therefore frequent changes should be avoided whenever possible. The need for new and updated policies and protocols generally fall into one of two categories: (1) urgent, such as medication shortages, safety stops, emerging infectious disease etc., and (2) non-urgent, such as minor ACLS updates. Whenever possible non-urgent updates should be performed on an annual basis. Urgent revisions will generally need to be completed immediately.
- III. Prehospital Advisory Committee
 - A. The best pre-hospital policies and protocols are written with the input from the people who are tasked with using them in the field or in the hospital. The EMS agency will provide the opportunity for all interested EMS stakeholders to review, revise and create non-urgent EMS policies and procedures through the Pre-Hospital Advisory Committee (PAC). This committee will also be responsible for investigating new equipment and techniques applicable to pre-hospital care. The committee meets monthly and will implement changes according to the schedule as described in Paragraph IV.
- IV. Update Schedule
 - A. Policy and protocol additions and/or revisions require lead time for provider agencies to implement and disseminate to their respective personnel. When new medications or equipment are required then this lead time is essential for budgetary purposes. The deadline for upcoming revisions or additions to clinical policy and protocol is May 1st with implementation by January 31st of the following year.
 - B. In general, all policies and protocols should be reviewed, and if needed, updated annually.
- V. Comment Period
 - A. Policies and procedures will be introduced at Pre-Hospital Advisory Committee (PAC) Meetings, held monthly. Public comment period will be open for 20 days following introduction.

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Policy 111: Unusual Occurrence Reporting

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. To define trends or problems with Unusual Occurrences/Incidents, to give direction for reporting and evaluation, and to define the roles of Santa Cruz County EMS and the service providers in relation to these events.
- II. Authority
 - A. California Health and Safety Code, Division 2.5. Sections 1797.204, 1797.220. and 1798.
- III. California Code of Regulations, Title 22, Division 9, Sections 100145, 100148, 100167, 100168 and 100210
- IV. Policy
 - A. Any individual involved in a Santa Cruz County Unusual Occurrence/Incident, where they recognize a problem or have a concern, may submit the Unusual Occurrence/Incident Form.
 - B. All Unusual Occurrence/Incidents reported will be investigated and followed up according to the following procedures. Santa Cruz County EMS will determine the review, resolution, and tracking of Unusual Occurrences/Incidents.
 - C. These events may be related to systems, policies, protocols, procedures, operations, devices, equipment/vehicles, medication or any aspect of patient care and include “great catches” defined as patient safety events that are recognized and prevented before they occur.
 - D. Events that do not necessarily breach any policies, protocols or procedures, but are felt by the individual involved to be potentially detrimental should also be included in reporting.
 - E. Any event deemed to have impact or potential impact on patient care, and/or any practice felt to be outside the norm of acceptable patient care, as defined by Santa Cruz County EMS Policies & Procedures.
 - F. Any Sentinel Event as defined by the Joint Commission on Accreditation of Healthcare Organizations, is “...an unexpected occurrence involving death or serious physical or psychological injury, or risk thereof.” The phrase “or risk thereof” includes any process variation for which a recurrence would carry a significant chance of a serious adverse outcome.
 - G. An occurrence or incident that is reported but is deemed to have no patient care or system implications and does not require a further investigation.
- V. Procedure
 - A. Initial Reporting
 - 1. All personnel directing involved in an Unusual Occurrence/Incident are required to

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submit an Unusual Occurrence/Incident Report to the Santa Cruz County EMS Agency by the end of that shift, or within 24 hours of the unusual occurrence/incident, whichever is sooner.

B. Review:

1. Santa Cruz County EMS Agency is responsible for coordinating the Unusual Occurrence/Incident Review.
2. Following notification of the event, Santa Cruz County EMS will assign the case to an appropriate entity for investigation. Santa Cruz County EMS retains the authority to become the primary investigator.
3. Santa Cruz County EMS will respond to the report within 48 hours of receipt.
4. Santa Cruz County EMS will coordinate the After-Action Review and other meetings for Sentinel Events that will take place within 7 days from the day the report was received. A resolution or plan will be produced by Santa Cruz County EMS in 14 days.

C. Resolution:

1. If necessary, a meeting will be scheduled with representatives of all involved parties, at which the conclusions of the Santa Cruz County EMS Agency will be reported and discussed.
2. Within 5 workdays of the receipt of the report from Santa Cruz County EMS Agency, the service provider(s) will, if requested by the Santa Cruz County EMS Agency, submit their action plan to Santa Cruz County EMS Agency.
3. A copy of the findings, conclusions, and recommendations of the evaluation report will be sent to all involved agencies once the Santa Cruz County EMS Agency closes the case. Santa Cruz County EMS will retain a record of its objective findings, its recommendations, and the remedial actions taken.

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Section 200: Personnel Credentials

Policy 201: Paramedic Accreditation

Revision 1/11/18
Effective 1/1/19

- I. Purpose
 - A. To provide a process for a California State licensed paramedic to work and perform paramedic skills as established by Santa Cruz County EMS Policies and Procedures. This policy revision is less restrictive than previous policy and applies retroactively to all applications received after January 1, 2016.
- II. Authority
 - A. Title 22, Article 8, Sections 100165- 100166, Health and Safety Code Division 2.5 Section 1798.202
- III. Definition
 - A. "Accreditation" means authorization by Santa Cruz County EMS Agency to practice as a paramedic for a Santa Cruz County ALS provider under the Santa Cruz County policies and protocols.
- IV. Initial Accreditation
 - A. To be accredited an individual shall:
 - 1. Possess a current California paramedic license.
 - 2. Apply to Santa Cruz County EMS Agency for accreditation within 30 days of being hired by an agency in Santa Cruz County.
 - 3. Pay established accreditation fees if applicable.
 - 4. Successfully complete all phases of the County-approved paramedic accreditation program as outlined in the Santa Cruz County EMS Quality Improvement Plan.
 - 5. Possess all certifications required by the Santa Cruz County EMS Quality Improvement Plan, as well as by the respective paramedic providers in the County.
 - B. Review Process
 - 1. The EMS Agency Medical Director shall evaluate any candidate who fails to successfully complete the field evaluation and may recommend further evaluation or training as required ensuring the paramedic is competent.
 - 2. The EMS Agency shall notify the individual applying for accreditation of the decision whether to grant accreditation within thirty (30) calendar days of submission of a complete application.

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- V. Maintenance of Accreditation
- A. Accreditation to practice shall be continuous if licensure is maintained and the paramedic continues to meet all requirements for updates in policy, procedure, protocol, skills refresher training and optional scope of practice, and continues to meet requirements of the system wide CQI program.
 - B. To maintain accreditation the following shall be provided to the EMS Agency:
 - 1. Current paramedic licensure information
 - 2. A signed Employer attestation that the paramedic has successfully completed any annual or special training as assigned by the LEMSA Medical Director as described in paragraph A.
 - C. The EMS Agency Medical Director may suspend or revoke accreditation if the paramedic does not maintain current licensure or meet accreditation requirements.
 - D. Should an accredited Santa Cruz County paramedic stop working in the County for a period exceeding 180 days, the paramedic provider will evaluate this paramedic's field competency utilizing County-approved evaluation guidelines and provider-approved field evaluators upon this paramedic's return to line duty. The paramedic will be evaluated for his/her general clinical competency and ability to correctly apply Santa Cruz County Protocols and Policies to safely manage patients. The length of this evaluation process will be determined by the provider and will be sufficient to validate this paramedic's BLS and ALS competencies prior to being released to independent duty.
 - E. In a declared disaster or declared emergency (local, state or federal), an "emergency accreditation" will be considered to permit California licensed paramedics to be granted an emergency accreditation to work as a paramedic in Santa Cruz County. This provision will be invoked at the discretion of the EMS Agency Medical Director and shall at a minimum consist of: notice to the EMS Agency, copy of current California paramedic license in good standing, brief orientation to the Santa Cruz County EMS policies and protocols by the provider. Accreditation under a declared disaster or emergency may be granted for not more than 60 days, after which time an emergency accreditation will expire unless the EMS Agency Medical Director extends the accreditation.
- VI. Discipline
- A. Paramedic licensure actions (e.g. immediate suspension) shall be performed according to the provisions of Health and Safety Code 1798.202.
 - B. Notification to the EMS Authority shall be made in the manner prescribed by the EMS Authority. If the final action is a recommendation to the EMS Authority for disciplinary action of a Paramedic license, a summary explaining the actions of the Paramedic that pose a threat to the public health and safety pursuant to Section 1798.200 of the Health and Safety Code and

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all documentary evidence relative to the recommendation shall be forwarded to the EMS Authority

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Policy 202: EMT Challenge

Revision 5/22/18
Effective 8/1/18

- I. Philosophy
 - A. This policy is intended to provide a guideline for the licensed health provider who chooses to challenge the EMT exam.
 - B. EMS Medical Director, pursuant to California Code of Regulations (CCR) Title 22, section 100078(a) shall review all challenge requests with specific reference to training and clinical experience.
 - C. Approval will be determined after this review

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Policy 203: EMT Certification, Recertification and Accreditation Procedures

Revision 4/23/19
Effective 4/23/19

I. Purpose

- A. To establish standardized criteria for the initial certification, recertification and accreditation of EMT personnel consistent with California Code of Regulations, Title 22, beginning at Section 100056 pertaining to “Emergency Medical Technician” and the Santa Cruz County Emergency Medical Services Agency as the certifying entity.

II. Initial Certification

A. Eligibility

1. An applicant, of eighteen (18) years of age or older, who meets one or more the following criteria shall be eligible for initial certification:
 - a) Valid initial EMT training course completion record AND proof of passing the National Registry of Emergency Medical Technicians basic written and skills exams all with-in the past two years of application date.
 - b) Valid Out-of-State initial EMT training course completion record AND proof of passing the National Registry of Emergency Medical Technicians basic written and skills exams all with-in the past two years of application date.
 - c) Current and valid out-of-state EMT certificate AND proof of passing the National Registry of Emergency Medical Technicians basic written and skills exams with-in the past two years of application date.
 - d) A current and valid National Registry EMT, AEMT or Paramedic registration certificate/license.
 - e) A current and valid out-of-state AEMT or Paramedic certificate/license.

B. Application Process

1. Submit a completed request for “Live Scan Applicant Submission Form” to the California DOJ for a state and federal CORI search in accordance with provisions of Section 11105 (p) (1) of the California Penal Code;
 - a) the CORI request shall include a subsequent arrest notification report in accordance with the provisions of Section 11105.2 of the California Penal Code;
 - b) the EMT applicant will designate that both the state and federal CORI search results and the subsequent arrest notification reports shall be reported to the certifying entity and the California Emergency Medical Services Authority.
 - c) Criminal Background check information results will be retained by the EMS Office

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for a period of one (1) year for an applicant seeking initial certification. If, after one (1) year, the application process is not completed, the results will be placed on the No-Longer-Interested list with the California Department of Justice.

d) The FBI/DOJ report will be received and reviewed prior to the final approval of EMT certification.

2. Complete the EMT Certification Application including:

- a) Documented proof of completion of eligibility requirements as noted above.
- b) Payment of the established fees.
- c) A current AHA or CPR/AED or BLS card, which meets American Heart Association Guidelines at the Healthcare Provider level.
- d) A current government-issued photo ID (Driver's License, U.S. Military identification card, U.S. Passport).

III. Certification Renewal

A. Eligibility requirements include:

- 1. Currently certified as a California EMT or have been certified in the State of California as an EMT within the last two (2) years.
- 2. Successfully complete an approved EMT refresher course OR twenty-four (24) hours of approved continuing education.
- 3. Successfully complete the EMT Skills Verification Form.

B. Process:

- 1. Completed EMT Certification Application (this includes a signed and dated Health and Safety Code Section 1798.200 affidavit incorporated into the application. Facsimile and electronic submissions will not be accepted) including:
 - a) Proof of continuing education or refresher course completion records, including State EMS Authority Skills Verification Form (original form).
 - b) Payment of the established fees.
 - c) Current CPR card, which meets American Heart Association Guidelines at the Healthcare provider level.
 - d) Applicants for certification renewal whose current certificate was issued by another local EMS Agency or certifying Agency must also complete a criminal background check verification for a state and federal search.
 - (1) Criminal Background check results for certification renewal applicants will be maintained if the applicant is actively renewing certification with

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Santa Cruz County as the certifying entity. A No-Longer-Interested notification will be sent to the California Department of Justice if the applicant does not renew certification within twelve (12) months of the expiration date of the certificate.

- e) A certified EMT is responsible for notifying the EMS Agency of their proper and current mailing address and shall notify the EMS Agency in writing within thirty (30) calendar days of all changes of the mailing address.
- f) An EMT shall be certified by one (1) certifying entity during a certification period. If the EMT is currently certified by multiple certifying entities, upon renewal the EMT shall only be certified by one (1) certifying entity thereafter.

IV. Reinstatement of an Expired EMT Certificate

A. If an EMT certification is expired, the following additional requirements must be met.

- 1. Zero (0) to six (6) months since expiration:
 - a) Twenty-four (24) hours of approved continuing education, within the 24 months prior to applying for reinstatement.
 - b) State of California Skills Verification Form.
- 2. Six (6) to twelve (12) months since expiration:
 - a) Thirty-six (36) hours of approved continuing education, within the 24 months prior to applying for reinstatement.
 - b) State of California Skills Verification Form.
- 3. Greater than twelve (12) months since expiration:
 - a) Forty-eight (48) hours of approved continuing education, within the 24 months prior to applying for reinstatement.
 - b) State of California Skills Verification Form.
 - c) Pass the National Registry of Emergency Medical Technicians – EMT Basic written and skills examination within two (2) years of the date of application for reinstatement unless the individual possesses a current and valid EMT, AEMT, or Paramedic National Registry Certificate or a current and valid AEMT certificate or Paramedic license.

V. Issuance of Certification

A. The EMS Agency shall issue a wallet-sized EMT certification card authorized by the California State EMS Authority to individuals who have successfully completed the application requirements.

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1. The expiration date for an initial certification shall be the last day of the month two (2) years from the effective date of the initial certification.
2. If the certification renewal requirements are met in six (6) months or less prior to the expiration date of the current certificate, the expiration date shall be two (2) years from the date of the current certificate.
3. If the certification renewal requirements are met six (6) months or greater prior to the expiration date of the current certificate, the expiration date shall be the last day of the month two (2) years from the date that all requirements for certification renewal were met.

VI. EMT Accreditation

- A. EMTs who perform optional skills as defined in Policy 208: *EMS Responder Scope of Practice* must be accredited by the LEMSA Medical Director in accordance with Policy 305: *Agency Approval for EMT Optional Skills*.

VII. Required Training

- A. All EMTs working for a Santa Cruz County Pre-Hospital Provider Agency must complete any mandatory training deemed necessary by the EMS Medical Director (EMS Updates, EMS System Orientation, Annual Skills, etc.).

VIII. Appointment Scheduling and Submission

- A. All first-time certification applicants or those that have had certification discontinued for any reason must make an appointment with the EMS Agency to confirm their identity and have a current photograph recorded.
- B. EMS Agency personnel will discuss certification matters with the applicant only consistent with Title 22 Regulation and privacy and confidentiality laws. Those employed by Santa Cruz County EMS System provider agencies may coordinate submissions with their employers.

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Policy 204: Criminal Background Check

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. To provide a method to ascertain the criminal background history of persons who apply for certification or recertification as EMT-1 in Santa Cruz County.
- II. Authority
 - A. Health and Safety Code, Division 2.5, Section 1798.200, California Code of Regulations, Title 13, Section 1101, California Code of Regulations, Title 22, Division 9, Sections 100079(a)(6)(C) and 100080(e)(3), Penal Code Sections 11105(b) (10) and 13300(b) (10), Santa Cruz County EMS Policy 206 *EMT Disciplinary Process*.
- III. Initial Certification
 - A. All new EMT-1 applicants must submit a one-time Live Scan Department of Justice (DOJ) Criminal Offender Record Information (CORI) background check.
- IV. Recertification
 - A. All individuals applying for Santa Cruz County EMT recertification must submit a one-time Live Scan Department of Justice (DOJ) Criminal Offender Record Information (CORI) background check if:
 - 1. This is your first recertification after January 1, 2007, or
 - 2. This is your first ever recertification with Santa Cruz County EMS Agency.
- V. Criteria & Guidelines for Denial, Suspension or Revocation of EMT-Certification and Recertification of Applicants with Criminal Histories
 - A. Criteria in Health and Safety Code Section 1798.200 and California Code of Regulations, Title 13, Section 1101, et al shall be used to determine whether certification is approved or denied based upon the results of the background check. For purposes of evaluation, investigation and determination of disciplinary measures as they relate to criminal histories, the EMS Agency Medical Director shall refer to Policy 206 *EMT Disciplinary Process*. In addition, the EMS Agency will use the most current version of the Emergency Medical Services Authority document "Recommended Guidelines for Disciplinary Orders and Conditions of Probation" as a reference.
 - B. All applicants receiving a certification denial, suspension or revocation related to a criminal conviction will be given information on the option to request an Investigative Review Panel (IRP) hearing. The IRP hearing is defined in the "Emergency Medical Services Personnel Certification Review Process Guidelines" found in Chapter 6, Division 9, Title 22 of the California Code of Regulations.

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- C. The EMS Agency's Medical Director may deny, suspend or revoke an EMT-1 certification if any of the following apply to the applicant:
1. Fraud in the procurement of any certificate or license under this division.
 2. Gross negligence.
 3. Repeated negligent acts.
 4. Incompetence.
 5. The commission of any fraudulent, dishonest, or corrupt act which is substantially related to the qualifications, functions, and duties of prehospital personnel.
 6. Conviction of any crime which is substantially related to the qualifications, functions, and duties of prehospital personnel. The record of conviction or certified copy of the record shall be conclusive evidence of the conviction.
 7. Violating or attempting to violate directly or indirectly, or assisting in or abetting the violation of, or conspiring to violate, any provision of this division or the regulations adopted by the authority pertaining to prehospital personnel.
 8. Violating or attempting to violate any federal or state statute or regulation which regulates narcotics, dangerous drugs, or controlled substances.
 9. Addiction to or the excessive use of, or the misuse of, alcoholic beverages, narcotics, dangerous drugs, or controlled substances.
 10. Functioning outside the supervision of medical control in the field care system operating at the local level, except as authorized by any other license or certification.
 11. Demonstration of irrational behavior or occurrence of a physical disability to the extent that a reasonable and prudent person would have reasonable cause to believe that the ability to perform the duties normally expected may be impaired.
 12. Unprofessional conduct exhibited by any of the following:
 - a) The mistreatment or physical abuse of any patient resulting from force more than what a reasonable and prudent person trained and acting in a similar capacity while engaged in the performance of his or her duties would use if confronted with a similar circumstance. Nothing in this section shall be deemed to prohibit an EMT, EMT-A, or EMT-P from assisting a peace officer, or a peace officer who is acting in the dual capacity of peace officer and EMT, EMT-A, or EMT-P, from using that force that is reasonably necessary to affect a lawful arrest or detention.

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- b) The failure to maintain confidentiality of patient medical information, except as disclosure is otherwise permitted or required by law in Sections 56 to 56.6, inclusive, of the Civil Code.
- c) The commission of any sexually related offense specified under Section 290 of the Penal Code.

VI. Specific Cases Where Certification Denial Is Strongly Indicated:

- A. The applicant is required under Section 290 of the Penal Code to register as a sex offender for any offense involving force, duress, threat, or intimidation.
- B. The applicant has been convicted of murder, attempted murder or murder for hire.
- C. The applicant has been convicted of two or more felonies.
- D. The applicant is on parole or probation for any felony.
- E. The applicant has been convicted and released from incarceration during the proceeding fifteen years for the crime of manslaughter or involuntary manslaughter.
- F. The applicant has been convicted and released from incarceration during the preceding ten years for any offense punishable as a felony.
- G. The applicant has been convicted of two misdemeanors within the preceding five years relating to the use, sale, possession or transportation of narcotics or dangerous drugs.
- H. The applicant has been convicted of two misdemeanors within the preceding five years for any offense relating to force, violence, threat or intimidation.
- I. The applicant has been convicted within the preceding five years of any theft related misdemeanor.
- J. The applicant has committed any act involving fraud or intentional dishonesty for personal gain within the preceding seven years.

VII. Procedure

- A. The background check process is a Live Scan electronic fingerprint submission sent to the Department of Justice (DOJ) who does the background check and sends the results electronically to the Santa Cruz County EMS Agency. Santa Cruz County EMS contracts with DOJ for subsequent arrest notification services necessitating the Live Scan background check to be only a one-time submission.
 - 1. A Live Scan form and related instructions can be obtained at the EMS Agency or by mail.
 - 2. Complete the application being certain to include our Agency's individual ORI number.

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3. Contact a Live Scan location to make an appointment and verify hours and payment method. A statewide list of Live Scan locations is available upon request of the EMS Agency.
4. In Santa Cruz County, the Santa Cruz County Office of Education located at 400 Encinal Street, Santa Cruz takes appointments at (831) 466-5750. No walk-ins. The Watsonville Police Department located at 215 Union Street, Watsonville, takes appointments at (831) 768-3300 for Monday through Thursday 5:30pm to 7:30pm. Walk-ins for Live Scan are accepted on Wednesday and Thursdays from 8:30am until 12:30pm. The Sheriff's Center at Cabrillo College accepts walk-ins Monday through Friday from 9am until 12pm and 1pm until 4:30pm.
5. The fees for the Live Scan vary according to the "rolling fee" charged by the entity doing the fingerprint submission. Currently, the total fee payable to the agency offering Live Scan is \$50.
6. Submit part two (Second Copy) of the Live Scan form with your EMT-1 application.
7. Because agencies cannot share Live Scan information, Live Scans done for other agencies cannot be accepted by our agency.

VIII. Privacy Guarantee

- A. Privacy and confidentiality of criminal history information is the responsibility of the EMS Agency. Once a response is received from the DOJ we are obligated to destroy that information immediately once a decision is made on certification status. In addition, only preauthorized EMS Agency staff are permitted to review this information. All submitted material is held in strict confidence with criminal and civil sanctions available for the misuse of this confidential information.

IX. Determination and Notification of Action

- A. Determination and notification of action will follow regulation as defined in California Code of Regulations, Title 22, Division 9, Chapter 6, Article 3, Sections 100212 – 100217. In addition, the EMS Agency will use the most current version of the EMS Authority's publication "Recommended Guidelines for Disciplinary Orders and Conditions of Probation" as a reference.

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Policy 205: Blank

Revision 5/22/18
Effective 8/1/18

Reserved for Future Use

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Policy 206: EMT Disciplinary Process

Revision 5/22/18
Effective 8/1/18

I. Purpose

- A. To provide a process for prehospital disciplinary action.

II. Authority

- A. Health and Safety Code, Division 2.5, Section 1798.200, California Code of Regulations, Title 22, Division 9, Sections 100207 – 100217, California Code of Regulations, Title 13, Section 1101, EMSA publication “Recommended Guidelines for Disciplinary Orders and Conditions of Probation (July 10, 2002 edition),” California Government Code, Section 6254 and California Government Code, Title 2, Division 3, Chapter 5 Sections 11507.6, 11507.7, 11513 and 11514.

III. Policy

- A. The Santa Cruz County EMS Medical Director may, in accordance with California Code of Regulations, Title 22, Division 9, Sections 100207 - 100217, deny suspend or revoke any EMT or EMT-A certificate issued under this division, or may place any EMT or EMT-A certificate holder on probation.
- B. The Santa Cruz County EMS Medical Director may, after consultation with the employer, suspend, prior to hearing, any EMT-P license upon a determination that:
1. the licensee has engaged in acts or omissions that constitute grounds for revocation of the EMT-P license as listed above for EMT or EMT-A;
 2. permitting the licensee to continue to engage in the licensed activity or permitting the licensee to continue in the licensed activity without restriction, would present an imminent threat to the public health or safety.

IV. Procedure

- A. The Santa Cruz County EMS Medical Director may, in accordance with Health and Safety Code, Division 2.5, Section 1798.200 and California Code of Regulations, Title 13, Section 1101, take disciplinary action as stated in above policy upon the finding of any of the following actions:
1. Fraud in the procurement of any certificate or license under this division.
 2. Gross negligence.
 3. Repeated negligent acts.
 4. Incompetence.
 5. The commission of any fraudulent, dishonest, or corrupt act which is substantially related to the qualifications, functions, and duties of prehospital personnel.

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6. Conviction of any crime which is substantially related to the qualifications, functions, and duties of prehospital personnel. The record of conviction or certified copy of the record shall be conclusive evidence of the conviction.
 7. Violating or attempting to violate directly or indirectly, or assisting in or abetting the violation of, or conspiring to violate, any provision of this division or the regulations adopted by the authority pertaining to prehospital personnel.
 8. Violating or attempting to violate any federal or state statute or regulation which regulates narcotics, dangerous drugs, or controlled substances.
 9. Addiction to or the excessive use of, or the misuse of, alcoholic beverages, narcotics, dangerous drugs, or controlled substances.
 10. Functioning outside the supervision of medical control in the field care system operating at the local level, except as authorized by any other license or certification.
 11. Demonstration of irrational behavior or occurrence of a physical disability to the extent that a reasonable and prudent person would have reasonable cause to believe that the ability to perform the duties normally expected may be impaired.
 12. Unprofessional conduct exhibited by any of the following:
 - a) The mistreatment or physical abuse of any patient resulting from force more than what a reasonable and prudent person trained and acting in a similar capacity while engaged in the performance of his or her duties would use if confronted with a similar circumstance. Nothing in this section shall be deemed to prohibit a First Responder, EMT, EMT-A, or EMT-P from assisting a peace officer, or a peace officer who is acting in the dual capacity of peace officer and EMT, EMT-A, or EMT-P, from using that force that is reasonably necessary to affect a lawful arrest or detention.
 - b) The failure to maintain confidentiality of patient medical information, except as disclosure is otherwise permitted or required by law in Sections 56 to 56.6, inclusive, of the Civil Code.
 - c) The commission of any sexually related offense specified under Section 290 of the Penal Code.
- B. Specific cases where certification denial is strongly indicated:
1. The applicant is required under Section 290 of the Penal Code to register as a sex offender for any offense involving force, duress, threat, or intimidation.
 2. The applicant has been convicted of murder, attempted murder or murder for hire.
 3. The applicant has been convicted of two or more felonies.

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4. The applicant is on parole or probation for any felony.
 5. The applicant has been convicted and released from incarceration during the proceeding fifteen years for the crime of manslaughter or involuntary manslaughter.
 6. The applicant has been convicted and released from incarceration during the preceding ten years for any offense punishable as a felony.
 7. The applicant has been convicted of two misdemeanors within the preceding five years relating to the use, sale, possession or transportation of narcotics or dangerous drugs.
 8. The applicant has been convicted of two misdemeanors within the preceding five years for any offense relating to force, violence, threat or intimidation.
 9. The applicant has been convicted within the preceding five years of any theft related misdemeanor.
 10. The applicant has committed any act involving moral turpitude including fraud or intentional dishonesty for personal gain within the preceding seven years.
- C. The Santa Cruz County EMS Medical Director will send a recommendation to the State EMS Authority for further investigation or discipline of the license holder and shall include all documentary evidence collected by the Medical Director in evaluating whether to make that recommendation. The recommendation and accompanying evidence shall be deemed an investigative communication and be protected by California Government Code, Section 6254.
- D. The Santa Cruz County EMS Medical Director may take disciplinary action against a certificate holder for which any of the following is true:
1. The certificate was issued by Santa Cruz County EMS Agency, or;
 2. The certificate holder utilized or has utilized the certificate, or the skills authorized by the certificate, including certificates issued by public safety agencies within the jurisdiction of the Santa Cruz County EMS Medical Director.
- E. For the action against a multiple certificate holder, the Medical Director shall determine, according to the circumstances of the case and the nature of the threat to the public health and safety, whether the action shall apply to one certificate or multiple certificates.
- F. If the Santa Cruz County EMS Medical Director takes any disciplinary action which affects a certificate, the Medical Director shall notify the State EMS Authority of the finding of the investigation and the disciplinary action taken using Form EMSA-CRI.
- V. Evaluation and Investigation
- A. The Santa Cruz County EMS Medical Director shall evaluate information received from a credible source, including information obtained from an application, medical audit or complaint, alleging or indicating the possibility of a threat to the public health and safety by the

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action of an applicant for, or holder of, a certificate issued pursuant to Health and Safety Code Division 2.5.

- B. If the Santa Cruz County EMS Medical Director determines, following evaluation of the information, that further inquiry into the situation is necessary or that disciplinary action is warranted, the Medical Director may investigate of the allegations. This investigation may use an Investigative Review Panel (IRP) as defined in California Code of Regulations, Title 22, Division 9, Chapter 6, Article 3, and Section 100211.
- C. To ensure that the investigative procedure provides individuals due process of law, the following procedures shall also apply:
- D. Per Government Code, Title 2, Division 3, Chapter 5 Section 11507.6 (Request for Discovery): After initiation of a proceeding in which a respondent or other party is entitled to a hearing on the merits, a party, upon written request made to another party, prior to the hearing and within 30 days after service by the agency of the initial pleading or within 15 days after the service of an additional pleading, is entitled to (1) obtain the names and addresses of witnesses to the extent known to the other party, including, but not limited to, those intended to be called to testify at the hearing, and (2) inspect and make a copy of any of the following in the possession or custody or under the control of the other party:
 - 1. A statement of a person, other than the respondent, named in the initial administrative pleading, or in any additional pleading, when it is claimed that the act or omission of the respondent as to this person is the basis for the administrative proceeding;
 - 2. A statement pertaining to the subject matter of the proceeding made by any party to another party or person;
 - 3. Statements of witnesses then proposed to be called by the party and of other persons having personal knowledge of the acts, omissions or events which are the basis for the proceeding, not included in (a) or (b) above;
 - 4. All writings, including, but not limited to, reports of mental, physical and blood examinations and things which the party then proposes to offer in evidence;
 - 5. Any other writing or thing which is relevant, and which would be admissible in evidence;
 - 6. Investigative reports made by or on behalf of the agency or other party pertaining to the subject matter of the proceeding, to the extent that these reports (1) contain the names and addresses of witnesses or of persons having personal knowledge of the acts, omissions or events which are the basis for the proceeding, or (2) reflect matters perceived by the investigator in the course of his or her investigation, or (3) contain or include by attachment any statement or writing described in (1) to (5), inclusive, or summary thereof.

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- E. For the purpose of this section, "statements" include written statements by the person signed or otherwise authenticated by him or her, stenographic, mechanical, electrical or other recordings, or transcripts thereof, of oral statements by the person, and written reports or summaries of these oral statements.
- F. Nothing in this section shall authorize the inspection or copying of any writing or thing which is privileged from disclosure by law or otherwise made confidential or protected as the attorney's work product.
- G. Per Government Code, Title 2, Division 3, Chapter 5 Section 11507.7 (Petition to Compel Discovery: Order):
1. Any party claiming the party's request for discovery pursuant to Section 11507.6 has not been complied with may serve and file with the administrative law judge a motion to compel discovery, naming as respondent the party refusing or failing to comply with Section 11507.6. The motion shall state facts showing the respondent party failed or refused to comply with Section 11507.6, a description of the matters sought to be discovered, the reason or reasons why the matter is discoverable under that section, that a reasonable and good faith attempt to contact the respondent for an informal resolution of the issue has been made, and the ground or grounds of respondent's refusal so far as known to the moving party.
 2. The motion shall be served upon respondent party and filed within 15 days after the respondent party first evidenced failure or refusal to comply with Section 11507.6 or within 30 days after request was made and the party has failed to reply to the request, or within another time provided by stipulation, whichever period is longer.
 3. The hearing on the motion to compel discovery shall be held within 15 days after the motion is made, or a later time that the administrative law judge may on the judge's own motion for good cause determine. The respondent party shall have the right to serve and file a written answer or other response to the motion before or at the time of the hearing.
 4. Where the matter sought to be discovered is under the custody or control of the respondent party and the respondent party asserts that the matter is not a discoverable matter under the provisions of Section 11507.6, or is privileged against disclosure under those provisions, the administrative law judge may order lodged with it matters provided in subdivision (b) of Section 915 of the Evidence Code and examine the matters in accordance with its provisions.
 5. The administrative law judge shall decide the case on the matters examined in camera, the papers filed by the parties, and such oral argument and additional evidence as the administrative law judge may allow.

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6. Unless otherwise stipulated by the parties, the administrative law judge shall no later than 15 days after the hearing make its order denying or granting the motion. The order shall be in writing setting forth the matters the moving party is entitled to discover under Section 11507.6. A copy of the order shall forthwith be served by mail by the administrative law judge upon the parties. Where the order grants the motion in whole or in part, the order shall not become effective until 10 days after the date the order is served. Where the order denies relief to the moving party, the order shall be effective on the date it is served.
- H. Per Government Code, Title 2, Division 3, Chapter 5 Section 11513 (Evidence):
1. Oral evidence shall be taken only on oath or affirmation.
 2. Each party shall have these rights: to call and examine witnesses, to introduce exhibits; to cross-examine opposing witnesses on any matter relevant to the issues even though that matter was not covered in the direct examination; to impeach any witness regardless of which party first called him or her to testify; and to rebut the evidence against him or her. If respondent does not testify in his or her own behalf he or she may be called and examined as if under cross-examination.
 3. The hearing need not be conducted according to technical rules relating to evidence and witnesses, except as hereinafter provided. Any relevant evidence shall be admitted if it is the sort of evidence on which responsible persons are accustomed to relying in the conduct of serious affairs, regardless of the existence of any common law or statutory rule which might make improper the admission of the evidence over objection in civil actions.
 4. Hearsay evidence may be used for the purpose of supplementing or explaining other evidence, but over timely objection shall not be sufficient to support a finding unless it would be admissible over objection in civil actions. An objection is timely if made before submission of the case or on reconsideration.
 5. The rules of privilege shall be effective to the extent that they are otherwise required by statute to be recognized at the hearing.
 6. The presiding officer has discretion to exclude evidence if its probative value is substantially outweighed by the probability that its admission will necessitate undue consumption of time.
- I. Per Government Code, Title 2, Division 3, Chapter 5 Section 11514 (Affidavits):
1. At any time 10 or more days prior to a hearing or a continued hearing, any party may mail or deliver to the opposing party a copy of any affidavit which he proposes to introduce in evidence, together with a notice as provided in subdivision (b). Unless the opposing party, within seven days after such mailing or delivery, mails or delivers to the proponent a request to cross-examine an affiant, his right to cross-examine such affiant

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is waived and the affidavit, if introduced in evidence, shall be given the same effect as if the affiant had testified orally. If an opportunity to cross-examine an affiant is not afforded after request therefore is made as herein provided, the affidavit may be introduced in evidence, but shall be given only the same effect as other hearsay evidence.

2. The notice referred to in subdivision (1) shall be substantially in the following form: The accompanying affidavit of (here insert name of affiant) will be introduced as evidence at the hearing in (here insert title of proceeding). (Here insert name of affiant) will not be called to testify orally and you will not be entitled to question him unless you notify (here insert name of proponent or his attorney) at (here insert address) that you wish to cross-examine him. To be effective your request must be mailed or delivered to (here insert name of proponent or his attorney) on or before (here insert a date seven days after the date of mailing or delivering the affidavit to the opposing party).

VI. Determination and Notification of Action

- A. Determination and notification of action will follow regulation as defined in California Code of Regulations, Title 22, Division 9, Chapter 6, Article 3, Sections 100212 – 100217. In addition, the EMS Agency will use the most current version of the EMS Authority's publication "Recommended Guidelines for Disciplinary Orders and Conditions of Probation" as a reference.

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Policy 207: Mobile Intensive Care Nurse Continuing Education and Continuing Service Requirements

Revision 5/22/18
Effective 8/1/18

- I. Continuing Education
 - A. A MICN shall complete sixteen (16) hours of continuing education every four (4) years in the area of pre-hospital emergency medical care, as follows:
 1. Attend sixteen (16) hours of Field Care Audits or equivalent meetings per four-year certification cycle.
 2. The remaining hours may be fulfilled with EMSIA, Hospital Base, ride-along or other EMS related educational activity.
 3. Four (4) hours of education should be fulfilled related to pediatric care.
- II. Continuing Service
 - A. A MICN shall provide medical control instructions to paramedics in the field via radio or telephone. Performing at a level to the satisfaction of the PLN, as determined by case review, Base Station log, or other means available. This requirement may be fulfilled at any Base Hospital in California, provided records are maintained as described in this policy.
- III. Record Keeping
 - A. It shall be the responsibility of the individual MICN to maintain records of continuing education.
 - B. The PLN shall provide a mechanism for maintaining the records of MICN continuing service requirements (radio/telephone medical direction) and ensure that these requirements are met by MICNs on a bi-annual basis.
- IV. Continuing Education Approval
 - A. All MICN continuing education shall be reviewed & approved by the Base Station PLN or Base Station Medical Director.
 - B. Upon request, the local PLN or Base Station Medical Director shall notify the EMS Agency in writing of continuing education courses sponsored &/or approved by their organization. This notice shall be sent within thirty (30) days of course completion.
 - C. All other MICN continuing education shall be approved by the Santa Cruz County EMS Agency, as appropriate

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Policy 208: EMS Responder Scope of Practice

Revision 1/11/18

Effective 1/1/19

- I. EMS Responders in Santa Cruz County are part of an integrated first response and transport system and are certified /licensed to one of the levels of trained medical personnel as outlined in California State regulations.
- II. Definitions
 - A. EMT-Paramedic: Paramedic or EMT-P means a person who has successfully completed an EMT-P course and has passed all required tests and has been licensed by the California EMS authority and has been locally accredited to practice in Santa Cruz County.
 - B. Emergency Medical Technician: “Emergency Medical Technician,” “EMT-Basic,” or “EMT” means a person who has successfully completed an EMT course and has passed all required tests and has been certified by a California EMT certifying entity.
 - C. EMT Local Accreditation: “Local accreditation” or “accreditation” or “accredited to practice” means authorization by the LEMSA to practice the optional skill(s). Such authorization assures that the EMT has been oriented to the LEMSA and trained in the optional skill(s) necessary to achieve the treatment standard of the jurisdiction.
 - D. Paramedic Local Accreditation: “Local accreditation” or “accreditation” or “accredited to practice” means authorization by the LEMSA to practice ALS procedures. Such authorization assures that the Paramedic has been oriented to the LEMSA and trained in the optional skill(s) necessary to achieve the treatment standard of the jurisdiction.
 - E. Santa Cruz County EMS provider agency: An EMS Provider agency is a public or private sector organization that utilizes EMTs and/or paramedics. This includes, but is not limited to, locally permitted ambulance services, fire agencies, lifeguard services, law enforcement agencies, and park personnel who have established training and quality assurance programs.
- III. EMT-Paramedic
 - A. EMT-Ps who are accredited by the Santa Cruz County LEMSA and who are associated with an approved Santa Cruz County ALS provider Agency, are authorized to provide basic scope BLS and ALS interventions as delineated by the California Code of Regulations Title 22, Division 9, Chapter 4, Section 100146c1.
 - B. EMT-P Optional Scope of Practice
 1. Optional Scope of Practice medications and procedures may be added at the discretion of the LEMSA Medical Director with approval of the EMSA.
 2. There are no optional scope items currently approved in Santa Cruz County
 - C. EMT-P Accreditation

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1. EMT-P cannot practice ALS skills in Santa Cruz County without LEMSA accreditation (see Policy 201: *Paramedic Accreditation*)

IV. EMT-Basic

A. EMT Basic Scope of Practice

1. During training, while at the scene of an emergency, during transport of the sick or injured, or during interfacility transfer, a certified EMT or supervised EMT student, in accordance with Santa Cruz County EMS policies and procedures and as delineated by the California Code of Regulations Title 22, Division 9, Chapter 2, Section 10063., is authorized to do any of the following:
 - a) Evaluate the ill and injured.
 - b) Render basic life support, rescue and emergency medical care to patients.
 - c) Obtain diagnostic signs to include, but not be limited to, temperature, blood pressure, pulse and respiration rates, pulse oximetry, level of consciousness and pupil status.
 - d) Perform cardiopulmonary resuscitation (CPR), including the use of mechanical adjuncts to basic cardiopulmonary resuscitation
 - e) Administer oxygen
 - f) Use the following adjunctive airway and breathing aids
 - (1) Oropharyngeal airway
 - (2) Nasopharyngeal airway
 - (3) Suction devices
 - (4) Basic oxygen delivery devices for supplemental oxygen therapy including, but not limited to, humidifiers, partial rebreathers, and venturi masks;
 - (5) Manual and mechanical ventilating devices designed for prehospital use including continuous positive airway pressure.
 - g) Use various types of stretchers and spinal motion restriction or immobilization devices.
 - h) Provide initial prehospital emergency care to patients, including, but not limited to:
 - (1) Bleeding control through the application of tourniquets;
 - (2) Use of hemostatic dressings from a list approved by the Authority;
 - (3) Spinal motion restriction or immobilization

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- (4) Seated spinal motion restriction or immobilization
- (5) Extremity splinting;
- (6) Traction splinting
- (7) Administer oral glucose or sugar solutions
- (8) Extricate entrapped persons
- (9) Perform field triage
- (10) Transport patients
- (11) Apply mechanical patient restraint
- (12) Set up for ALS procedures, under the direction of an Advanced EMT or Paramedic
- (13) Perform automated external defibrillation.
- (14) Assist patients with the administration of physician-prescribed devices including, but not limited to, patient-operated medication pumps, sublingual nitroglycerin, and self-administered emergency medications, including epinephrine devices.

B. Expanded Scope of Practice

1. A certified EMT or a supervised EMT student who is part of the organized Santa Cruz County EMS provider agency, and in the prehospital setting and/or during interfacility transport are also authorized to:
 - a) Monitor IV lines delivering glucose solutions or isotonic balanced salt solutions for volume replacement, and monitor, maintain, or adjust to maintain a preset rate of flow and to turn off the flow of IV fluid when indicated.
 - b) Initiate and administer Continuous Positive Airway Pressure (CPAP)
 - c) Administer **Narcan** by intranasal or intramuscular routes in suspected narcotics over dose cases
 - d) Perform finger stick blood glucose testing
 - e) Administer **Epinephrine** by auto injector for suspected anaphylaxis or severe asthma
 - f) Administer over the counter medications to include **Aspirin** to patients presenting with chest pain of cardiac origin
2. Certified EMTs who are not associated with a Santa Cruz County EMS provider agency, are not authorized to perform expanded scope of practice skills.

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- a) Exception: Non-Santa Cruz County EMTs who are responding as part of an organized mutual aid effort into Santa Cruz County and who have been authorized to perform some or all of these procedures by their medical director at their home agency.

C. Optional Skills for Santa Cruz County Accredited EMTs

1. An accredited and certified EMT or a supervised EMT student who is part of a Santa Cruz County EMS provider agency which has been authorized to perform EMT optional skills per Policy 305: Agency Approval for EMT Optional Skills, and in the prehospital setting and/or during interfacility transport are also authorized to:
 - a) Use of perilyngeal airways
 - b) Administration of **Epinephrine** by prefilled syringe and/or drawing up the proper drug dose into a syringe for suspected anaphylaxis and/or severe asthma.
 - c) Administration of **Atropine**/Pralidoxime Chloride (HAZMAT team only)
2. Certified EMTs who are not accredited and/or associated with an authorized EMS provider agency per Policy 305: *Agency Approval for EMT Optional Skills*, are not authorized to perform optional skills under this section.
 - a) Exception: Non-Santa Cruz County EMTs who are responding as part of an organized mutual aid effort into Santa Cruz County and who have been authorized to perform some or all of these procedures by their medical director at their home agency.

V. First Responder (FA/CPR)

- A. FA/CPR personnel (fire fighters, lifeguards, and law enforcement officers) are approved to provide the skills as authorized in California Code of Regulations Title 22, Division 9, Chapter 1.5 Section 100018. In additional, following completion of approved modules, FA/CPR personnel may provide the following optional skills as listed in Section 10019:
 1. Administration of **Epinephrine** by auto injector for suspected anaphylaxis
 2. Oxygen administration
 3. Application of bag-valve-mask ventilation, and the use of OPAs and NPAs to support airway management
 4. Administration of **Naloxone** for suspected opioid overdose.

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Section 300: System Providers

Policy 301: Minimal Equipment and Medications for First Responder and Transport Units

Revision 5/22/18
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I. General

- A. Authority for this policy is provided in Health & Safety Code Division 2.5, Section 1797.204, 1797.206, and 1797.252, and Title 13 of the California Administrative Code, Article I, Section 1103 (a) (b).
- B. The intent of this policy is to establish minimal equipment requirements for ALS transport units, ALS engine first responders, and BLS transport units.
- C. This policy does not apply in the case of multiple casualty incidents requiring the use of local “rescue” units that are not normally used for transporting patients.

II. Medical Responsibilities and Procedures

- A. Agencies shall be responsible for the sufficient medication and equipment inventories on each emergency response vehicle. At a minimum, these inventories shall be sufficient to enact current Santa Cruz County policies and procedures.
- B. Agencies shall keep all equipment and medications current to expiration dates.
- C. All equipment and supplies shall be kept in good repair and in working order.
- D. Time clocks on all defibrillators and other equipment so equipped shall be checked at least once weekly to ensure they retain the current time. GPS, internet, or cell phone times shall be used as the reference standard.

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Policy 302: EMT Training Programs

Revision 5/22/18
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- I. Purpose:
 - A. To provide a mechanism for the review of EMT Training Program applicants for compliance with state law, regulations and Santa Cruz County EMS Agency policies.
 - B. Authority for this policy is noted in Division 2.5, California Health and Safety Code, Sections 1797.107, 1797.109, 1797.170, 1797.173, 1797.208 and 1797.213 and California Code of Regulations Sections 100065 through 100078
- II. Policy:
 - A. The Approving Authority for Emergency Medical Technician (EMT) training programs that will be managed or conducted by a qualified statewide public agency shall be the Director of the State of California Emergency Medical Services Agency. This shall apply to the California Highway Patrol, California Department of Forestry, etc.
 - B. The Approving Authority for Emergency Medical Technician training programs shall be the local emergency medical services agency (Santa Cruz County Emergency Medical Services Agency).
 1. Programs eligible for program approval shall be limited to:
 - a) Accredited universities and colleges including junior and community colleges, school districts, and private post-secondary schools as approved by the State of California, Department of Consumer Affairs, Bureau of Private Postsecondary and Vocational Education.
 - b) Medical training units of a branch of the Armed Forces of the United States including the Coast Guard.
 - c) Licensed general acute care hospitals which meet the following criteria:
 - (1) Hold a special permit to operate a Basic or Comprehensive Emergency Medical Service pursuant to the provisions of Division 5; and
 - (2) Provide continuing education to other healthcare professionals.
 - d) Agencies of government
 - e) Public safety agencies
 - f) Local EMS Agencies
- III. Procedure:
 - A. Program Approval

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1. Eligible training programs shall submit a written request for EMT program approval to the Santa Cruz County EMS Agency.
2. The Santa Cruz County EMS Agency shall review and approve the following prior to approving an EMT training program.
 - a) A statement verifying usage of the United States Department of Transportation (DOT) National EMS Education Standards (DOT HS 811 077A, January 2009).
 - b) A statement verifying CPR training equivalent to the current American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care at the Healthcare Provider level is a prerequisite for admission to an EMT Basic course.
 - c) Samples of lesson plans including:
 - (1) At least two lecture or didactic sessions, and
 - (2) At least two practical (skills or psychomotor) sessions.
 - d) Samples of periodic examinations or assessments including:
 - (1) At least two written examinations or quizzes.
 - (2) Statement of utilization of the National Registry EMT-B Skills Check-Off Sheets
 - e) The certification written examination shall be the National Registry EMT Examination. National Registry examinations will be administered by the approved National Registry testing site.
 - f) The final skills examination shall be administered by the approved EMT training program. Each training program shall adopt the National Registry EMT skills examination. For those skills not covered by the National Registry Skill examination.
 - g) Educational Staff: Each EMT training program shall provide for the functions of administrative direction, medical quality coordination, and actual program instruction. Nothing in this section precludes the same individual from being responsible for more than one of the following functions if so qualified by the provisions of this section.
 - (1) Program Director: Shall be qualified by education and experience in methods, materials and evaluation of instruction which shall be documented by at least forty (40) hours in teaching methodology. Following, but not limited to, are examples of courses that meet the required instruction in teaching methodology;

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- (a) California State Fire Marshal Fire Instructor 1A and 1B,
 - (b) National Fire Academy's Instructional Methodology,
 - (c) Training programs that meet the US DOT/National Highway Traffic Safety Administration 2002 Guidelines for Educating EMS Instructors such as the National Association of EMS Educators Course.
- (2) Duties of the Program Director, in coordination with the Clinical Coordinator, shall include but not be limited to:
- (a) Administering the training program
 - (b) Approving course content
 - (c) Approving all written examinations and the final skills examination.
 - (d) Coordinating all clinical field activities related to the course.
 - (e) Approving the principal instructor(s) and teaching assistant(s).
 - (f) Assuring that all aspects of the EMT training program follow all applicable Santa Cruz EMS policies.
- (3) Clinical Coordinator: Must be either a physician, registered nurse, physician assistant, or a paramedic currently licensed in California or a paramedic currently licensed in California, and who shall have two (2) years of academic or clinical experience in emergency medicine or prehospital care in the last five years. Duties of the program clinical coordinator shall include, but are not limited to:
- (a) Responsibility for the overall quality of medical content of the program;
 - (b) Approval of the qualifications of the principal instructor(s) and teaching assistant(s).
- (4) Principal Instructor:
- (a) Must be a physician, registered nurse, physician assistant or paramedic licensed in California; or,
 - (b) Be an EMT or Advanced EMT who is currently certified in California.
 - (c) Have at least two years of academic or clinical experience in the practice of emergency medicine or prehospital care in the last five years.

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- (d) Shall be qualified by education and experience in methods, materials and evaluation of instruction, which shall be documented by at least forty hours in teaching methodology. See III.A.2.g.1) a)-c) for examples of courses that meet this requirement.
 - (e) Be approved by the program director in coordination with the program clinical coordinator as qualified to teach the topics to which s/he is assigned.
 - (f) All principal instructors from approved EMT training programs shall meet the minimum qualifications out lined in this policy.
- (5) Teaching Assistants
- (a) Each training program may have teaching assistants who shall be qualified by training and experience to assist with teaching of the course and shall be approved by the program director in coordination with the program clinical coordinator as qualified to assist in teaching the topics to which the assistant is to be assigned. A teaching assistant shall be supervised by a principal instructor, the program director and/or the program clinical coordinator.
- g) Provisions for Clinical Experience
- (1) Each program shall have a written agreement with one or more general acute care hospital(s) and/or operational ambulance provider and/or rescue vehicle provider sufficient to ensure clinical rotations for every student. The written agreement(s) shall specify the roles and responsibilities of the training program and the clinical provider(s) for supplying the supervised clinical experience for the EMT student(s).
 - (2) Supervision for the clinical experience shall be provided by an individual who meets the qualifications of a principal instructor or teaching assistant.
 - (3) No more than three (3) students will be assigned to one (1) qualified supervisor during the supervised clinical experience.
 - (4) Every student shall be aware of clinical expectations and exactly what skills and/or assessments they may utilize during the session.
 - (5) Students shall be clearly identified as an "EMT Student" by an easily identifiable means such as a nametag, smock, etc.

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- (6) The EMT Training Program shall develop a check sheet for verification of no less than five patient contacts during the session. Patient care simulations may be utilized to meet the contact requirements if less than five patients have been evaluated during the clinical experience.
- h) Provisions for Course Completion by Challenge, including a challenge examination (if different from the program's final examination). All applicants who wish to challenge course completion and certification shall be approved by the Santa Cruz County EMS Agency. Each EMT Training Program shall provide a statement of understanding to the Santa Cruz County EMS Agency.
- i) Provisions for a twenty-four (24) hour refresher course including subdivisions (1)-(6) above, required for recertification.
 - (1) A statement verifying usage of the United States Department of Transportation's EMT-Basic Refresher National Standard Curriculum, DOT HS 808 624, September 1996. The U.S. Department of Transportation's EMT-Basic Refresher National Standard Curriculum can be accessed through the U.S. Department of Transportation's website, <http://www.nhtsa.gov/people/injury/ems/pub/basicref.pdf>
- j) Course Location, Time, and Instructor Ratios
 - (1) Each EMT Training Program shall submit an annual listing of course dates and locations.
 - (2) If an approved EMT Training Program wishes to add a course to the schedule, notification must be received in writing to the Agency no less than sixty days prior to the proposed start date.
 - (3) No greater than ten students shall be assigned to one instructor during the practical portion of course.
- k) Table of contents listing the required information detailed in this policy with corresponding page numbers.
- l) Facilities and Equipment
 - (1) Facilities must comfortably accommodate all students including those with disabilities.
 - (2) Restroom access must be available.
 - (3) Must permit skills testing so that smaller break-out groups are isolated from one another.

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- (4) Training equipment and supply shall be modern and up to date as accepted by the industry and shall be maintained and/or replaced as necessary.
 - m) Quality Assurance and Improvement
 - (1) Each program shall submit a Quality Assurance and Improvement Plan that addresses the following:
 - (a) Methods of student remediation.
 - (b) A plan for continuous update of examinations and student materials.
 - (c) Identify the text and resource materials that will be utilized by the program.
 - (d) Student course evaluations
 - n) Research Agreement Decree
 - (1) Each approved program shall provide a statement agreeing to participate in research data accumulation. This information shall be utilized to enhance the emergency medical services systems in Santa Cruz County.
2. Program Approval Time Frames
- a) Upon receipt of a complete application packet, Santa Cruz County EMS shall notify the training program submitting its request for training program approval within fourteen (14) working days of receiving the request that:
 - (1) The request for approval has been received,
 - (2) The request does or does not contain all required information, and
 - (3) What information, if any, is missing from the request.
 - b) Program approval or disapproval shall be made in writing by Santa Cruz County EMS to the requesting training program, within a reasonable period, after receipt of all required documentation, not to exceed ninety (90) days.
 - c) Santa Cruz County EMS shall establish an effective date of program approval in writing upon the satisfactory documentation of compliance with all program requirements.
 - d) Program approval shall be for four (4) years following the effective date of program approval and may be renewed every four (4) years subject to the procedure for program approval specified by Santa Cruz County EMS in this policy.

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- e) Approved EMT training programs shall also receive approval as a continuing education (CE) provider effective the same date as the EMT training program approval. The CE program expiration date shall be the same expiration date as the EMT training program. The CE program shall comply with all requirements outlined in Santa Cruz County EMS policy 8000.
 - f) Santa Cruz County EMS will notify the California EMS Authority concurrently with the training program of approval, renewal of approval, or disapproval of the training program, and include the effective date. This notification is in addition to the name and address of training program, name of the program director, phone number of the contact person, frequency and cost for both basic and refresher courses, student eligibility, and program approval / expiration date of the program approval.
3. Withdrawal of Program Approval
- a) Noncompliance with any criterion required for program approval, use of any unqualified personnel, or noncompliance with any other applicable provision of Title 22 may result in suspension or revocation of program approval by Santa Cruz County EMS.
 - b) Notification of noncompliance and action to place on probation, suspend, or revoke shall be done as follows:
 - (1) Santa Cruz County EMS shall notify the EMT training program director in writing, by registered mail, of the provisions of this policy with which the EMT training program is not in compliance.
 - (2) Within fifteen (15) working days of receipt of the notification of noncompliance, the approved EMT training program shall submit in writing, by registered mail, to Santa Cruz County EMS one of the following:
 - (a) Evidence of compliance with the provisions outlined in this policy, or
 - (b) A plan for meeting compliance with the provisions outlined in this policy within sixty (60) calendar days from the day of receipt of the notification of noncompliance.
 - c) Within fifteen (15) working days of the receipt of the response from the approved EMT training program, or within thirty (30) calendar days from the mailing date of the noncompliance notification if no response is received from the approved EMT training program, Santa Cruz County EMS shall notify the California EMS Authority and the approved EMT training program in writing, by registered mail, of the decision to accept the evidence of compliance, accept the

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plan for meeting compliance, place on probation, suspend or revoke the EMT training program approval.

- d) If the EMT training program approving authority decides to suspend, revoke, or place an EMT training program on probation the notification specified in III.A.4.c of this policy shall include the beginning and ending dates of the probation or suspension and the terms and conditions for lifting the probation or suspension or the effective date of the revocation, which may not be less than sixty (60) days from the date of Santa Cruz County EMS' letter of decision to the California EMS Authority and the EMT training program.

B. Program Review and Reporting

1. All program materials are subject to periodic review by the Agency.
2. All programs are subject to periodic on-site evaluation by the Agency.
3. The Agency shall be advised of any program changes in course content, hours of instruction, or instructional staff.
4. Approved programs shall issue a tamper resistant Course Completion Record to each student who successfully meets all requirements for certification. This Course Completion Record shall include:
 - a) Student full legal name.
 - b) The date the course was completed
 - c) The name of the course completed "Emergency Medical Technician"
 - d) Number of hours of instruction completed.
 - e) The name and signature of the Program Director.
 - f) The name and location of the training program.
 - g) The name of the approving authority (i.e.; Approved by the Santa Cruz County EMS Agency)
 - h) The following statements in bold print:
 - (1) "THIS IS NOT AN EMT CERTIFICATE"
 - (2) This course completion record is valid to apply for certification up to a maximum of two years from the course completion date and is recognized statewide.
5. Each program shall submit the Agency provided Course Completion Roster no greater than fifteen (15) days following the completion of the program. Students will not be processed for certification until the Course Completion Roster is received by the Agency.

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C. Required Course Hours

1. The minimum course hours shall consist of not less than one hundred sixty (160) hours. These hours shall be divided as follows:
 - a) A minimum of one hundred thirty-six (136) hours of didactic instruction and skills laboratory; and
 - b) A minimum of twenty-four (24) hours of supervised clinical experience. The clinical experience shall include a minimum of ten (10) documented patient contacts wherein a patient assessment and other EMT skills are performed and evaluated.
2. Existing EMT training programs approved prior to April 1, 2013 shall have a maximum of twelve (12) months to meet the minimum hourly requirements specified in this section. The minimum hours shall not include the examinations for EMT certification and shall not include CPR.

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Policy 303: Continuing Education Providers

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. To establish standards for continuing education providers (CEP's) in the County of Santa Cruz.
- II. Provider Approval
 - A. Any person or agency headquartered in Santa Cruz County wishing to become CEP must submit for approval, a written request to the Agency. An applicant may apply for approval as either a BLS level, ALS level, or both.
 - B. The request for CEP approval must be complete and contain all appropriate information including, resume for both the Program Director and Clinical Director, and the applicable fee. Refer to the CE Provider guide for specific requirements.
 - C. Applications must be received at least sixty (60) days before the first scheduled course of instruction.
 - D. The Agency will notify the applicant within fourteen (14) days that the application was received; and shall notify the applicant within sixty (60) days of receipt of the application of its decision to approve or deny.
 - E. The Agency may approve CE Providers for a period of four (4) years. The expiration date shall be no more than four (4) years from the last day of the month in which the application was approved. Approval for initial applications will be for no more than two (2) years.
 - F. To renew CEP approval, revised CE Provider materials must be received no less than sixty (60) days prior to the expiration date of the current approval. Refer to the CE Provider Guide for specific requirements.
- III. CEP Requirements
 - A. Refer to the current version of the Continuing Education Providers Guide.
- IV. Negative Action
 - A. Any negative action taken in relation to a CEP shall be in accordance with Santa Cruz County Prehospital Care Policy 8010, Procedure for Suspension or Revocation of EMT, CEP, or Paramedic Training Program Approval.

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Policy 304: Training Program Suspension or Revocation

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. To provide a procedure for suspending or revoking EMT or paramedic training program approval for failure to comply with Division 2.5 of the California Health & Safety Code or any rules or regulations adopted pursuant thereto.
- II. Procedure
 - A. Establish Need to Review
 1. The Agency shall evaluate information received from credible sources, including information obtained from an audit or complaint, indicating the possibility of a failure of an EMT or paramedic training program (Program) to comply with Division 2.5 of the California Health and Safety Code or any rules of regulations adopted pursuant thereto.
 - B. Investigation
 2. An investigation will be conducted by the EMS Agency if warranted. An investigation may consist of, but is not limited to, further collection and review of documents, evidence collection, interviews, etc.
 - C. Submission to Medical Director
 1. If the EMS Agency's investigation determines that facts support suspension or revocation of a Program's approval, the allegations may be submitted to the EMS Agency's Medical Director, or his or her designee.
 - D. Issue Formal Accusation and Inform Program of Rights
 1. Prior to or concurrent with submission of the allegations to the Medical Director, the EMS Agency shall notify the Program of the allegations in writing. The notice along with a copy of this policy and the Professional Standards Investigation and Enforcement Guide shall be sent by certified mail to the Program. The notice shall state the following:
 - a) The acts or omissions with which the Program is charged,
 - b) The statutes, rules or regulations that the Program is alleged to have violated;
 - c) The potential actions that the Agency may take because of an adverse determination;
 - d) The Program's right to respond to the allegations orally or in writing, or both; and
 - e) The deadline for responding to the allegations.

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E. Response to Allegations

1. The Program may, within fifteen (15) calendar days of the date that the notice is received, request in writing that a hearing (Independent Review Panel) be convened. Within thirty (30) days of receipt of such a request, the Medical Director shall convene a hearing.
2. The Program may submit a written response to the allegations to the Medical Director, without a hearing by an IRP.
3. The Program shall have thirty (30) days from the receipt of the notice, or up to five (5) days before the date of the hearing, whichever is earlier, to submit a written response to the allegations and supporting documentation to the Medical Director.
4. The failure of the Program to respond orally, or in writing, to the allegations by the above deadlines may result in the Program losing the opportunity to be heard concerning the allegations.

F. Proceedings of an Independent Review Panel (IRP)

1. The following procedures will be observed if a hearing by an IRP is requested by the Program.
 - a) The Medical Director shall set the hearing date.
 - b) Any written materials submitted by the EMS Agency or the Program (the Parties) to the IRP shall also be provided by the Parties to the other.
 - c) The Parties may call witnesses and present relevant testimony.
 - d) The EMS Agency shall present testimony first, after which the Program may present testimony. The Parties shall also have the opportunity to rebut the testimony of the other. Thereafter, the Parties may each make closing arguments. The IRP may call and examine witnesses, may determine the number and order of witnesses, may limit the time for each witness or for argument, and may conclude the hearing at any time after both parties have presented testimony and argument.
 - e) The IRP may permit cross-examination of witnesses at their discretion.
 - f) Witnesses shall not be required to testify under oath.
 - g) A record of the hearing shall be prepared by electronic recording or stenographic reporter.
 - h) The hearing will only be held open to the public if the Program so requests, however, the IRP may close all or part of the hearing to the public to the extent that it is necessary, considering the rights of all persons. The IRP may also

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exclude witnesses from the hearing when they are not testifying, except that neither of the Parties may be excluded.

- i) The program may be represented by a person of his or her choice.
- j) The IRP shall not have “ex parte” communications with the Parties concerning the allegations before a determination of the case is made.

G. IRP Decision

- 1. After the hearing, the IRP shall assess all the information in the record to resolve the case. The IRP may not consider evidence that is outside of the record. The IRP may consider hearsay evidence for the purpose of explaining or supplementing other evidence, but such evidence shall not be sufficient by itself as a basis for a finding unless it would be admissible over objections in civil actions.
- 2. The EMS Agency has the burden of proof by a preponderance of the evidence. This burden must be met even in the event the Program fails to respond to the allegations.
- 3. The IRP shall issue a written decision, no later than 30 days after the hearing that includes findings of facts, a determination of the issues, and any proposed disciplinary action (i.e. probation, suspension or revocation of Program approval) that shall occur as a result. The written decision shall also include the proposed effective date of any proposed disciplinary action.

H. Final Review

- 1. The Medical Director shall issue a final written decision in every case. The Medical Director shall issue the decision, no later than 30 days after a decision of the IRP, or no later than 30 days after deadline for a written response if no IRP is requested. Unless the decision of the IRP is adopted, the Medical Director’s determination shall include findings of facts, a determination of the issues, and any disciplinary action (i.e. probation, suspension or revocation of Program approval) that shall occur as a result. The written decision shall also include the effective date of any disciplinary action.
- 2. If an IRP has issued a decision on the matter:
 - a) The Medical Director may adopt the recommendations of the IRP in whole.
 - b) The Medical Director may adopt the recommendations of the IRP in part, or with modifications.
 - c) The Medical Director may reject the recommendations of the IRP and issue a separate decision.

I. Probation or Suspension of Program Approval

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1. The term of any probation or suspension and any conditions for reinstatement (i.e. plan of correction) shall be determined based on the facts of the case.
2. Upon expiration of the term of any suspension, probation or combination of suspension and probation, the Program's approval may be reinstated by the Medical Director if all the conditions of reinstatement have been met. If the conditions of reinstatement have not been met, the Medical Director may continue the suspension or probation until all conditions for reinstatement have been met.
3. If, during a probationary period, a Program fails to meet the conditions for reinstatement, the Medical Director may suspend the Program's approval until all the conditions for reinstatement have been met.

J. Immediate Suspension

1. The Medical Director may immediately suspend a Program's approval, pending a decision made under this policy if, in the opinion of the Medical Director, immediate suspension is necessary to ensure the public health and safety.

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Policy 305: Agency Approval for EMT Optional Skills

Revision 1/11/18
Effective 1/1/19

I. Purpose

- A. To establish training, evaluation and skills maintenance standards leading to EMS provider agency authorization for local EMT optional scope of practice for EMTs in Santa Cruz County as defined by Policy 208: EMS Responder Scope of Practice and by the California Code of Regulations Title 22, Division 9, Chapter 2, Sections 10063 and 10064.
- B. Authority: Sections 1797.107 and 1797.170, Health and Safety Code. Reference: Sections 1797.8, 1797.52, 1797.58, 1797.90, 1797.170, 1797.173, 1797.175, 1797.176, 1797.202, 1797.208, 1797.212, 1798, 1798.2, 1798.100, 1798.102 and 1798.104, Health and Safety Code.

II. Definitions

- A. Emergency Medical Technician.
 - 1. "Emergency Medical Technician," "EMT-Basic," or "EMT" means a person who has successfully completed an EMT course that meets the requirements of this Chapter, has passed all required tests, and has been certified by a California EMT certifying entity.
- B. EMT Local Accreditation
 - 1. "Local accreditation" or "accreditation" or "accredited to practice" means authorization by the LEMSA to practice the optional skill(s). Such authorization assures that the EMT has been oriented to the LEMSA and trained in the optional skill(s) necessary to achieve the treatment standard of the jurisdiction.
- C. Santa Cruz County EMS provider agency
 - 1. An EMS Provider agency is a public or private sector organization that utilizes EMTs. This includes, but not limited to, locally permitted ambulance services, fire agencies, lifeguard services, and law enforcement agencies, and park personnel who have established training and quality assurance programs.
- D. EMT AED Service Provider.
 - 1. An AED service provider means an agency or organization which is responsible for, and is approved to operate, an AED.

III. EMT Optional Scope Program Authorization

- A. Santa Cruz County EMS Provider agencies may apply to the Santa Cruz County EMS agency for authorization allowing their EMT personnel to perform EMT optional scope procedures as defined by Policy 208: EMS Responder Scope of Practice

IV. Application Process

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- A. A Santa Cruz County EMS Provider agency may apply for program authorization for each of the optional skills under section IV by providing a written plan for each optional skill requested
1. A description of the need for the use of the optional skill.
 2. A description of the geographic area within which the optional skill will be utilized.
 3. A description of the training and evaluation used that meets the minimum standards for each optional skill, as defined in this policy.
 4. A description of the data collection methodology which shall also include an evaluation of the effectiveness of the optional skill.
 5. A description of the skills maintenance plan such as ongoing refresher training.
 6. A description of a skills evaluation program that requires the accredited EMT to demonstrate skills competency at least every 2 years.
 7. An estimate of the number of EMTs who will be applying for optional scope accreditation per Policy 208: EMS Responder Scope of Practice.
- B. The Santa Cruz County EMS Agency Medical Director will review the submitted application and will either approve application or provide feedback on areas of deficiency.
- V. Optional Skills Program Requirements
- A. Use of perilaryngeal airway adjuncts
1. Training
 - a) Training in the use of perilaryngeal airway adjuncts shall consist of not less than five (5) hours to result in the EMT being competent in the use of the device and airway control. Included in the above training hours shall be the following topics and skills:
 - (1) Anatomy and physiology of the respiratory system
 - (2) Assessment of the respiratory system.
 - (3) Review of basic airway management techniques, which includes manual and mechanical.
 - (4) The role of the perilaryngeal airway adjuncts in the sequence of airway control.
 - (5) Indications and contraindications of the perilaryngeal airway adjuncts.
 - (6) The role of pre-oxygenation in preparation for the perilaryngeal airway adjuncts
 - (7) Perilaryngeal airway adjuncts insertion and assessment of placement.

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- (8) Methods for prevention of basic skills deterioration.
 - (9) Alternatives to the perilaryngeal airway adjuncts.
 2. Evaluation
 - a) At the completion of initial training a student shall complete a competency-based written and skills examination for airway management which shall include the use of basic airway equipment and techniques and use of perilaryngeal airway adjuncts.
 - B. Administration of epinephrine by prefilled syringe and/or drawing up the proper drug dose into a syringe for suspected anaphylaxis and/or severe asthma.
 1. Training
 - a) Training in the administration of epinephrine by prefilled syringe and/or drawing up the proper drug dose into a syringe for suspected anaphylaxis and/or severe asthma shall consist of no less than two (2) hours to result in the EMT being competent in the use and administration of epinephrine by prefilled syringe and/or drawing up the proper drug dose into a syringe and managing a patient of a suspected anaphylactic reaction and/or experiencing severe asthma symptoms. Included in the training hours listed above shall be the following topics and skills:
 - (1) Names of the medication
 - (2) Indications
 - (3) Contraindications
 - (4) Complications
 - (5) Side/adverse effects
 - (6) Interactions
 - (7) Routes of administration
 - (8) Calculating dosages
 - (9) Mechanisms of drug actions
 - (10) Medical asepsis
 - (11) Disposal of contaminated items and sharps
 - (12) Medication Administration
 2. Evaluation

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- a) At the completion of this training, the student shall complete a competency based written and skills examination for the use and/or administration of epinephrine by prefilled syringe and/or drawing up the proper drug dose into a syringe, which shall include:
 - (1) Assessment of when to administer epinephrine,
 - (2) Managing a patient before and after administering epinephrine,
 - (3) Using universal precautions and body substance isolation procedures during medication administration,
 - (4) Demonstrating aseptic technique during medication administration,
 - (5) Demonstrating preparation and administration of epinephrine by prefilled syringe and/or drawing up the proper drug dose into a syringe, and
 - (6) Proper disposal of contaminated items and sharps.
- C. Administer the medications listed in this subsection.
 1. Using prepackaged products, the following medications may be administered:
 - a) Atropine
 - b) Pralidoxime Chloride
 2. Training
 - a) This training shall consist of no less than two (2) hours of didactic and skills laboratory training to result in competency. In addition, a basic weapons of mass destruction training is recommended. Training in the profile of medications listed in subsection (A) shall include, but not be limited to:
 - (1) Indications
 - (2) Contraindications
 - (3) Side/adverse effects
 - (4) Routes of administration
 - (5) Dosages
 - (6) Disposal of contaminated items and sharps
 - (7) Medication administration
 3. Evaluation

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- a) At the completion of this training, the student shall complete a competency based written and skills examination for the administration of medications listed in this subsection which shall include:
 - (1) Assessment of when to administer these medications,
 - (2) Managing a patient before and after administering these medications
 - (3) Using universal precautions and body substance isolation procedures during medication administration,
Demonstrating aseptic technique during medication administration,
 - (4) Demonstrating the preparation and administration of medications by the intramuscular route, and
 - (5) Proper disposal of contaminated items and sharps.

VI. EMT Accreditation

- A. In order to be accredited to utilize an optional skill, an EMT shall demonstrate competency through passage, by pre-established standards, approved by the LEMSA, of a competency-based written and skills examination which tests the ability to assess and manage the specified condition.
- B. Initial Training
 1. Each Agency that is approved to provide EMT optional skills shall provide a list of all EMTs that have successfully completed the initial Optional Skills training and evaluation for each of the skills listed in Section VI. For each EMT the list should include:
 - a) Name of the skill(s) learned.
 - b) Date training and evaluation completed.
 2. Based on this documentation, the EMS Medical Director will provide accreditation for each EMT for a maximum period of 2 years.
- C. Refresher Training
 1. At least every two years, or more often as deemed necessary by the LEMSA Medical Director, the Santa Cruz County EMS Provider agency shall provide refresher training of sufficient duration to ensure that the EMT can demonstrate competency through a written and skills evaluation. For each EMT the list should include:
 - a) Name of the skill(s) reviewed.
 - b) Date refresher training and evaluation completed
- D. During a mutual aid response into another jurisdiction, an EMT may utilize the scope of practice for which s/he is trained, certified and accredited according to the policies and procedures

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established by his/her certifying or accrediting LEMSA.

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Policy 306: Emergency Medical Dispatch (EMD)

Revision 5/22/18
Effective 8/1/18

I. Philosophy

- A. This policy is intended to promulgate emergency medical dispatch (EMD) standards that establish EMD training criteria, a process for certification, recertification, continuing education requirements, and a process for quality assurance.
- B. Standardization allows for the limited resources to provide training, certification, testing and personnel certification review efficiently.
- C. This policy is not intended, in any way, to impose upon local communications centers a requirement to be EMD capable. The policy, however, does establish standards for communication centers that do choose to implement an EMD program.

II. Definition

- A. An emergency medical dispatcher is any person employed by an agency providing emergency medical dispatch services who has successfully completed an EMD training program approved by the local emergency medical services agency.

III. Training Standard

A. Course Requirement

1. Curriculum

- a) Courses must use EMD curriculum and associated texts on emergency medical dispatch as approved by the National Academy of Emergency Medical Dispatch.

2. Course Length

- a) The course must be a minimum of twenty-four (24) hours in length of which two (2) hours may be designated for testing.

3. The course must provide training in the following topics:

Unit	Identification	Minimum Time Allocation
1	Medical dispatcher Orientation	4 hours
2	Medical Dispatch protocols	10 hours
3	Medical / legal factors	2 hours
4	Scenarios, drills and practice	4 hours
5	Written and practical Testing	2 hours
6	Comprehensive implementation	2 hours

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- a) Additional training may be required which includes, but is not limited to basic telecommunications, obtaining information from callers, allocation of local EMS resources, multi-casualty incidents and disaster procedures.
- b) The local EMSA may exempt the EMD candidate from sections of the course based upon the candidate's prior experience. As an example, communications centers just entering the EMD program may have experienced dispatchers who may not need training in some sections.

IV. Course Instructor Requirements

A. Units 1-6

1. Must be taught by an EMD Instructor certified through the National Academy of Emergency Medical Dispatch.

B. Additional Training

1. Instructor qualifications to teach additional training topics must, at a minimum, be:
 - a) A recognized instructor who has completed an instructor development course, and
 - b) One (1) year experience in the respective level of practice or expertise.

C. Guest Instructors

1. EMD Instructors may use guest lecturers at their discretion and under their immediate supervision for any section.

D. Proctoring Requirements

1. During course practicum instructor student ratio shall not exceed 1:4.
2. Proctors may be course instructors or certified EMD's. Certified EMD's who proctor need not have taken an instructor course although this would be desirable.

V. EMD Certification Requirements

A. Certification

1. Minimum age of 18.
2. High school diploma or GED.
3. Successfully completed an EMS approved EMD course.
4. Currently certified in first aid (Red Cross Standard American First-Aid or equivalent).
5. Passed a CPR course (American Heart Association/American Red Cross course or equivalent).

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6. Successful completion and documentation of quality checks of calls handled by the EMD.
 7. Sponsored by a department or agency that has responsibility for dispatching emergency medical resources.
 8. Pay a reasonable fee that may be assessed to defray administrative costs associated with certification.
- B. Certification by Challenge
1. EMD may be challenged by persons who meet criteria established in Section V of this policy and passes a local EMS agency approved written and practical exam.
- C. CTO Training/Coaching
1. After completion of the EMD course, EMDs will receive no less than 40 hours of supervised on-the-job training and coaching with an EMD certified Communications Training Officer (CTO).

VI. Recertification

- A. Recertification as an EMD shall be every two (2) years.
1. Requirements for recertification shall be as follows:
 - a) Current certificate in CPR (American Heart Association/American Red Cross course or equivalent).
 - b) Current certification in first aid (American Red Cross Standard First Aid or equivalent).
 - c) Completed 24 hours of continuing education – see Section VII.
 - d) Pay fee assessed to cover expenses associated with recertification.
 - e) Be employed by an agency or department that has responsibility for dispatching emergency medical resources.
 - f) Successful completion and documentation of quality checks of calls handled by the EMD.

VII. Continuing Education Requirements

- A. Certified EMD's must acquire a minimum of twenty-four (24) hours of continuing education within two (2) years. Continuing education hours are obtained on an actual hour basis and shall include the following:
1. A minimum of eight (8) hours of in-house EMD audio reviews every two (2) years.

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2. Four (4) hours of recertification in CPR (American Heart Association/American Red Cross course or equivalent).
3. The remainder of the hours as determined by the individual within the agency that is responsible for training may be obtained by:
 - a) Ride-a-longs associated with emergency medical response.
 - b) Proctoring of EMD training.
 - c) Didactic including lectures, courses, workshops, seminars, films, etc. relevant to EMD principles and practices.
 - d) Attendance at first aid training as necessary to maintain certification.
 - e) Attendance at base station tape critiques.
 - f) Demonstration or practice sessions utilizing telecommunications equipment and/or EMD adjuncts.
 - g) Local training, planning or management meetings scheduled to review EMS procedures and/or communications.
 - h) Outreach presentations to community groups and user agencies.
 - i) EMT level course for recertification. A maximum of four (4) hours may be applied towards EMD recertification.
 - j) Volunteer work at local EMS agencies. A maximum of four (4) hours may be applied towards EMD recertification.
4. All continuing education hours approved by the individual within the agency that is responsible for training must be documented. Failure to provide documentation of attendance in approved CE programs may result in denial of recertification by local EMS agency.

VIII. Certificate Review Process

- A. Certification as an EMD is done by local Emergency Medical Services Medical Director by authority of Health and Safety Code, Section 2.5, subsections 1797.62, 1797.72, 1797.78, 1797.90, 1797.200, 1797.204, 1797.252, 1798 et al.
- B. Therefore, in all aspects, a certified EMD is subject to certificate review process by the local EMSA as defined in the Health and Safety Code, Division 2.5, Chapter 7, Section 1797.200, 1797.204, 1797.206 and 1797.208.

IX. Quality Assurance Requirements for Communications Centers Which Implement an EMD Program

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- A. A quality assurance process needs to be in place to track the performance of the EMD system, identify problem areas and recommend appropriate corrective action, and identify and recognize areas of exemplary performance.
- B. The quality assurance process should be performed by representatives of the County agencies affected by EMD members of the Quality Improvement Committee are (See Policy 101: Quality Improvement Program and System Evaluation)

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Policy 307: Permitting of Ambulance and Non-Transport Providers

Revision 8/9/19
Effective 8/9/19

- I. Purpose
 - A. To provide standards for the permitting of Ambulance Service and Non-Transport Providers in Santa Cruz County.
- II. Authority
 - A. Santa Cruz County Emergency Medical Services (EMS) Ordinance, Chapter 5.35.
- III. Procedure
 - A. Submit a letter of intent describing proposed services to the LEMSA, which shall include the following:
 1. A description of the proposed service area
 2. A description of the level of service being proposed
 3. A description of the proposed method of service delivery (squad, ambulance, engine, helicopter, etc.)
 4. A complete timeline for implementation, including a tentative start date
 5. All documents and information required by the Service Permit Application Requirements, Reference 814, found in Section 800: Reference Materials of the Santa Cruz County EMS Agency Policies and Procedures.
 - B. The requesting agency's proposal will be reviewed and, if satisfactory, will be considered for approval once the following steps are completed:
 1. Set up a facility and/or response vehicle inspection as requested by the LEMSA.
 2. Negotiate an agreement with Santa Cruz County.
 - a) The organization requesting approved provider status may continue with implementation of their program but may not provide services until the time a signed agreement becomes effective.
 - b) All agreements shall be executed in accordance with established county procedures.
- IV. Requirements
 - A. An approved provider must submit a Quality Improvement Plan for approval by the LEMSA, and submit any updates that may be implemented for approval.

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- B. An approved provider must follow all policies, procedures, and protocols in accordance with LEMSA policy, prior to provision of services.
- C. An approved provider shall provide access to all patient care reports for patients encountered in Santa Cruz County in a manner acceptable to the county.
 - 1. Successful integration must occur within 30 days of beginning service, and shall include all patient records from the start of service.
 - 2. Integration and access shall be continuous.
 - 3. Stoppages of access and integration shall be resolved within 14 days, and shall include all patient records from the stoppage period.
- D. An approved provider must submit the following information by May 31 of every year:
 - 1. Name of Provider
 - 2. Address of the Provider
 - 3. Phone number of the Provider
 - 4. 24/7 contact information for the Provider
 - 5. Number of ambulances/vehicles in the Fleet
 - 6. Average number of ambulances/vehicles on duty at noon on any given day
 - 7. Name of Medical Director
 - 8. Level of service(s) being provided
 - 9. Total number of emergency/911 responses
 - 10. Total number of non-emergency/IFT responses
 - 11. Total number of emergency/911 transports
 - 12. Total number of non-emergency/IFT transports
 - 13. Updated copy of a Certificate of Insurance
- V. Personnel
 - A. All personnel must be licensed or certified in accordance with the California Code of Regulations.
 - B. All personnel must attend an approved County orientation to the Santa Cruz County EMS System, provided by the organization.
 - C. All EMT and Paramedic personnel must be accredited to practice in Santa Cruz County, and provide care under the medical direction of the EMS Medical Director.

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Policy 308: Paramedic Training Program Approval Process

Revision New
Effective 12/1/20

I. Purpose

- A. To establish the approval process and ongoing requirements for Paramedic and/or Critical Care Paramedic (CCP) Training Programs located in the SANTA CRUZ COUNTY EMS AGENCY region.

II. Authority

- A. Health & Safety Code, Division 2.5, Chapter 4, Article 1, §§ 1797.200-1797.220
- B. California Code of Regulations, Title 22, Division 9, Chapter 4, Article 1, § 100137

III. Policy

- A. Any Paramedic and/or CCP Training Program located in the SANTA CRUZ COUNTY EMS AGENCY region, with the exception of those conducted by a qualified statewide public safety agency and that have received California EMS Authority approval, shall be approved by SANTA CRUZ COUNTY EMS AGENCY.
- B. An approved Paramedic Training Program shall obtain/maintain accreditation by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP), in order to operate.
 - 1. An approved Paramedic Training Program shall:
 - a) Receive a Letter of Review (LoR) from CoAEMSP prior to starting classes.
 - b) Submit their application, fee, and Initial Self-Study Report (ISSR) to CoAEMSP for accreditation within six (6) months of the first class' graduation.
 - c) Receive and maintain CAAHEP accreditation no later than two (2) years from the date of the ISSR submission to COAEMSP for accreditation.
 - d) Provide the following information, in writing, to all their Training Program Applicants prior to the applicants' enrollment in the training program:
 - (1) The date the Paramedic Training Program must submit their CAAHEP Request for Accreditation Services (RAS) form and ISSR, or the date their application for accreditation renewal was sent to CoAEMSP.
 - (2) The date by which the Paramedic Training Program must be initially accredited, or the date its accreditation must be renewed by CAAHEP.
 - 2. Failure of the Paramedic Training Program to maintain its LoR, submit its RAS form and ISSR to CoAEMSP, or obtain/maintain its CAAHEP accreditation as specified in this policy, shall result in withdrawal of program approval.

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3. Students graduating from a Paramedic Training Program that fails to apply for, receive, or maintain CAAHEP accreditation as specified in this policy, are not eligible for state licensure as a Paramedic.
 4. Paramedic Training Programs shall submit to SANTA CRUZ COUNTY EMS AGENCY all documents submitted to, and received from, CoAEMSP and CAAHEP for obtaining/maintaining accreditation.
- C. Approved Paramedic Training Programs shall participate in the SANTA CRUZ COUNTY EMS AGENCY Emergency Medical Services Quality Improvement Program (EMSQIP).
- D. Eligibility for Paramedic Training Program approval shall be limited to the following institutions:
1. Accredited universities, colleges, including junior and community colleges, and private post-secondary schools as approved by the State of California, Department of Consumer Affairs, Bureau for Private Postsecondary Education.
 2. Medical training units of the United States Armed Forces or Coast Guard.
 3. Licensed general acute care hospitals which meet the following criteria:
 - a) Hold a special permit to operate a Basic or Comprehensive Emergency Medical Service pursuant to the provisions of CCR, Title 22, Division 5; and
 - b) Provide Continuing Education (CE) to other health care professionals; and
 - c) Are accredited by a Centers for Medicare and Medicaid Services accreditation organization with deeming authority.
 4. Agencies of Government.
- E. Paramedic and CCP Training Program Requirements:
1. Training Program Teaching Staff:
 - a) Each Training Program shall have a Program Medical Director who is a Physician currently licensed in the State of California, has experience in emergency medicine, and has education or experience in methods of instruction. Duties of the Program Medical Director shall include the following:
 - (1) Review and approve educational content of the program curriculum, including training objectives for the clinical and field instruction, to certify its ongoing appropriateness and medical accuracy.
 - (2) Review and approve the quality of medical instruction, supervision, and evaluation of the students in all areas of the program
 - (3) Approval of hospital clinical and field internship experience provisions.
 - (4) Approval of the Principal Instructor.
 - b) Each Training Program shall have a Program Director who is either a California licensed Physician, a Registered Nurse (RN) who has a baccalaureate degree, or a Paramedic who has a baccalaureate degree, or an individual who holds a baccalaureate degree in a

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related health field or in education. The Program Director shall be qualified by education and experience in methods, materials, and evaluation of instruction, and shall have a minimum of one (1) year experience in an administrative or management level position, and have a minimum of three (3) years academic or clinical experience in prehospital care education. Duties of the Program Director shall include the following:

- (1) Administration, organization and supervision of the educational program.
- (2) In coordination with the Program Medical Director, approve the Principal Instructor, Teaching Assistants, Field and Hospital Clinical Preceptors, clinical and internship assignments, and coordinate the development of curriculum, including instructional objectives, and approve all methods of evaluation.
- (3) Ensure Training Program compliance with applicable laws/regulations.
- (4) Sign all course completion records.
- (5) Ensure Field and Hospital Clinical Preceptors are trained according to the curriculum specified in this policy.

- F. Each Paramedic Training Program shall have a Principal Instructor, who is responsible for areas including, but not limited to, curriculum development, course coordination and instruction, and who shall meet the following criteria:
1. Be a Physician, RN, Physician Assistant (PA), or Paramedic, currently licensed in the State of California.
 2. Be knowledgeable in the course content of the January 2009 United States Department of Transportation (U.S. DOT) National Emergency Medical Services Education Standards (DOT HS 811 077E).
 3. Have six years (6) of experience in an allied health field and an associate degree or two (2) years of experience in an allied health field and a baccalaureate degree.
 4. Be qualified by education and experience with at least at least forty (40) hours of documented teaching methodology instruction in areas related to methods, materials, and evaluation of instruction.
 5. The Principal Instructor may also be the Program Medical Director or Program Director.
- G. Each CCP Training Program shall have a Principal Instructor who is either licensed in California as a Physician with knowledge in the subject matter, a RN knowledgeable in the subject matter, or a Paramedic with current CCP certification or a Flight Paramedic (FP) certification from the International Board of Specialty Certification (IBSC) or Board for Critical Care Transport Paramedic Certification (BCCTPC).
- H. Instructors of Tactical Casualty Care (TCC) topics shall be qualified by education and experience in TCC methods, materials and evaluation of instruction.
- I. Each Training Program may have Teaching Assistants who have training and experience to assist with teaching the course. The Teaching Assistants shall be supervised by the Principal Instructor, the Program Director and/or the Program Medical Director.

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- J. Each Training Program may have a Clinical Coordinator who is either a Physician, RN, PA, or a Paramedic currently licensed in California, and who shall have two (2) years of academic or clinical experience in emergency medicine or prehospital care. Duties of the Program Clinical Coordinator shall include, but not be limited to, the following:
1. The coordination and scheduling of students with qualified clinical preceptors in approved clinical settings as specified in this policy.
 2. Ensuring adequate clinical resources exist for student exposure to the minimum number and type of patient contacts established by the program as required for continued CAAHEP accreditation.
 3. The tracking of student internship evaluation and terminal competency documents.
- K. Each Paramedic Training Program shall have an adequate number of Field Preceptors who meet the following criteria:
1. Be licensed as a Paramedic.
 2. Be working in the field as a licensed Paramedic for the last two (2) years.
 3. Be under the supervision of the Principal Instructor, the Program Director and/or the Program Medical Director.
 4. Have completed a Field Preceptor Training Program approved by SANTA CRUZ COUNTY EMS AGENCY, in accordance with current CAAHEP Standards and Guidelines. Training shall include curriculum that will result in preceptor competency in the evaluation of Paramedic students during the internship phase of the training program and the completion of the following:
 - a) Conduct a daily field evaluation of students.
 - b) Conduct cumulative and final field evaluations of all students.
 - c) Rate students for evaluation using written field criteria.
 - d) Identify ALS contacts and requirements for graduation.
 - e) Identify the importance of documenting student performance.
 - f) Review the Field Preceptor requirements contained in this policy.
 - g) Assess student behaviors using cognitive, psychomotor, and affective domains.
 - h) Create a positive and supportive learning environment.
 - i) Measure students against the standards of entry level Paramedics.
 - j) Identify appropriate student progress.
 - k) Counsel the student who is not progressing.
 - l) Identify training program support services available to the student and the preceptor.
 - m) Provide guidance and procedures to address student injuries or exposure to illness, communicable disease or hazardous material.

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- L. Each Training Program shall have an adequate number of Hospital Clinical Preceptors who meet the following criteria:
1. Be a Physician, RN or PA currently licensed in the State of California.
 2. Have worked in emergency medical care services or areas of medical specialization for the last two (2) years.
 3. Be under the supervision of the Principal Instructor, the Program Director, and/or the Program Medical Director.
 4. Receive training in the evaluation of Paramedic students in clinical settings. Instructional tools may include, but need not be limited to, educational brochures, orientation, training programs, or training videos. Training shall include the following components of instruction:
 - a) Evaluate a student's ability to safely administer medications and perform assessments.
 - b) Document a student's performance.
 - c) Review Clinical Preceptor requirements contained in this policy.
 - d) Assess student behaviors using cognitive, psychomotor, and affective domains.
 - e) Create a positive and supportive learning environment.
 - f) Identify appropriate student progress.
 - g) Counsel the student who is not progressing.
 - h) Provide guidance and procedures to address student injuries or exposure to illness, communicable disease or hazardous material.
- M. Didactic and Skills Laboratory:
1. A Paramedic Training Program and/or CCP Training Program shall assure that no more than six (6) students are assigned to one (1) Instructor/Teaching Assistant during skills practice/laboratory.
- N. Hospital Clinical Education and Training for Paramedic:
1. A Paramedic Training Program shall provide for and monitor a supervised clinical experience at a hospital, licensed as a general acute care hospital and holds a permit to operate a basic or comprehensive emergency medical service. The clinical setting may be expanded to include areas commensurate with the skills experience needed. Such settings may include surgicenters, clinics, jails or any other areas deemed appropriate by SANTA CRUZ COUNTY EMS AGENCY. The maximum number of hours in the expanded clinical setting shall not exceed forty (40) hours of the total clinical hours specified in this policy.
 2. Hospital Clinical Training, for an approved CCP training program, shall consist of no less than ninety-four (94) hours in the following areas:
 - a) Labor & Delivery (8 hours).
 - b) Neonatal Intensive Care (16 hours).

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- c) Pediatric Intensive Care (16 hours).
 - d) Adult Cardiac Care (16 hours).
 - e) Adult Intensive Care (24 hours).
 - f) Adult Respiratory Care (6 hours).
 - g) Emergency/Trauma Care (8 hours).
3. An approved Paramedic and/or CCP Training Program shall not enroll any more students than they can commit to providing a clinical internship to begin no later than thirty (30) days after a student's completion of the didactic and skills instruction portion of the program. The Training Program Director and a student may mutually agree to a later date for the clinical internship to begin in the event of special circumstances. This agreement shall be in writing.
 4. Paramedic and/or CCP Training Programs in nonhospital institutions shall enter into written agreements with licensed general acute care hospitals that hold a permit to operate a basic or comprehensive emergency medical service for the purpose of providing supervised clinical experience.
 5. Paramedic Clinical Training Hospitals and other expanded settings shall provide clinical experience, supervised by a Clinical Preceptor. The Clinical Preceptor may assign the student to another health professional for selected clinical experience. No more than two (2) students shall be assigned to one (1) preceptor or health professional during the supervised clinical experience. The clinical experience shall be monitored by the training program staff and shall include direct patient care responsibilities, which may include the administration of any additional medications, approved by the SANTA CRUZ COUNTY EMS AGENCY Medical Director, to result in competency. Clinical assignments shall include, but are not to be limited to, emergency, cardiac, surgical, obstetric, and pediatric patients.
- O. Field Internship Education and Training for Paramedic:
1. A Field Internship shall provide emergency medical care training and experience to Paramedic students under continuous supervision, instruction, and evaluation by an authorized Preceptor, and shall promote student competency in medical procedures, techniques, and administration of medications as specified in CCR, Title 22, Division 9, Chapter 4, § 100146 in the prehospital emergency setting within an organized EMS system.
 2. An approved Paramedic Training Program shall enter into written agreements with Paramedic Service Providers to provide field internship services to students as specified in this policy.
 3. The Medical Director of the LEMSA where the internship is located shall have medical control over the Paramedic Intern.
 4. The assignment of a student to a Field Preceptor shall be a collaborative effort between the training program and the provider agency.
 5. The assignment of a student to a Field Preceptor shall be limited to duties associated with the student's training or the student training program.

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6. If the Paramedic Service Provider is located outside the Santa Cruz County EMS region, the Paramedic Training Program shall do the following:
 - a) Ensure the student receives an orientation in collaboration with the LEMSA where the field internship will occur. The orientation shall include that LEMSA's local policies, procedures, and treatment protocols.
 - b) Report to the LEMSA where the field internship will occur, the name of the Paramedic Intern, the name of the Field Internship Provider, and the name of the Preceptor.
 - c) Ensure the Field Preceptor has the required experience and training specified in this policy.
 7. The Paramedic Training program shall enroll only the number of students it is able to place in field internships within ninety (30) days of completion of their hospital clinical education and training phase of the training program. The Training Program Director and student may agree to start the filed internship at a later date in the event of special circumstances. This agreement shall be in writing.
 8. The internship, regardless of the location, shall be monitored by the Training Program staff, in collaboration with the assigned Field Preceptor.
 9. Training Program staff shall, upon receiving input from the assigned field preceptor, document the progress of the student. Documentation shall include the identification of student deficiencies and strengths and any training program obstacles encountered by, or with the student.
 10. Training Program staff shall provide documentation reflecting student progress to the student at least twice during the student's internship.
 11. No more than one (1) trainee, of any level, shall be assigned to a response vehicle at any one time during the Paramedic student's field internship.
- P. Training Program Required Course Content:
1. The Paramedic Course Content shall meet the objectives contained in the January 2009 U.S. DOT National EMS Education Standards (DOT HS 811 077E – available at: <http://www.nhtsa.gov/>), and be consistent with the Paramedic Basic Scope of Practice specified in CCR, Title 22, Division 9, Chapter 4, § 100146(a). In addition, the course content shall include a minimum of four (4) hours of tactical casualty care (TCC) principals as specified in CCR, Title 22, Division 9, Chapter 4, § 100155(b).
 2. The content of the CCP course shall include all items specified in CCR, Title 22, Division 9, Chapter 4, § 100155(c).
- Q. Training Program Required Course Hours:
1. The total Paramedic Training Program shall consist of not less than 1094 hours, divided into:
 2. A minimum 454 hours of didactic instruction and skills laboratories that shall include not less than four (4) hours of training in Tactical Casualty Care.

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3. The Hospital Clinical Training shall consist of no less than 160 hours.
 4. The Field Internship shall consist of no less than 480 hours.
 - a) The student shall have a minimum of forty (40) documented ALS patient contacts during the Field Internship. An ALS patient contact shall be defined as the student performance of one or more ALS skills, except cardiac monitoring and CPR, on a patient.
 - b) For at least half of the ALS patient contacts, the Paramedic student shall be required to provide the full continuum of care of the patient, beginning with the initial contact with the patient upon arrival at the scene through transfer of care to hospital personnel.
 - c) The student shall have a minimum of twenty (20) documented experiences performing the role of team lead during the Field Internship. A team lead shall be defined as a student who, with minimal to no prompting by the Preceptor, successfully takes charge of EMS operations in the field including, at least, the following:
 - (1) Lead coordination of field personnel,
 - (2) Formulation of field impression,
 - (3) Comprehensively assessing patient conditions and acuity,
 - (4) Directing and implementing patient treatment,
 - (5) Determining patient disposition, and
 - (6) Leading the packaging and movement of the patient.
 - d) When available, up to ten (10) of the required ALS patient contacts may be satisfied through the use of high-fidelity adult simulation patient contacts.
 - e) Students shall document patient contacts utilizing an EHR system under supervision of the Preceptor.
 5. The minimum hours shall not include the following:
 - a) Course material designed to teach or test exclusively EMT knowledge or skills including CPR.
 - b) Examination for student eligibility.
 - c) The teaching of any material not prescribed in CCR, Title 22, Division 9, Chapter 4, § 100155.
 - d) Examination for Paramedic licensure.
 6. The total CCP Training Program shall consist of not less than 202 hours. These training hours shall be divided into:
 - a) A minimum of 108 hours of didactic and skills laboratories.
 - b) No less than ninety-four (94) hours of Hospital Clinical Training as specified in this policy.
- R. Training Program Required Testing:

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1. Approved Paramedic and CCP Training Programs shall include a minimum of two (2) formative examinations and one (1) final comprehensive competency - based examinations to test the knowledge and skills specified in this policy.
 2. Documentation of successful student clinical and filed internship performance shall be required prior to course completion.
- S. Paramedic Training Program Course Completion Record:
1. A tamper resistant course completion record shall be issued to each student who has successfully completed the Paramedic and/or CCP Training Program. The course completion record shall be issued no later than ten (10) working days from the date of the student successfully completes the Paramedic and/or CCP Training Program. The course completion record shall contain the following:
 - a) The name of the individual.
 - b) The date of completion.
 - c) The following statement:
 - (1) "The individual named on this record has successfully completed an approved Paramedic Training Program", or
 - (2) "The individual named on this record has successfully completed an approved Critical Care Paramedic Training Program.
 - d) The name of the Paramedic and/or CCP Training Program approving authority.
 - e) The signature of the Program Director.
 - f) The name and location of the Training Program issuing the record.
 - g) The following statement in bold print: "This is not a Paramedic License."
 - h) For Paramedic Training, a list of the approved local optional scope of practice procedures and/or medications taught in the course.
 - i) For CCP Training, a list of the approved procedures and medications taught in the course.
- T. Procedure for Paramedic Training Program Approval:
1. Eligible training institutions shall submit a completed Paramedic Training Application to SANTA CRUZ COUNTY EMS AGENCY.
 2. SANTA CRUZ COUNTY EMS AGENCY shall receive and review the following documentation prior to program approval:
 - a) An attestation statement verifying that the course content meets the requirements as specified in this policy.
 - b) An outline of course objectives.
 - c) Performance objectives for each skill.

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- d) The names and qualifications of the Training Program Director, Program Medical Director, and Principal Instructor.
 - e) Provisions for supervised Hospital Clinical Training, including student evaluation criteria and standardized forms for evaluating Paramedic students; and monitoring of Preceptors by the Training Program.
 - f) Provisions for supervised Field Internship, including student evaluation criteria and standardized forms for evaluating Paramedic students; and monitoring of Preceptors by the Training Program.
 - g) The location at which the courses are to be offered and their proposed dates.
 - h) Written agreements between the Paramedic Training Program and Hospitals and other clinical settings, if applicable, for student placement for clinical education and training.
 - i) Written contracts or agreements between the Paramedic Training Program and EMS Provider Agencies for student placement for Field Internship Training.
 - j) A copy of a CoAEMSP LoR issued to the training institution applying for approval, or documentation of current CAAHEP accreditation.
 - k) Samples of written and skills examinations administered by the Training Program for periodic testing.
 - l) Samples of a final written examination(s) administered by the Training Program.
 - m) Evidence of adequate Training Program facilities, equipment, examination securities, and student record keeping.
3. SANTA CRUZ COUNTY EMS AGENCY shall submit to the California EMS Authority an outline of program objectives and eligibility on each Training Program being proposed for approval in order to allow the California EMS Authority to make the determination required by HSC § 1797.173. Upon request by the California EMS Authority, any or all materials submitted by the Training Program shall be submitted to the California EMS Authority.
 4. Paramedic Training Programs will be approved by meeting all requirements specified in this policy. Notification of program approval or deficiencies with the application shall be made in writing by SANTA CRUZ COUNTY EMS AGENCY to the requesting Training Program in a time period not to exceed ninety (90) days.
 5. SANTA CRUZ COUNTY EMS AGENCY shall establish the effective date of program approval in writing upon the satisfactory documentation of compliance with all program requirements. Paramedic Training Program approval shall be valid for four (4) years, ending on the last day of the month in which it was issued, and may be renewed every four (4) years subject to the procedure for program approval specified in this policy.
- U. Paramedic Training Program Review and Reporting:
1. All program materials shall be subject to periodic review by SANTA CRUZ COUNTY EMS AGENCY, and shall also be made available for review upon request by the EMS Authority.

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2. All programs shall be subject to on-site evaluation by SANTA CRUZ COUNTY EMS AGENCY and may also be evaluated by the EMS Authority.
 3. Any entity conducting a Training Program shall provide written notification of changes to SANTA CRUZ COUNTY EMS AGENCY of course objectives, hours of instruction, Program Director, Program Medical Director, Principal Instructor, provisions for Hospital Clinical experience, or Field Internship. Written notification shall be provided in advance, when possible, and no later than thirty (30) days after a change(s) has been identified.
- V. Denial or Withdrawal of Paramedic Training Program Approval:
1. Failure to comply with any criteria required for Training Program approval, may result in denial, probation, suspension or revocation of Training Program approval.
 2. The requirements for Training Program noncompliance notification and actions are as follows:
 - a) SANTA CRUZ COUNTY EMS AGENCY shall provide written notification of noncompliance to the Paramedic Training Program Provider found in violation. The notification shall be in writing and sent by certified mail to the Paramedic Training Program Director.
 - b) Within fifteen (15) days from receipt of the noncompliance notification, the Training Program shall submit in writing, by certified mail, to SANTA CRUZ COUNTY EMS AGENCY one (1) of the following:
 - (1) Evidence of compliance with the criteria for Training Program approval, or
 - (2) A plan to comply with the criteria for Training Program approval within sixty (60) days from the day of receipt of the notification of noncompliance.
 - c) Within fifteen (15) days from receipt of the Training Program's response, or within thirty (30) days from the mailing date of the noncompliance notification, if no response is received from the Training Program, SANTA CRUZ COUNTY EMS AGENCY shall issue a decision letter by certified mail to the California EMS Authority and the Training Program. The letter shall identify SANTA CRUZ COUNTY EMS AGENCY's decision to take one (1) or more of the following actions:
 - (1) Accept the evidence of compliance provided.
 - (2) Accept the plan for meeting compliance provided.
 - (3) Place the Training Program on probation.
 - (4) Suspend or revoke the Training Program approval.
 3. The decision letter shall also include, but need not be limited to, the following information:
 - a) Date of SANTA CRUZ COUNTY EMS AGENCY's decision.
 - b) Specific provisions found noncompliant by SANTA CRUZ COUNTY EMS AGENCY, if applicable.
 - c) The probation or suspension effective and ending date, if applicable.
 - d) The terms and conditions of the probation or suspension, if applicable.

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- e) The revocation effective date, if applicable.
4. SANTA CRUZ COUNTY EMS AGENCY shall establish the probation, suspension, or revocation effective dates no sooner than sixty (60) days after the date of the decision letter as described in this section.

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Section 400: Facilities

Policy 401: Emergency Department Approved for Pediatrics

Revision 5/22/18
Effective 8/1/18

- I. Definition:
 - A. An Emergency Department Approved for Pediatrics (EDAP) is a licensed basic Emergency Department (physician on duty 24 hours) that meets specific minimum criteria to provide emergency pediatric care.
- II. Authority:
 - A. Reference: Division 2.5 of the California Health and Safety Code, Chapter 2, Section 1797.67; Chapter 4, Article 1, Section 1797.222; Chapter 4, Article 2, Section 1798.150; Chapter 4, Article 3, Section 1798.170 and 1798.172.
- III. EDAP Standards and Designation
 - A. Professional Staff: Physicians
 1. All emergency department physicians who are not Board certified by the American College of Emergency Physicians (ACEP) shall have successfully completed the Pediatric Advanced Life Support (PALS) provider course or Advanced Pediatric Life Support (APLS) course.
 2. All emergency department physicians who are not Board certified by the American Board of Emergency Medicine (ABEM) or by the American Board of Pediatrics (ABP) will obtain at least eight hours of continuing education in pediatric emergency care every two years. Suggested courses include, but are not limited to, the AHA PALS course or the AAP-ACEP APLS course when available.
 3. At least 50% of ED physician coverage must be by full-time staff doctors who are either emergency medicine physicians or are pediatricians with ED experience and boarded in pediatrics. This coverage is based on a monthly schedule since full-time is defined in the Section as working at least 100 hours per month in the ED.
 4. At least 50% of the emergency department coverage in any 24-hour period shall be provided by physicians who are board certified by the American Board of Emergency Medicine (ABEM) or the American Board of Pediatrics (ABP) and are certified in Pediatric Advanced Life Support (PALS) or APLS.
 5. At least one other emergency department physician shall be on call and available within 30 minutes to assist in critical situations.
 6. A designated pediatric consultant shall be available to the EDAP who is Board Certified in pediatrics and responsible for collaboration with the emergency department

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physicians and pediatric liaison nurse (PdLN) in both implementation and the documentation of ongoing chart reviews (quality assurance) of pediatric emergency cases brought to the EDAP. This review shall include, but is not limited to, all pediatric cardiopulmonary arrests and all pediatric emergency department deaths.

7. A pediatrician, Board certified in pediatrics, shall be on-call 24 hours/day and available within 30 minutes to the EDAP. A panel of several pediatricians on rotation may satisfy this requirement.
 8. The Emergency Department Physician will ensure that a pediatrician is immediately consulted on all critically ill or injured pediatric patients and/or pediatric patients admitted to specialty care units of the hospital.
- B. Professional Staff: Nursing
1. At least one Registered Nurse (RN) per shift shall have successfully completed the American Heart Association (AHA) Advanced Cardiac Life Support (ACLS) provider course.
 2. A Pediatric Liaison Nurse (PdLN) shall be designated. This nurse may have shared responsibilities with several institutions. He/she may be employed in the emergency department or in other areas of the hospital such as a ward, ICU, nursery, or quality assurance. Additionally, the PdLN shall complete eight hours of Board of Registered Nursing (BRN) approved CEU's in pediatric emergency care topics per year. (CEU's may be applied toward fulfilling Santa Cruz County MICN certification requirements). Responsibilities of the PdLN shall include:
 - a) Ensuring and documenting appropriate nurse pediatric continuing education.
 - b) Maintaining a log of all pediatric emergency department visits. This can be accomplished by highlighting pediatric patient's names when they are entered into the standard emergency department log.
 - c) Coordinating the review and follow-up of a sample of pediatric emergency department visits which will include all pediatric cardiopulmonary arrests, all pediatric emergency department deaths, and all pediatric emergencies transported by paramedics; including pediatric patients admitted through the emergency department to the critical care units of the EDAP facility and those cases referred by a PdLN or a physician.
 - d) Coordination of the review of paramedic transported pediatric cases with the paramedic liaison nurse in hospitals where the EDAP is also the paramedic base station; including tape reviews of pediatric runs.
 - e) Providing data to the EMS office as requested for program evaluation.

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- f) ensuring injury prevention/health education protocols are followed, health education materials are available, and data is made available to the EMS Office for evaluating the health education component.
- g) QA activities.
- h) There should be at least one registered nurse per shift who has completed a postgraduate course in pediatrics or has at least one year experience as an RN caring for pediatric patients in a pediatric emergency department, a pediatric ward, or a PICU. The postgraduate course should be at least 8 hours long and cover a broad spectrum of pediatric emergency topics. It is recommended that all emergency department nurses meet this requirement.
- i) All emergency department nurses (RN's and LVN's) shall fulfill a CE requirement of 6 hours of BRN approved pediatric emergency care in a two-year period (CEU's may be applied toward fulfilling Santa Cruz County MICN certification requirements). Base station meetings that review pediatric calls and discuss pediatric care may substitute for this requirement.
- j) Emergency Department nurses shall provide injury prevention health education counseling to patients and/or parents as defined in the Santa Cruz County EDAP Health Education Component.

C. Policies, Procedures and Transfer Agreements

	Essential	Desirable
1. Written policies and procedures concerning the early transfer of critically ill and injured patients to pediatric intensive care units and trauma centers.	X	
2. Written policies and procedures for the Identification, evaluation, and referral of Suspected child abuse victims.	X	
3. Written transfer agreement (s) with one or more CCS approved PICU(s). The agreement should address the following issues:	X	
a) Agreement to accept all medically qualified pediatric patients without regard for race, ethnicity, religion, national origin, citizenship, sex, preexisting medical condition, physical or mental handicap, insurance status, economic status or ability to pay for medical services.	X	

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- | | | | |
|----|--|---|---|
| b) | Mechanism for making a single telephone call 24 hours a day for consultation and to arrange admission transportation to a CCS approved PICU, which has an available bed. | X | |
| c) | 24-hour telephone consultation services provided by PICU staff members. | X | |
| d) | Outline of the logistics for the transfer of a critically ill or injured patient to the PICU. | X | |
| e) | Mechanism for reviewing data on patients transferred from an EDAP to a PICU. | X | |
| f) | Joint reviews of patients transferred from the EDAP. | | X |
| g) | Written case summaries on all patients transferred from the EDAP. | | X |
| h) | On-going outreach education provided by the PICU for referring hospital nurses, physicians and ancillary staff. | | X |
| i) | Participation in EMSC QA review activities. | | X |

D. Equipment/Supplies/Trays Requirements

1. The emergency department shall have pediatric equipment, supplies and trays readily available and immediately accessible within the department (it is recommended that a “crash cart” system be utilized):
2. Equipment
 - a) Monitor-defibrillator with 0-400 watt second capabilities and paddles in adult and pediatric sizes.
 - b) Infusion pumps, drip or volumetric.
 - c) Doppler sensing device for blood pressure measurements.
 - d) Pediatric scale for weight measurement.
 - e) Blood warmer
 - f) Pediatric blood pressure cuffs: premie, infant, child, adult, and thigh sizes.

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- g) Stethoscopes with appropriate size bell and/or diaphragm for assessing a preemie, infant or child.
 - h) printed pediatric drug dosage reference material (calculated on dose per kilogram basis), readily available on a wall-mounted chart.
 - i) Pediatric bag-valve resuscitation device (ideally with an over rideable pop-off valve).
 - j) Preemie, infant, child and adult size masks to use with bag-valve device.
 - k) Magill Forceps (pediatric and adult).
 - l) An appropriate infant warming procedure/device
 - m) Pulse oximeter with pediatric sensor.
3. Supplies
- a) Pediatric oral airways (sizes 0-5) endotracheal tubes (sizes 2.5-9.0) and infant and child laryngoscope blades curved 2, 3 and straight 0, 1, 2, and 3.
 - b) Pediatric suction catheters sizes 6-14 fr.
 - c) Pediatric IV supplies including volumetric sets, butterfly cannulas and IV catheters of varying sizes, including central lines, 14 gauge through 25 gauge. 250 or 500 and 1000 ml bags of NS, D5/0.25NS, D5/0.5NS, D5NS, D10/W.
 - d) Needles for intraosseous infusion, preferably 18 gauge and 15-gauge short bone-marrow needles with stylets. (Example – disposable Illinois Jamshidi sternal/iliac aspiration needle with adjustable length.
 - e) Pediatric nasogastric tubes, 6-16 fr. Including 5,8 infant feeding tubes.
 - f) Pediatric Foley catheters, sizes 8-22 fr.
 - g) Chest tube sizes 16-28 fr (size 26 fr. Is not available) and at least two in the newborn size range.
 - h) Stiff cervical collars in sizes small, medium and large or equivalent. (Sandbags for children 6 years and under).
 - i) Appropriate procedures/devices for ensuring pediatric restraint.
4. Trays
- a) Tracheostomy/cricothyrotomy tray with pediatric size tubes (Shiley tube sizes 0-6). 4.b Pediatric spinal tap tray with 22 gauge 1-1/2 inch spinal needle. 4.c Peritoneal lavage tray. 4.d Venesection tray appropriate for children.
- E. Quality Assurance

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1. Quality assurance on a continuing and regular basis is essential. Quality assurance review for the purposes of EDAP designation is defined as a multi-disciplinary committee that meets regularly and reviews the treatment provided to children within the emergency department.
 2. The multi-disciplinary committee, at a minimum, should include representatives from ED nursing, physicians, pediatricians, surgeons, and various pediatric specialties as may be locally available. When possible, the committee should also include a representative from a hospital with an approved pediatric intensive care unit with which the EDAP participating hospital has a signed agreement as required in Section E.3.
 3. The frequency of the meetings of the multi-disciplinary pediatric care review committee should be at a minimum at least quarterly.
 4. The multi-disciplinary committee should at a minimum review pediatric care in the following categories:
 - a) Pediatric deaths
 - b) Pediatric cardiopulmonary arrests.
 - c) Pediatric patients treated by paramedics at the advance life support level.
 - d) Pediatric patients admitted through the emergency department to the critical care units of the EDAP facility and those cases referred by a PdLN or a physician.
 - e) Out-of-County transfers.
 - f) Incident reports generated regarding the pre-hospital or EDAP care of a pediatric patient.
 5. The multi-disciplinary committee shall review the pediatric patients noted in Section 5.4 for, at a minimum, the following criteria:
 - a) Appropriateness of medical care.
 - b) Preventable deaths through either better prevention education, paramedic care or medical care.
 - c) Timely response to the patient of ancillary hospital services, and pediatric specialists.
 6. The County EMS program shall receive a summary report of each of the meetings of the multi-disciplinary committee. At a minimum, the report should indicate the number of cases reviewed and any actions recommended by the committee.
- F. Injury Prevention
1. An injury prevention program shall be developed by the EDAP. The program shall be broadly applied to all age groups.

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2. The required injury prevention program shall be developed and submitted to the County for review within 6 months of designation.

IV. Designation Process

- A. To be considered for designation as an Emergency Department Approved for Pediatrics (EDAP) in Santa Cruz County, the facility shall prepare and submit a completed EDAP application form and supporting documentation (one original and five copies).
- B. All questions regarding EDAP standards, designation and the application process should be directed in writing to:
 1. EMS Program Manager
 2. Santa Cruz County Health Services Agency
 3. 1080 Emeline Ave.
 4. Santa Cruz, CA 95060
- C. The cost of preparation of the application will be borne by the applicant.
- D. Designation of qualified applicants as an EDAP will be the responsibility of the EMS Medical Director.
- E. This designation does not constitute a contract for services.
- F. The EMS Medical Director reserves the right to reject any or all applications, wholly or in part, and to retain all proposals, whether selected or rejected.

V. Site Survey

- A. Within two weeks following receipt of the completed EDAP Application Form, the EMS Medical Director will inform the hospital of the status of the application and schedule a site visit. On preparation for the site visit, hospital personnel shall prepare evidence to verify adherence to the Santa Cruz County EDAP Standards.
- B. The site visit shall include a meeting with the following persons:
 1. The Medical Director of Emergency Services.
 2. The Nursing Supervisors of Emergency Services.
 3. The Pediatric Liaison Nurse
- C. The Site Survey Team shall be appointed by the Santa Cruz County and EMS Medical Director and shall consist of:
 1. One registered nurse with significant experience in pediatric care.
 2. One registered nurse representative from the Santa Cruz County Health Services Agency.

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3. One Board certified pediatrician.
4. One Board Certified Emergency Physician.

VI. Designation

- A. Within one week following the site survey, the survey team will make designation recommendations. The hospital will be notified by mail of minor discrepancies and given a period of time for correction.
- B. Those facilities meeting all EDAP requirements will receive “Santa Cruz County Emergency Department Approved for Pediatrics Designation” within six weeks of proof of completion of EDAP standards.

VII. Appeals, Reapplication, Re-designation, Failure to Maintain Compliance

- A. Hospitals may appeal the results of an EDAP survey by submitting an appeal in writing to the Santa Cruz County EMS Medical Director.
- B. Hospitals that are not able to meet all the requirements for EDAP designation may reapply during the next scheduled survey period. Site surveys for EDAP designation will be made within six months.
- C. Extensions of designation may be approved by the EMS Medical Director without onsite surveys or reapplication. Extensions may be for up to two years. Extensions will be based upon compliance with the standards of designation as outlined in this policy at the discretion of the EMS Medical Director.
- D. Should a designated EDAP fail to meet any of the provisions specified in “Emergency Department Approve for Pediatrics Standard”, the hospital shall immediately notify, in writing, the EMS Medical Director. Withdrawal of EDAP designation may occur at any time thereafter

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Policy 402: STEMI Receiving Centers

Revision 5/22/18
Effective 8/1/18

- I. Purpose:
 - A. To define the process for an acute care facility to be designated by Santa Cruz County as a STEMI Receiving Center (SRC).
- II. Definitions
 - A. STEMI—ST Elevation Myocardial Infarction
 - B. STEMI Receiving Center (SRC)—a hospital specially equipped and designated by Santa Cruz County EMS Agency to care for patients with STEMI.
- III. Policy
 - A. The Santa Cruz County EMS Agency will designate STEMI Receiving Centers in Santa Cruz County based upon the standardized processes recommended by the American College of Cardiology. Only hospitals designated by the Santa Cruz County EMS Agency as 9-1-1 Receiving Centers are eligible for SRC designation.
 - B. All designated SRCs in Santa Cruz County will participate in the Santa Cruz County STEMI System Quality Improvement process.
- IV. Designation
 - A. Any acute care hospital desiring to be designated as a STEMI Receiving Center should apply for such designation by submitting a formal letter on hospital letterhead to the Santa Cruz County EMS Agency. The letter shall include:
 1. A description of the proposed service.
 2. A statement of commitment senior hospital administration and physician staff signed by the Hospital Chief Executive and the Medical Staff Chief supporting SRC designation.
 3. An outline of call panel coverage for the STEMI patient.
 4. The individuals to be named as the SRC Medical Director and the SRC Program Manager.
 5. The proposed start date for the new service.
 6. An on-site review may be conducted by the SCC EMS Medical Director and other EMS Agency Staff.
 7. The cost of the designation shall be borne by the requesting facility.
 8. The hospital must enter into a contract designating the hospital as a STEMI receiving center.

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Policy 403: Trauma Patient Interfacility Transfers

Revision 5/22/18
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I. Purpose

- A. To establish standards for trauma patient flow to trauma centers from receiving hospitals.
- B. Authority for this policy is noted in Division 2.5, California Health and Safety Code, Sections 1798.162, 1798.163 California Code of Regulations Section 100255, 100266

II. Definitions

- A. "Pediatric" or "pediatric patient" means an individual, 14 years old or less.
- B. "Trauma Center" or "designated trauma center" means a licensed hospital, accredited by the Joint Commission on Accreditation of Healthcare Organizations, which has been designated as a Level I, II, III, or IV trauma center and/or Level I or II pediatric trauma center by the local EMS agency, in accordance with California Trauma Care System Regulations.

III. Policy

A. Local Receiving Hospitals

- 1. Each shall have:
 - a) A written transfer agreement, (for both adults and children) with an appropriate designated Level I or II trauma center.
 - b) Guidelines for identification of those patients who should be transferred to the trauma center should consider the American College of Surgeons' High-Risk Criteria for Consideration of Early Transfer.
 - c) A procedure for arranging for transfer of appropriate patients (adults and pediatrics), including, but not limited to:
 - (1) Notification of the receiving trauma center physician
 - (2) Arranging for transport, either ground or air
 - (3) Accompanying of the patient by hospital staff, if appropriate

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Policy 404: Hospital Emergency Department Downgrade or Closure Impact Evaluation Policy Guidelines

Revision 11/8/21
Effective 11/8/21

- I. Purpose
 - A. These guidelines are to assist counties or their designated emergency medical services (EMS) agencies to meet the statutory requirements of evaluating and reporting on the potential impact on the community, community access to emergency care, and how the downgrade or closure will affect emergency services provided by other entities as well as on their systems as a result of the downgrading or closure of emergency services in their receiving hospitals.
- II. Authority
 - A. Pursuant to Section 1300 (c) of the Health and Safety Code, the State EMS Authority shall develop guidelines for development of impact evaluation policies. Each county or its designated local EMS agency shall develop a policy specifying the criteria it will consider in conducting an impact evaluation.
 - B. Each county or its designated local EMS agency shall submit its impact evaluation policy to the California Department of Public Health (CDPH) and the EMS Authority (EMSA) within three days of completion of the policy.
 - C. The EMS Authority shall provide technical assistance upon request to a county or its designated local EMS agency. Section 1300 requires hospitals that plan to reduce or eliminate emergency services to provide notice to certain entities (including the local governing health agency and specified service providers contracting with the hospital) 90 days prior to the change.
 - D. Hospitals are not subject to the 90-day notice provision if CDPH determines that the use of resources to keep the emergency center open substantially threatens the stability of the hospital as a whole or cites the emergency center for unsafe staffing practices. The law also requires health care service plans that contact with a hospital planning a reduction in emergency services to notify enrollees 30 days in advance of the change.
 - E. CDPH must receive an impact evaluation report from the county where the hospital planning to reduce or eliminate services is located. The impact evaluation and a public hearing, to be conducted by the county or its designated local EMS agency, must take place within 60 days of the hospital announcing its intention.
 - F. The county or the local EMS agency shall ensure that all hospital and prehospital health care providers in the geographic area impacted by the service closure or change are consulted with, and planning or zoning authorities are notified, prior to completing an impact evaluation.

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III. Evaluation Criteria

- A. Local EMS agencies should, at a minimum, use the following criteria when developing impact evaluation polices:
1. **Geography:** Relative to facility isolation and type of services available; service area population density, travel time and distance to next nearest facility, number and type of other available emergency services, and availability of prehospital resources;
 2. **Base hospital designation:** Number of calls; impact on patients, prehospital personnel, and other hospitals;
 3. **Trauma care:** Number of trauma patients; impact on other hospitals, trauma centers, and trauma patients;
 4. **Specialty services provided:** Neurosurgery, obstetrics, burn center, pediatric critical care, etc., and their next nearest availability;
 5. **Patient volume:** Number of patients annually, both 9-1-1 transports and walk- ins;
 6. **Notification of the public:** Process to be used; public hearing, advertising, etc.; ensure that all appropriate health care providers are consulted with;
 7. **Process to be used to develop impact evaluation:** LEMSAs should coordinate with their local hospital council and EMS providers to develop a system to be used for determining impact;
 8. **Recommendation for action:** Every impact evaluation to include a determination of whether the request for downgrade or closure should be approved or denied, based upon the results of the criteria.

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Section 500: Documentation and Data Systems

Policy 501: Approved Abbreviations

Revision 5/22/18
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I. Purpose

- A. To provide a standardization of medical abbreviations, Santa Cruz County EMS is adopting the Taber's Medical Dictionary.
- B. Abbreviations can be found:
 - 1. online at https://www.tabers.com/tabersonline/view/Tabers-Dictionary/767492/0/Medical_Abbreviations
 - 2. Taber's app available on Smartphones

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Policy 502: Patient Care Record and Transfer of Care Document

Revision 5/22/18
Effective 8/1/18

I. Purpose

- A. A patient care record shall be completed on every EMS response for all phases of prehospital care.
1. The California Code of Regulations Title 22, Section 100175 (A) (6) specifies the requirements for the initiation, completion, review, evaluation and retention of a patient care record.
 - a) The PCR is the permanent legal medical record that documents all aspects of prehospital care or refusal of care.
 - b) The PCR provides pertinent patient information to other health care providers regarding patient presentation and field care provided.
 - c) In Santa Cruz County, PCRs also serve as the basis for retrospective quality improvement.
 2. All prehospital patient care data as listed below shall be recorded electronically in an approved format.
 - a) BLS and ALS First Responder
 - b) BLS, ALS and CCT Transports
 - c) Against Medical Advice (AMA) or Release at Scene (RAS) forms.
 - d) "Dry run" PCRs that do not result in a patient contact.
 - (1) A patient contact is defined as any prehospital provider offer of assistance or care to a person with a medical complaint or the suspicion of a medical/traumatic complaint.
 - e) A separate PCR must be completed for every patient contact.

II. Documentation Requirements

- A. Transfer of Care Documentation (TOC)
1. The TOC is the preliminary patient care report that is critical for ensuring an informed continuum of care for all patients transported from the field.
 2. Critical first responder information such as a brief history of present illness, physical exam, vital signs, medications administered, and procedures performed shall be recorded and reported to the transporting providers prior to patient arrival at the hospital.

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3. Documentation responsibilities should never take precedence over hands-on rescue and patient care and therefore may not always be possible to complete during an incident. Nevertheless, prehospital information, particularly for critical patients, is essential for the Emergency Department and Hospital course of care and every effort to relay this information should be made.

a) eTOC (Imagetrend)

(1) Critical first responder data elements are recorded, electronically transferred to the transporting unit, and posted to the destination hospital within 10 minutes of patient departure from the scene.

b) Paper TOC

(1) A Transfer of Care paper form shall only be used as a backup during system downtime, equipment failures or temporary loss of internet connectivity.

(2) This document shall be handed directly to the transporting crew and in turn delivered to the Emergency Department care team.

(3) Transport personnel will take a photo of the TOC and attach image file to the PCR

B. PCR Required Elements

1. All sections of the PCR will be filled out as soon as possible and practical.

2. Data entry by any provider should occur at the scene and at a minimum if should include:

d) Patient's name, Age, Address

e) Medications

(1) If the patient's medications are present on scene, the medics will bring the medications to the hospital. This will be documented on the Transfer of Care Document.

f) Chief complaint

g) Primary Impression

h) Secondary impression (if any)

i) Relevant vital signs

j) History of present illness

k) Significant interventions

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- l) Patient's responses to relevant interventions
- m) Critical contact names/numbers
- 3. See Section 700 for specific required data elements for:
 - a) 700-C1, 700-C1-P *Cardiac Arrest*
 - b) 700-C6 *Suspected Cardiac Ischemia*
 - c) 700-N3 *Stroke*
 - d) 700-T1, 700-T1-P *Trauma*
- 4. Advanced Airway Required documentations elements (See Procedure 705 *Advanced Airway Management*) are:
 - n) Indications for invasive airway
 - o) Date/Time Airway Device Placement Confirmation
 - p) Airway Device Being Confirmed
 - q) Airway Device Placement Confirmed Method
 - r) Tube Depth
 - s) Type of Individual Confirming Airway Device Placement
 - t) Crew Member ID
 - u) Airway Complications Encountered
 - v) Suspected Reasons for Failed Airway Management
 - w) Waveform capnography readings through duration of care
- C. Completion Deadlines
 - 1. eTOC data elements should be completed as soon as possible at the scene to ensure information is available at hospital handoff. See II.A.2 above
 - 2. Full ePCRs shall be completed as soon as possible but no later than 48 hours.
 - 3. All electronic documentation shall be uploaded and posted to the destination hospital or transporting unit as soon as possible.
- D. Protected Health Information (HIPPA):
 - 1. All users shall adhere to the County's Internet Usage Policy and shall sign into the secure system with their user name and password. User name, date, and time on printed or faxed PCRs constitute an electronic signature. PCRs may not be e-mailed except under secure systems.
- E. Downtime procedures

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1. During periods of system outages users will utilize paper PCRs and TOCs until the electronic system is restored. Users will enter data from paper PCRs into the electronic system by the end of their next shift after resumption of service.

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Section 600: Operational Policies

Policy 601: Guidelines for Medical Control Orders

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- I. Prior to Contact (Standing Orders):
 - A. Prior to Base Station contact paramedics and EMTs may use the following standing orders.
 1. Adult and Pediatric Patients:
 - a) All BLS skills and treatment.
 - b) All ALS skills and treatments except those limited to Base Station contact and Physician Order Only.
 - c) While treatment protocols may be initiated for pediatric patients as indicated, every effort should be made to contact the Base Station early in the call when managing a Status I-III child.
- II. Orders requiring Base Station Contact, if possible
 - A. When possible, the following orders ~~require~~ should have Base Station contact (MICN or Physician) prior to implementation.
 - B. These orders may be implemented in cases where communication with the Base Station is not possible or cannot be maintained (radio/cell phone failure).
 - a) **Morphine Sulfate** for pain management in doses which exceed Policy 703, *Pain Management*.
 - b) Use of PVADs
 - c) Transcutaneous Pacing (pediatrics)
- III. Orders Requiring Direct Permission by a Base Station
 - A. These orders may only be implemented after direct voice contact with a Base Station.
 1. These orders may not be implemented in cases where communication with the Base Station is not possible or cannot be maintained.
 - a) **Midazolam** for pediatric chemical restraint (see Policy 622 *Patient Restraint*)
 - b) Pronouncement of death not meeting criteria in Policy 613 *Determination of Death in the Field* (adults and peds)
 - c) A.L.T.E AMA (Peds)
 - d) Administering greater than 10 mg of **Midazolam** IM to a patient experiencing excited delirium.

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- II. Orders when Santa Cruz County-Accredited Paramedics are Traveling into or Through Other Counties.
- A. This section refers to those instances where paramedics are providing care for patients in other counties as part of a strike team, ambulance task force, or mutual aid response, or are managing patients on long distance transfers. This section does not apply when paramedics have crossed the Santa Cruz County line on call responses to immediately adjacent parts of contiguous counties. In this case, adherence to Sections I, II, and III is still required
1. Standing Orders, as described in Section I, are allowed.
 2. Orders requiring Base Station Contact, as described in Section II, are allowed and may be treated as Standing Orders. Once a paramedic has left Santa Cruz County these orders may be implemented without Base Station contact
 3. Orders Requiring Direct Permission by a Base Station, as described in Section III, are NOT allowed.

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Policy 602: Field Transfer of Care

Revision 5/22/18
Effective 8/1/18

- I. Paramedic to EMT
 - A. Philosophy: This policy is intended to provide a guideline for the transfer of patient care in the field setting from a paramedic to an EMT when that EMT is not working with a paramedic on an ALS/BLS combination ambulance (see Policy 604).
 1. On occasion, the stepping down of patient care from a paramedic to an EMT is necessary to maximize patient care with on-scene resource limitations and/or the need to rapidly transport more seriously ill or injured victims with unusual on-scene limitations or circumstances, i.e. long extrications or transport unit limitations, etc.
 2. California Code of Regulations (CCR) Title 22, Chapter 2, Article 2, Section 1000063, recognizes the potential for this problem and allows for the step down of patient care under local policy. This policy by local authority establishes how and when a paramedic may transfer patient care to an EMT in the pre-hospital care setting.
 - B. Procedure:
 1. In every situation that appears to require that the paramedic transfer the patient care on-scene to an EMT, the following criteria must be considered:
 - a) All situations cannot be accounted for in this policy.
 - b) The goal and direction of this policy is to match the need of the patient (s) with the highest level of care available with the resources committed to the incident.
 - c) If there is any question by the paramedic regarding the patient's condition and/or the propriety of leaving the patient to the care of an EMT, consult with the Base Station and do as directed.
- II. First Responder Fire ALS Transfer of Care to Transport ALS
 - A. Purpose:
 1. To accomplish good continuity of patient care and field collaboration of all responders, the following shall be observed whenever possible:
 - a) Patients identified as Status Level I (Severe Distress) or Status Level II (In Extremis) or identified as Major Trauma Victims (Physiologic and/or Anatomic criteria met) shall be accompanied by the First Responder Fire Paramedic during transport to the hospital or Landing Zone.
 - b) The Fire Paramedic will attempt to honor requests by the Transport Paramedic for the Fire Paramedic to accompany patient to the hospital.

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- c) Reasonable exceptions to the above criteria (a&b) may include situations where the transport unit has an intern and enough resources on-board, or the Fire Paramedic is requested by his/her Captain to respond to an emergent fire call, or an MCI event where the Incident Commander requests the Fire Medic to remain an on-scene resource. These exception situations require cooperation between Fire and the transport unit.
- d) Fire responder ALS personnel may turn over the care and transport of all Status III-V patients to transport providers on both combination EMT/paramedic units and dual paramedic units.

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Policy 603: First Responder BLS Ambulance Intercept

Revision 5/22/18
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I. Policy

- A. First responder basic life support (BLS) units, which are transport capable and approved and licensed by the County, may transport patients in accordance with approved EMS procedures. The units must be in a contractual relationship with the ALS provider for such services.
- B. First responder BLS unit transportation is allowed under specific activation criteria: Specifically, situations when an ALS ambulance provider may have an extended response time to the scene and where it would benefit the patient to commence transportation in a BLS unit. (See II A and II B for Activation Criteria.)
- C. The first responder BLS unit shall rendezvous with the responding ALS ambulance at a pre-designated location, at which time the patient will be safely transferred to ALS care and transportation will be continued.
- D. Transport capable first responder BLS units may also be utilized for patient transport during multi-casualty incidents in conjunction with ALS ambulances and helicopters.

II. Activation Criteria

- A. A first responder BLS unit may commence transportation of the patient if all 3 of the following apply at the time the patient is packaged and ready for transportation:
 - 1. Patient with an altered level of consciousness and/or showing “fight or flight” symptoms indicative of a worsening condition, and/or two or more hits on the P.A.M. triage tool,
 - 2. Patient needs ALS intervention,
 - 3. The responding ALS ambulance is outside of a pre-designated, County approved geographic boundary, as shown on provider specific maps, indicating that the ambulance response time will be delayed.
- B. If, in the opinion of the highest medical authority on the scene with the patient, the patient would benefit from transportation in the first responder BLS unit and all the criteria above do not apply, the BLS unit may commence transportation after conferring with the responding ALS ambulance.

III. Procedure

- A. Assess patient and commence BLS Treatment according to County protocol.
- B. Determine whether activation criteria have been met.
- C. If activation criteria are met at the time the patient is packaged and ready for transport, the first responder BLS unit shall commence transportation of the patient.

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- D. The first responder BLS unit shall immediately inform the dispatch center that transportation has commenced and shall contact the responding ALS ambulance by radio to coordinate the rendezvous location to be used.
- E. If an ALS ambulance is unavailable to rendezvous with the first responder BLS unit, the unit shall continue transportation to the closest hospital or landing zone. In case of radio failure that precludes communication between the ALS and BLS units, the BLS unit should continue transport until communications can be established

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Policy 604: Attendant Level of Care in ALS/BLS Combination units

Revision 5/22/18
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IV. Purpose

- A. To clarify when an EMT vs. a paramedic can provide direct patient care during EMS calls when responding in a paramedic/EMT configured units.

II. Background

- A. EMS responses encompass a wide range of patient acuity (see Policy 621 Patient Acuity Guidelines).
- B. Many patients can be safely cared for by an EMT with a paramedic who is immediately available in the same vehicle.
- C. Fire and ambulance crews need the flexibility to manage workload by appropriately sharing the duties of all phases of patient care, including hospital handoff and documentation.

III. General Criteria for Determining Appropriate Level of Care

- A. Fire and ambulance paramedics and EMTs are authorized to use any combination of history, primary and secondary surveys, first responder activity, vital signs, experience, and judgement to determine a patient's acuity level.
- B. Patients with acuity levels of 1, 2 or 3 require paramedic level management throughout all phases of prehospital care, including during transport to the appropriate destination. This rule may be waived in the event of an MCI.
- C. Patients with acuity levels of 4 or 5 may be managed by EMTs on scene and during transport provided the following conditions have been met:
 - 1. Each level 4 or 5 patient has been assessed by a paramedic and does not require, or will likely not require, ALS care at any point during the prehospital phase. Exception: a saline locked IV placed by the paramedic is not considered an "ALS" patient.
 - 2. Each fire or ambulance crewmember agrees that a Level 4 or 5 designation is appropriate.

IV. Changes in Patient Acuity

- A. In instances where patients experience a worsening in their status, direct care will revert to either the first response or transport paramedic.

V. Overall Patient Care Responsibility

- A. While it is appropriate for EMTs to directly manage acuity level 4 and 5 patients, paramedics on scene and during transport will still maintain overall patient care responsibility and oversight.

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Policy 605: Field Interaction with Health Care Providers

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. To set guidelines to facilitate a smooth interaction between the EMT-P and the Physician, Registered Nurse, Physician Assistant, or Nurse Practitioner while providing the best possible care to emergency patients.
- II. EMT-P Medical Supervision
 - A. The paramedic may function only under the medical direction and supervision of a paramedic Base Station Physician, or other authorized physician, per Title 22 of the California Administrative Code.
- III. Policy
 - A. Patient Care in a Physician's Office or Clinic
 1. The physician in attendance, whether in an office or clinic, is responsible for that patient until transfer of authority has been done with the Base Hospital Physician. At all times EMT-P will be under the medical authority and direction of the Base Hospital Physician.
 2. On arrival at the physician's office or clinic, the EMT-P will report directly to the physician who oversees the patient.
 3. If the physician is not present, the registered nurse, physician assistant, or nurse practitioner may assist at the discretion of the paramedic. Paramedics and EMTs shall not take medical orders from them.
 - B. Assist or Manage Patient Care
 1. The paramedics and EMTs are to ask the physician directly if they are going to assist or manage patient care.
 2. The physician may elect to assist the paramedic and offer suggestions, but the paramedic will remain under the direction of the Base Station Physician.
 3. If the physician indicates that they wish to manage patient care, the physician will be advised that they will bear full medical responsibility for patient care prior to and during transport, in which case the physician must accompany the patient in the ambulance to the hospital.
 4. The EMT-P may then accept orders and direction from that physician according to Santa Cruz County EMS field treatment protocols. The paramedic shall contact the hospital for "information only" call in.

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5. If the physician elects not to manage the patient or declines to speak to Base Physician, the EMT-P will manage the call per current field treatment protocols.
6. If the treatment, which the patient has already received from the physician, exceeds Santa Cruz County EMS field treatment protocols, the Base Station Physician may request the attending physician to accompany the patient to the hospital.

IV. On Scene of 9-1-1- Emergency (Not physician's office or clinic)

- A. If a physician on scene wishes to manage patient care and will accompany patient, contact Base Station and advise of physician's desire to manage care.
 1. This physician must be recognized by the paramedic or have valid California medical license.
 2. If there is any disagreement between the physician on the scene and the Base Station Physician, the paramedic shall take orders from the Base Station Physician and place the physician on the scene in radio contact with the Base Station Physician.
 3. A registered nurse, physician assistant, or nurse practitioner may assist at the discretion of the paramedic within their respective scope of practice.
 - a) Paramedics and EMTs may not take medical orders from them.
 - b) They must be recognized by the paramedic or have a valid California license prior to assisting with patient care.

V. Documentation

- A. All orders from a physician shall be reported to the base hospital. The scene physician's name and California medical license number shall be documented on the PCR.
- B. All assistance from a registered nurse, physician assistant, or nurse practitioner shall be documented on the PCR, along with name and appropriate California license number.
- C. The paramedic shall document condition of the patient before treatment, all treatment rendered, patient response and condition after treatment from point of contact to hospital delivery.

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Policy 606: Air Ambulances

Revision 5/22/18
Effective 8/1/18

- I. Purpose:
 - A. To provide a standard of operation for helicopter air ambulance rescue services that are providing emergency medical care in the prehospital setting within Santa Cruz County.
- II. Air Ambulance Provider Approval:
 - A. The approval process for helicopter air ambulance providers to operate in the prehospital setting includes:
 1. Compliance with City, County, State, and Federal regulations governing aircraft and helicopter air ambulance.
 2. Compliance with this policy.
 3. This section does not apply to federal agencies.
- III. Definitions:
 - A. The California Code of Regulations, Title 22, Sections 100279 through 100283 defines EMS Aircraft:
 1. 100280 Air Ambulance: "Air Ambulance" as used in this chapter means any aircraft constructed, modified, or equipped and used for the primary purposes of responding to emergency calls and transporting critically ill or injured patients whose medical flight crew has at minimum two attendants certified or licensed in advanced life support.
 2. 100281 Rescue Aircraft: "Rescue Aircraft" means an aircraft whose usual function is not prehospital emergency patient transport, but which may be utilized, in compliance with local EMS policy for prehospital emergency patient transport when use of an air or ground ambulance is inappropriate or unavailable.
 3. 100282 ALS Aircraft: "Advanced life support rescue aircraft" or "ALS rescue aircraft" means rescue aircraft whose medical flight crew has at a minimum one attendant certified or licensed in advanced life support.
 4. 100283 BLS Aircraft: "Basic life support rescue aircraft" or "BLS rescue aircraft" means a rescue aircraft whose medical crew has at a minimum one attendant certified as an EMT 1A.
 - B. Dispatch for Field Requests:
 1. The closest available air ambulance will be dispatched.

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2. An Air Ambulance may be dispatched using Santa Cruz County EMS PAM Triage Criteria following patient and scene evaluation by EMS personnel.
 3. An Air Ambulance may also be dispatched following a request from responding EMS personnel prior to arriving on scene when credible information has been received indicating a high likelihood of the need for this resource.
 4. If an Air Ambulance refuses to accept the dispatch due to weather or mechanical problems, another air ambulance should be immediately dispatched. Patient transport should not be unduly delayed. Base Contact shall be made if the medical authority on scene decides ground transport is the most appropriate method of delivery of the patient to definitive care.
 5. Field Dispatch Request Information (see Table 1)
 6. The location of the LZ will be at the discretion and collaboration of the IC and highest medical authority on scene.
- IV. Cancellation of Helicopter Air Ambulance:
- A. The on-scene Incident Commander may cancel an air ambulance.
 - B. If the helicopter pilot questions the safety of a mission, he/she shall have the final authority in decisions to continue or cancel the mission.
- V. Medical Control:
- A. Medical control for the approved helicopter air ambulance personnel trained to the skill level of a flight nurse or paramedic will be in accordance with the standards established by the county of origin. Standardized nursing procedures will be reviewed and approved biannually by the Santa Cruz County EMS Medical Director.
- VI. Destination Hospital:
- A. Refer to Policy #625 *Trauma Patient Transport and Destination*.
- VII. Documentation:
- A. A complete patient care record will be provided to the Santa Cruz EMS Office for all field encounters by the approved helicopter air ambulance service no later than 3 working days after the incident. The PCR will be reviewed by the EMS Medical director or his/her designee.
- VIII. Quality Assessment:
- A. All field requests for helicopter air ambulance service are subject to retrospective evaluation by the Santa Cruz County EMS Continuous Quality Improvement Committee.

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Table 1: Dispatch Request Checklist

- | | |
|--|--|
| <input type="checkbox"/> Unit Identifier | <input type="checkbox"/> Weather at LZ |
| <input type="checkbox"/> Nature of problem | <input type="checkbox"/> Tactical Frequency |
| <input type="checkbox"/> Location | <input type="checkbox"/> Number/weight of patients |
| <input type="checkbox"/> Special equipment if needed | |

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Policy 607: Patient Destination

Revision 5/22/18
Effective 8/1/18

- I. Non-Immediate Medical Emergencies:
 - A. If a patient's nature of illness does not place him in any immediate life threat, as judged by a paramedic, Base Station Physician, or Mobile Intensive Care Nurse (MICN), the patient or person legally responsible for the patient or a contacted family physician, may designate the destination hospital. The request shall be honored unless the requested destination hospital cannot accept and diverts the patient to another hospital. If the patient does not wish to designate a hospital, the patient is to be advised by the paramedic of the hospital to which he/she is to be taken. Any diversion of an ambulance to a Hospital other than one in Santa Cruz County will be at the discretion of the paramedic supervisor. In the case of an MCI event the designated transportation officer, in conjunction with medical control, shall determine the most appropriate facility and transport method.
- II. Alternate Destination:
 - A. Those patients who are eligible to be considered for an Alternate Destination will be identified upon their request for Emergency Medical Services. Those paramedics and EMTs that have been pre-designated by county EMS will be responsible for the appropriate triage of these patients. Should the patient meet the pre-determined criteria for the alternate destination program, the paramedic will be responsible for facilitating the transportation of the patient to the appropriate destination as designated by the county.
 - B. If at any time during transport the patient presentation changes or the paramedic feels it necessary to transport the patient to the ED, the paramedic may do so and must contact the ED as soon as possible via radio or cell phone. In cases where the patient asks to go to the ED after the paramedic has identified the patient as appropriate for the clinic, the paramedic should consider discussing the criteria by which the transport decision was made. If an agreement cannot be reached, the paramedic will transport the patient to the ED.
- III. Immediate Life-Threatening Medical Emergencies:
 - A. A patient who is considered by the paramedic, Base Station Physician, or MICN, to be in an immediate life-threatening condition, and where immediate attendance by a physician is urgent to the survival of the patient, shall be transported to the "most accessible emergency medical facility, staffed and prepared to administer care appropriate to the needs of the patient". (Ref. Section 1105(c), Title 13, California Administrative Code, i.e., Ambulance Regulations.)
 - B. It is recognized that in many cases the closest hospital, as measured by geographic distance, is not necessarily the hospital that can be accessed in the shortest time. It is essential that paramedics and EMTs take the following transportation factors into consideration when determining hospital destination.

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1. Time of day and day of week
 2. Current traffic patterns which may cause delay of transport
- C. If a patient meets specialty center destination criteria for direct transport from the field, the receiving hospital will function as a Base Hospital should consultation be necessary for that patient.
- D. Paramedics and EMTs are to advise the paramedic Base Hospital of the intended destination hospital. It is the responsibility of the Base Hospital Physician/MICN to approve, confirm, or redirect the ultimate destination hospital for patients who are in extremis. It will be the MICN's responsibility to notify the receiving hospital by phone of patients being transferred to their facility.
- IV. Pediatric:
- A. Critically Ill or Injured Child
1. Paramedics and EMTs will transport critically ill or injured children to the most accessible and appropriate EDAP. Transport from the scene directly to a PICU/Trauma Center/Burn Center will be limited to those cases when distance or delay are critical factors to a patient's outcome. EMS personnel will follow Policy #606 *Policy for Air Ambulance* when requesting a medical helicopter response.
 2. Requests by a parent or person legally responsible for the child requesting transport of a critical child to a more distant EDAP or non-EDAP hospital should be advised verbally of the potential medical consequence.
 3. Consider contacting a Base Hospital for advice and direction as the situation warrants. If the parent or legal guardian continues to insist on by-passing the most accessible and appropriate EDAP/hospital, paramedics and EMTs will request that an Against Medical Advice (AMA) form be signed.
- B. Non-Critical Child
1. All children entering the EMS system who require ambulance transport, but are not critically ill or injured, will be transported to the most accessible and appropriate EDAP. Requests by family, or person legally responsible for the child, for transport of a non-critical child to a more distant EDAP or a non-EDAP hospital will be honored.
- V. Dispute Resolution:
- A. In any dispute, the Base Hospital Physician, in direct voice contact with the paramedic, will make the final decision as to whether the patient is in immediate life threat, and whether the patient is to be transported to the closest accessible acute care hospital emergency department or to the hospital which the patient or family or primary care physician wishes. The paramedics and EMTs may not override the decision of the Base Hospital Physician once made.

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Policy 608: Patient Refusal of Care, Against Medical Advice or Release at Scene

Revision 1/2/20
Effective X/X/X

- I. Decision making capability
 - A. Competent adults are entitled to make decisions about their health care. They have the right to refuse medical care or may be released at the scene *when they have been properly informed of the benefits, risks, and alternatives to the recommended care.*
 - B. This policy defines the mechanism by which a patient who summoned emergency care, or for whom such emergency care was summoned, may refuse care and transport, or be released at the scene. This policy is *applicable to all levels of EMS responder personnel.*
- II. Refusal of Care (AMA) or Release at Scene
 - A. Patients, legal representatives (agents) of patients (by legal custody or Durable Power of Attorney for Health Care) or parents of minor patients may refuse medical care or may be released at the scene if they are:
 1. competent: able to understand the nature and consequences of refusing medical care and/or transportation to the hospital or being released at the scene;
 2. and at least one of the following:
 - a) Adult - 18 years of age or older.
 - b) An emancipated minor.
 - c) A minor who is married.
 - d) A minor who is in the military.
 - e) A minor who is the primary care provider for her child can make decisions for the child. If the minor does not meet one of the above criteria, she cannot make medical decisions for herself.
 - B. Incapacitated patients
 1. In situations where a POLST, DNR or Durable Power of Attorney are not available to guide medical decision-making, EMS crews may elicit help from spouses or other relatives.
 2. Medics may honor these spouse/relative requests depending on the specific circumstances of the call. Full documentation of this decision-making process and patient disposition must occur after the call.
- III. The following patients are considered not to be competent to make medical decisions:
 - A. Any patient who presents with an altered level of consciousness.

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- B. Any patient with severely altered vital signs which clearly are impairing his/her ability to think rationally.
- C. Any patient who makes clearly irrational decisions, in the presence of an obvious potentially life or limb threatening condition, including persons who are emotionally unstable.
- D. Any patient under a "5150" hold or exhibiting behavior that qualifies for such a hold.
- E. Any patient with a known mental deficiency.

IV. AMA Process (Competent Patients Only):

- A. When EMS personnel evaluate a competent patient, as identified in Section II, and find that treatment and transport are indicated, all diligence and judgment will be used to convince the patient to agree to this. The AMA process shall include the following:
 - 1. Advisement of risks and alternatives.
 - 2. Assurance that the patient understands the risks of refusing treatment and transport and still refuses. This shall be documented on the Patient Care Report.
 - 3. Assurance that the patient is encouraged to seek medical care and that this is documented on the Patient Care Report.
 - 4. The following must be documented on the PCR.
 - a) Base contact, if indicated by the patient's complaint, severity, or clinical signs/symptoms.
 - b) The patient's signature on the AMA/RAS form and documentation of this on the PCR.
 - c) A witness's signature on the AMA/RAS form and documentation of this on the PCR.

B. Patients in Custody

- 1. Law enforcement may request EMS to the scene to evaluate a patient
- 2. EMS personnel shall approach such cases as they would any other patient who was not in custody. In no cases can EMS "medically clear" a patient.
- 3. Patients who require EMS intervention and/or ambulance transport but otherwise refuse care will require an AMA process as outlined above. Nevertheless, law enforcement may compel the patient to go to a hospital. In such cases no medical care shall be imposed on the patient without their consent.

V. Release-at-Scene Process (Competent Patients Only):

- A. When EMS personnel evaluate a competent patient, as identified in Section II, and both the EMS personnel AND the patient or agent concur that further field treatment and ambulance

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transport are not indicated, then the patient may be released at scene. In this situation, EMS personnel will complete a Patient Care Report in the usual manner to document the details of the encounter including why the patient was released. The following must be documented on the PCR:

1. Patients with minor traumatic injuries who do not meet any P.A.M. trauma criteria.
2. The patient/agent has clearly articulated a plan for medical evaluation and/or follow-up that relies on previously established medical providers or the use of recognized acute care/urgent care providers and facilities.
3. The patient/agent has signed the appropriate AMA/RAS form which states that emergency evaluation has been rendered.

B. Patients in Custody

1. Law enforcement may request EMS to the scene to evaluate a patient
2. EMS personnel shall approach such cases as they would any other patient who was not in custody. In no cases can EMS “medically clear” a patient.
3. Patients who may need evaluation by physician but otherwise, in the judgement of EMS, do not require ambulance transport may be released at scene following the procedure above.

C. Infectious Disease Outbreak or Area Wide Disaster.

1. Outbreaks and Area Wide disasters may require a modification of normal dispatch and transportation policies due to extreme demand on the EMS system.
2. When authorized by the Medical Director, release at scene procedures described above may be modified as follows:
 - a) Release at scene decision algorithms specific to the current situation will be published by the Medical Director and shall be used for each patient to determine appropriate disposition.
 - b) When EMS personnel determine that ambulance transportation is not indicated, EMS personnel may Release at Scene and do not necessarily require agreement with the patient.
 - (1) When such a conflict occurs, EMS personnel are expected to reasonably assist the patient to obtain an alternate source of care or transportation.

- VI. If a patient is determined NOT to be competent to make medical decisions, the patient is treated by implied consent. If this patient continues to refuse evaluation, treatment, or transportation, all reasonable measures including police assistance and/or appropriate use of physical restraint should be

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used to evaluate, treat, and transport the patient. At no time should EMS personnel place themselves in physical danger.

- VII. EMS personnel have a duty to act in the best interest of all patients.
 - A. No patient should be encouraged to refuse evaluation, treatment, or transportation.
 - B. No person will be denied evaluation, treatment, or transport based on age, sex, race, creed, color, origin, economic status, language, sexual preference, disease, or injury.
 - C. If EMS personnel are having trouble in convincing a competent person to be transported, consideration should be given to contacting the paramedic Base Hospital for situational management support. Paramedics and EMTs should be involved when considering this resource.

- VIII. Documentation.
 - A. In accordance with Policy 501, *Santa Cruz County Patient Care Record and Transfer of Care Document*, a Patient Care Report shall be completed on all patient contacts. The PCR shall document all assessments and/or care rendered to the patient by any EMS prehospital care provider. The PCR must also specifically document any events where refusal of assessment, care, and/or transport occurred. In most cases the documentation will be recorded electronically in the approved PCR system. When paper forms are used, the original AMA/RAS form shall be kept on file for the prescribed period.

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Policy 609: Base Station Guidelines

Revision 5/22/18
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- I. For purposes of Medical Control paramedics and EMTs must contact the Base Hospital in the following circumstances:
 - A. To administer medications or provide treatment restricted to medical control per protocols.
 - B. For patients who have decided against transportation and fit the conditions listed in Policy #608 Patient Refusal of Care Against Medical Advice or Release-At Scene.
 - C. To obtain field pronouncements.
 - D. For complicated scenarios not otherwise addressed by existing policies and protocols
 - E. When trauma patients meet criteria for Base Hospital consultation as specified in Policy #625 Trauma Patient Transport and Hospital Destination.
- II. For purposes of Medical Consult Paramedics and EMTs should contact the Base Station when support of the Base Station staff would assist in resolving an on-scene conflict with the patient or other agencies.
- III. Paramedics and EMTs unable to contact the Base Hospital due to communication failure will report this event on the PCR in the appropriate section.
- IV. Radio-Call-In Formats are needed so that Base Hospital staff will be assured of getting necessary information to prepare for a patient. In addition, a radio-call-in can also help determine which facility is best to receive a patient. When contacting the Base Hospital, the following information will be presented during the call-in, regardless of what format you are using.
 - Unit Identifier
 - Med channel being used (when not using cellular or land line communication)
 - Patient Status Level (see Policy 621 *Patient Acuity Guidelines*)
 - Type of call-in (Notification, Consult, or Medical Control)
 - Paramedics and EMTs attending
 - Age and Gender
 - ETA and code of transport
 - Relevant patient information.
- V. Types of Call-ins:
 - A. Hospital Notification
 1. Meant to prepare the ED staff for the patient's arrival
 2. Make this call as soon as possible during transport
 3. Include relevant patient detail, for example:

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- a) Patient on a backboard
- b) Family members onboard
- c) Patient being ventilated
- d) Exclude irrelevant information

B. Base Station Consult

1. The goal is to develop a plan in concert with the Base Hospital
2. The Base Hospital becomes part of your problem-solving process
3. You are seeking advice, for example, difficult non-transport situations
4. When disagreements arise among on scene providers regarding the appropriate treatment for a patient

C. Medical Control

1. You are seeking an order from the Base Hospital
2. Be very explicit about what you are looking for in the beginning of the call-in; do not make the Base Hospital guess what you are trying to do.

D. PAM Triage (Policy 625 *Trauma Patient Transport and Destination* and Policy 626 *Trauma Triage*)

1. PAM Trauma Triage call-ins are a specific subset of the Base Station Consult format. PAM Trauma Triage call-ins are designed to help field personnel reach a destination decision in coordination with the Base Station on PAM Trauma patients that meet only Mechanism +/-Special criteria or who don't meet clear destination criteria as defined in Policy 625.
2. You should provide the Base Station with the following information:
 - a) Which PAM criteria are met
 - (1) Note: in accordance with Policy 625 only Mechanism +/-Special criteria patients are eligible for local transport. Unless in extremis, physiologic and/or Anatomic criteria require transportation to a local trauma center either by air or by ground, whichever is most expeditious.
 - (2) Air transport may be preferred over ground when CCT-RN level of care is needed on the scene.
 - b) A detailed description of the mechanism and special criteria, if any.
 - c) A complete head to toe exam including relevant findings and/or pertinent negatives for all body systems.

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- d) A detailed overview of the patient's physiologic status including a complete set of vital signs.
- e) Any applicable co-morbidities.
- f) Other relevant information.

VI. Trauma Call-in Format

- "(Facility) Base, this is (Unit Identifier) on (Radio Channel) with Trauma Triage traffic."
- "We are currently (on scene, enroute) with a (age/gender) who is a trauma patient."
- "Patient does/not meet physiologic for (list specific PAM criteria from Policy 626 if applicable). Vital signs are as follows: Required vital signs are HR, RR, BP, Cap Refill, Skin color/condition, and LOC." Optional vital signs are SaO₂, EKG, etc.
- "Patient does/not anatomic criteria for (list specific PAM criteria from Policy 626 if applicable)." "Patient exam is as follows: Head-Neck-Chest-Abdomen-Back-Pelvis-Lower Extremities-Upper Extremities with description of all findings and/or pertinent negatives for each body system."
- "Patient does/not meet mechanism criteria (list specific PAM criteria from Policy 626, if applicable) due to (describe the mechanism in detail)."
- "Patient does/not special conditions criteria (list/describe patient co-morbidities if applicable)."
- "We think that (ground/air) transport to (local facility/trauma center) would be appropriate for this patient."
- "How/Where would you like this patient transported?"

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Policy 610: Law Enforcement on Scene

Revision 5/22/18
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- I. Definition:
 - A. For purposes of this policy, the term “police” means any law enforcement agency sworn personnel: Police Officer (local jurisdiction), Deputy Sheriff, California Highway Patrol, Military Police, etc.
- II. Authority:
 - A. Police are designated by law as scene managers of any medical emergency in which they have primary investigational authority. Failure to follow the directions of a police officer at the scene may result in arrest. An EMS responder does not have the authority to overrule a police officer acting in the line of duty. If a disagreement arises with law enforcement on scene, the role of the EMS responder is to request the minimum amount of time to perform an adequate history and physical assessment of the patient, and then to convey the findings and the possible need for further medical evaluation and treatment to the law enforcement agent. In matters of disagreement regarding care, a joint decision between medical personnel and law enforcement is highly desirable.
- III. Access:
 - A. Access to Victims. Refusal by police at the scene to allow access by EMS responders to a person who demonstrates certain observed conditions of death (see Policy #613 *Determination of Death/Pronouncement in the Field*) should not be contested. Document the situation on the PCR.
 - B. Access to Crime Scene. Refusal by the police to allow access to a person or scene should not be contested by the EMS responder. The police at the scene have management responsibility and authority. Obtain the name of the police agency, name and badge (or shield) number of the officer and document on the PCR. If access is permitted by the police to a “crime scene”, an EMS responder should be careful not to disturb the area. It is vital to the police that evidentiary materials are preserved. A joint decision between medical personnel and the police officer is desirable regarding patient care.
 - C. Access to Traffic Accident Victim(s). Patient and responder safety is of chief concern, and EMS responders must work with police on this issue. EMS responders must honor law enforcement requests regarding emergency vehicle parking location. EMS responders must also honor requests to transport patients for pronouncement at the hospital and requests to move patients quickly off scene due to safety concerns. These requests should be documented on the PCR, along with the name of the police agency, the officer’s name, and badge number. Base station contact should be made as needed.

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IV. EMT/Police Interface Guidelines:

A. If a conflict should exist between the EMS responders and the police:

1. Attempt to discuss with the police, in private, an approach that will satisfy both the police and the needs of the patient.
2. Explain to the police the findings on history and physical assessment and explain why treatment is needed and how police work may hinder this treatment.
3. If an agreement as to the proper handling of the patient cannot be reached between the police and the EMS responder, the police request must be respected. Continue to perform your treatment allowed by the police, and do not leave the patient until instructed to do so by the police
4. An EMS responder is not required to perform any services or treatment demanded by police. Law Enforcement agents do not have any rights as far as ordering medical evaluations or treatment on patients. They can prevent treatment or even demand that you leave the patient and the scene, but they cannot order you to take part in an activity potentially harmful to the patient.
5. EMS responders should advise the patient about the limits placed upon the evaluation and treatment by the police, and such explanation must be documented on the PCR.
6. Keep a complete and detailed record of the incident including the notation of all discussions with the police so that the record is complete and accurate. Complete and file an EMS Incident Report describing the disagreement and actions taken as soon as possible.

- B. In the specific situation where Law Enforcement agents have used a Taser or other similar devices (i.e. pepper spray, Mace, rubber bullets, etc.) on a patient and call EMS for assistance, EMS responders shall perform an appropriate evaluation/treatment and transport the patient to the appropriate Emergency Department. These patients are considered high risk and require hospital evaluation. EMS personnel are not authorized to perform a field clearance.

V. Tactical Medicine

- A. EMS may be requested, or may find themselves, in an active shooter situation. Refer to Reference 812, Tactical Medicine.

VI. Police Assistance:

- A. Request for Police Assistance. Police assistance should be requested if one or more of the following conditions are present:
1. A disoriented patient requiring medical care who refuses that care or;
 2. Patient is a threat to himself or others or;

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3. Patient has made a suicidal gesture or;
4. There is an indication of likely assaultive behavior from bystanders or;
5. Parent(s) or other person refuses transport of child after an EMS responder determines that medical attention and/or removal of the child from the environment is necessary or;
6. In any case where EMS responders suspect a crime may have been committed or;
7. Anytime, in EMS responder's best judgment, police presence is indicated.
8. Refusal to Intervene. The police may, at their discretion, refuse to intervene. An incident report should be completed, and other alternatives should be considered.

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Policy 611: On-Scene Medical Control

Revision 5/22/18
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I. Philosophy

- A. This procedure has been developed to minimize the confusion or conflict between two or more paramedic responders who are providing emergency patient care. Occasionally a difference of opinion occurs between paramedics and EMTs of two different provider agencies regarding the patient care to be rendered. This policy was established to resolve disagreements among paramedics and EMTs on scene, and to clarify which paramedic has primary patient care responsibility during an EMS call.

II. Incident Command System

- A. The Santa Cruz County EMS Agency subscribes to the principles of the incident command system (ICS).
1. Every EMS incident is under the direction and control of an incident commander (IC).
 2. The IC is generally the highest-ranking responder on scene.
 3. On a medical incident, this is usually a fire department captain or battalion chief.
- B. Within ICS, patient care on-scene is to be directed by the first arriving, highest medically qualified person until the patient is properly relinquished to another ALS provider. However, the IC, no matter his or her level of medical training, has ultimate authority at EMS calls, including the authority to resolve conflicts between EMS providers.

III. Procedure

- A. The first arriving EMSIA or transport paramedic should institute patient care according to Santa Cruz County EMS treatment protocols. This paramedic should continue all aspects of patient care until arriving at the hospital or until patient care authority is transferred to another paramedic.
- B. Subsequent arriving paramedics and EMTs are expected to assist in the provision of patient care under the direction of the first paramedic on-scene, or until the patient care is transferred to them.
- C. If the first on-scene EMSIA paramedic elects to accompany the patient to the receiving hospital, this paramedic may continue to direct patient care, or may turn over primary patient care to the transporting medic and thereafter act in a supporting role. If the EMSIA paramedic elects to maintain primary patient care, the transporting paramedic shall likewise act in a supporting role.
- D. If the first on-scene EMSIA paramedic elects to not accompany the patient to the hospital, patient care will be transferred to the transporting paramedic. Transfer of care shall be accomplished with a verbal report to receiving paramedics, which is to include (as known),

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pertinent physical findings, vital signs, treatment rendered, and any response to treatment procedures.

- E. If the first on-scene EMSIA paramedic elects to transfer care to the transport paramedic, a Transfer of Care (TOC) form shall be utilized. The TOC is the initial official record of pertinent physical findings, a short history leading up to the emergency, and treatment rendered until ePCRs can be completed. (see Policy 502 *Santa Cruz County Patient Care Record (PCR) and Transfer of Care Document*)
- F. The transporting paramedics and EMTs are ultimately responsible for deciding on the receiving hospital. However, paramedics and EMTs from both the EMSIA and the transporting agency should collaborate when making a patient destination decision, particularly when this involves out-of-county transports.
- G. A separate PCR will be completed by both the EMSIA paramedic and the transporting paramedics. The PCR shall reflect the hand-off and receipt of the patient, each noting the condition of the patient at the time of transfer.

IV. Problem Resolution Process

- A. Collaboration between EMSIA and transporting agency paramedics and EMTs is crucial to the success of shared EMS calls. Collaboration, when problem-solving differences in patient care strategies is a mandatory requirement of all EMS responders in this system.
- B. No matter the agency affiliation, all paramedics and EMTs are equally responsible for the care rendered to a patient. Whether acting as primary patient care provider, or assisting paramedic, all on-scene paramedics and EMTs are equally charged with upholding the standards of care as delineated by their training, scope of practice, and County EMS policies and protocols.
- C. When compromise or consensus among paramedics and EMTs cannot be reached on calls, the ICS and the Base Station hospital shall be utilized in the following manner:
 - 1. No matter the disagreement, patients should always be transported in a timely manner to the most appropriate facility.
 - 2. If the patient is in extremis, the first on-scene paramedic shall maintain primary patient care responsibility and shall accompany the patient to the closest receiving facility.
 - 3. If the patient's condition is stable, paramedics and EMTs may contact the Base Station, asking for treatment and patient destination guidance. Paramedics and EMTs will follow the direction of the Base Station in this instance, and paramedics and EMTs from both the EMSIA and the transporting agency shall accompany the patient to the hospital. The paramedic who had established primary patient care responsibility would remain doing so.
 - 4. In instances when Base Station contact cannot be made or would not be helpful given the circumstances of the disagreement, the IC is empowered to facilitate a resolution,

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and if need be, make a command decision to end the disagreement stalemate.

5. At no time should patient care or transport be delayed resolving a perceived treatment error or discrepancy. Problem resolution shall be done after the transport.

After the call, both parties should meet to determine a final resolution of the conflict, and if this is not possible, incident reports will be filed with the EMSIA EMS BC and transporting agency Clinical Manager. The EMS BC and transporting agency Clinical Manager are charged with incident investigation and reporting to County EMS.

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Policy 612: Resource Response and Management

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- I. Overview
 - A. The goal of EMS resource response and management is to meet the time and resource needs of any medical emergency while still maintaining the integrity of EMS coverage throughout the County. This policy establishes guidelines for call response, and for resourcing EMS calls, particularly when the immediate demand for resources outstrips EMS resource availability.
- II. Core Principles
 - A. EMS calls adhere to the Incident Command System. While law enforcement has ultimate scene authority on all calls, the incident commander (IC) at most EMS incidents will be the ranking fire officer. In the absence of this officer on scene, the IC is the highest trained, most senior medical responder. (see Policy 611: On Scene Medical Control)
 - B. The Santa Cruz County Emergency Medical Dispatch (EMD) system in place is helpful in determining the priority of any given EMS call, and the subsequent recommended EMS resource response.
 - C. A cavalry EMS response with lights and sirens is often unnecessary and defeats the purpose of a sound call triage system.
 - D. EMS systems that are flexible and efficient in their EMS resource response will be better able to handle surges in requests for response and are more likely to bring the correct EMS resource to the patient's side to affect the best patient disposition.
- III. Guidelines for EMS Resource Response and Management
 - A. EMS resources – fire apparatus, ambulances, and other first response units - in Santa Cruz County are dispatched according to established EMD criteria. There are instances, however, when multiple EMS calls occur simultaneously, requiring responding units to alter their call destinations to optimize EMS call coverage and to provide the timeliest response to the highest acuity patient. This policy helps to guide EMS response diversion within the incident command system.
 - B. Procedure
 - 1. If a fire or ambulance resource has been committed to an incident it shall remain committed to that incident until it has completed the call or if one of the following conditions has been met:
 - 2. If fire and ambulance units are enroute to a call, and another, higher priority call occurs in the units' response area, one or both units may divert to the higher priority call.
 - 3. If a fire or ambulance unit is at the scene of a call and the second incoming EMS unit is diverted to another call, NetCom shall advise the on-scene unit of this diversion, and the

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location/ETA of the next closest EMS unit. The IC may, at this point, declare the call “non-divertible.” Should this occur, NetCom will direct the original incoming EMS resource to continue to the initial call and will dispatch another EMS resource to the second incident.

4. Criteria for non-diversion include the following:
 - a) The patient at the original incident is in extremis or near in extremis.
 - b) The patient at the original incident has a substantially time dependent clinical emergency that cannot be managed on scene, with further delays to definitive care worsening the patient’s chances for survival or reduced morbidity.
- C. If a fire unit is at the scene with a Status IV-V (see Policy 621 Patient Acuity Guidelines) patient requiring no further treatment other than transport, this unit may leave the patient to respond to another pending call under the following conditions:
 1. This pending call requires a time dependent response (e.g., a structure fire, cliff rescue, confirmed vehicle accident with injuries, high priority medical call with credible RP information).
 2. There is no other fire or ambulance unit in close enough proximity to handle the pending call in a reasonable time frame.
 3. The patient has no identifiable need for immediate, continued treatment and has been informed that another EMS unit is coming to his/her location. The patient will also be prompted to call 911 back if his/her status worsens.
 4. The new incoming EMS resources and Net Com are aware of the diversion and the location of the patient waiting for transport.
- D. Given the time dependent nature of this resource diversion, no AMA/RAS paperwork needs to be completed at scene. The ambulance copy of the TOC, if filled out, should be left with the patient for the incoming transport unit. After the higher priority response has been completed, however, EMS responders should document their initial evaluation and care of the first patient encountered.
- E. If a fire unit is at the scene with a Status IV-V patient requiring no treatment other than transport, this unit may leave the patient and become available for response. This decision should be based on the patient’s complaints, scene safety considerations, stability of the patient’s vital signs and physiologic status, and proximity and reliability of the incoming transport resource. In this instance, a release at scene (RAS) should be completed, if possible. However, if the patient is not in agreement with the fire resource clearing the scene, this resource may still clear if appropriate documentation backs up this decision. This decision shall be documented in the patient care record, and in the operational report for the call.

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- F. Fire and ambulance resources may be used as single response resources to triage low priority calls in the system, particularly when the system is experiencing high resource demand. In addition, NetCom may queue non-emergent Priority A calls for up to one hour if transport resources drop below coverage limits that would safely allow for County-wide response to high priority, time dependent calls. The criteria for delaying response to calls should be developed by local approved EMS providers in partnership with County EMS and NetCom.
- G. A mass casualty incident (MCI) or prolonged disaster can quickly drain County first response and transport resources. In the event of an MCI or disaster, first responder and transport command staff will coordinate area resource use to most efficiently manage these incidents. This could include utilizing non-traditional transport vehicles (mass transit, etc.) to transport victims to appropriate medical destinations, use of non-traditional field medical stations, and the like.
- H. An MCI or disaster can also greatly reduce the ability of the EMS system to respond to other emergent and non-emergent calls occurring in the system. Should this occur, resource response to higher priority (B – E) calls can also be amended by fire and transport command staff in coordination with NetCom. In these instances, response to these higher priority calls may be delayed or cancelled completely, and single resource response may also be utilized to manage these calls.

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Policy 613: Determination of Death in The Field

Revision 5/22/18
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- I. Purpose:
- A. This policy outlines the process by which field personnel (ALS & BLS) may determine death or obtain a pronouncement of death. Field personnel need not initiate or continue resuscitative efforts when death has been determined, respective to their scope of practice, using the following steps and criteria outlined below. Only physicians and coroners can make a pronouncement of death. This policy applies to both adult and pediatric patients.
 - B. In all cases where determination of death is considered, it is assumed that the patient has no pulse or respirations.
 - 1. If there is any doubt, initiate CPR and resuscitative efforts.
 - 2. Patients may be treated and transported, if in the judgment of the paramedic, the scene dictates that this would be beneficial for field personnel (scene safety) or other causes not outlined in this policy.
 - 3. If resuscitation efforts continue during transport or are initiated during transport, the paramedic will not request a pronouncement of death. In addition, Base Station contact is expected for any patients or situations that do not specifically meet the following criteria. In those cases where Base Station contact is made, the Base Hospital physician will have final authority as to what course of action shall be taken.
 - C. Patients who present with the document "Final Attestation for An Aid-In-Dying Drug to End My Life in a Humane and Dignified Manner" which includes the patient's name, signature and date, base contact will be made to determine course of action unless a valid DNR, POLST, and/or Durable Power of Attorney is present on scene.
 - 1. A patient may at any time withdraw or rescind aid-in dying regardless of the patient's mental state. In this instance, EMS personnel shall provide medical care as per standard protocols. EMS personnel are encouraged to consult with their base hospital in these situations. Family members may be at the scene of a patient who has self-administered an aid-in-dying drug.
 - 2. If there is objection to the End of Life Option Act, inform the family that comfort measures will be provided, and Base Hospital contact will be made for further direction. Obtain a copy of the final attestation and attach it with the EMS Report Form. See Policy 614, Guidelines for EMS Personnel Regarding Do Not Resuscitate (DNR) Orders/Directives and The End of Life Options Act
 - D. If the patient clearly meets one or more of the following criteria the patient may be determined dead with no Base Station contact necessary.

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1. In all cases where death has been determined, notify the Coroner's Office or other responsible law enforcement agency.
2. A representative from Fire/EMS must remain on scene until a representative from either law enforcement or the Coroner's Office arrives on scene.

II. Definitions:

A. Absence of life signs is the physical examination of the patient including:

1. Palpating pulse for minimum of sixty (60) seconds. Assessing absence of respirations for minimum of sixty (60) seconds.
2. Absence of ETCO₂ waveform or readings greater than 10
3. Asystole determined using cardiac monitor, attaching leads, and documenting asystole in two (2) leads for a minimum of sixty (60) seconds.
4. Rigor Mortis- The stiffness seen in corpses. Rigor mortis begins with the muscles of mastication and progresses from the head down the body affecting the legs and feet last. Generally manifested in 1 to 6 hours and a maximum of 6 to 24 hours.
5. Livor Mortis (Lividity) - Cutaneous dark spots on dependent portions of a corpse. Generally manifested within 1/2 to 2 hours. Reaches maximum presentation in 8 to 12 hours.

B. DNR – Do Not Resuscitate

C. POLST – Physician Orders for Life-Sustaining Treatment

D. DNR Medallion - Bracelet or Necklace worn by the patient. See Policy 614, Guidelines for EMS Personnel Regarding Do Not Resuscitate (DNR) Orders/Directives and The End of Life Options Act

III. To determine a patient dead at least one or more of the following criteria below must be applicable.

A. Causes for Determination of Death (BLS/ALS)

1. Decapitation.
2. Incineration.
3. Rigor Mortis.
4. Livor Mortis (Lividity).
5. Decomposition.
6. Massive crushing and/or penetrating injury with total separation of the heart, lung or brain.

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7. Absence of life signs or severely compromised vital signs when there are multiple victims, and resuscitation would hinder care of more viable patients.
 8. In the context of cardiac arrest, the presence of a Valid DNR, POLST, DNR Medallion and/or situation where Durable Power of Attorney is applicable. Refer to Policy 614 Guidelines for EMS Personnel Regarding Do Not Resuscitate (DNR) Orders/Directives and The End of Life Options Act
 9. Submersion greater than or equal to twenty-four (24) hours: Physical examination of body with accurate and reliable history of submersion time.
- B. Causes for Determination of Death (ALS Only)
1. Adult and Pediatric Medical Cardiac Arrest:
 - a) Patient remains in cardiac arrest despite application of correct cardiac arrest algorithm.
 - b) In this case, responders must complete all interventions and medication dosing as prescribed in the appropriate algorithm and verify that the patient has been pulseless and apneic for at least 20 contiguous minutes in the presence of EMS responders. In cases of PEA, cardiac arrest is confirmed by absence of ETCO₂ readings of 10 mmHg or greater for 20 minutes.
 - c) In these instances, ALS personnel may determine the patient dead based on the patient's lack of response to all BLS and ALS interventions. The exceptions to this rule are those patients deemed to be severely hypothermic and patients in the second or third trimester of pregnancy. These patients should be promptly treated and transported to the closest available facility.
 - d) An ETCO₂ level of 10 mmHg or less measured 20 contiguous minutes after the initiation of advanced cardiac life support accurately predicts death in patients with cardiac arrest associated with electrical activity but no pulse. In patients for whom this is the case, resuscitation may be discontinued.
 2. Adult and Pediatric Traumatic Arrest:
 - a) Traumatic injuries (blunt or penetrating) with absence of life signs.
 - b) If patient is found to have either asystole or PEA with a rate less than 40 on initial exam, no workup is necessary. The patient may be determined dead. If the patient is found in PEA with a rate greater than 40 bpm, base station contact should be made to discuss a field pronouncement. In the interim, resuscitation should be commenced.
 - c) If the patient is found to be in ventricular fibrillation or pulseless ventricular tachycardia, resuscitation should be commenced as outlined in Section IIIA

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above. In this instance, determination of death may then be made based on the patient's lack of response to the BLS and ALS interventions. Traumatic arrest patients in the second or third trimester of pregnancy should be transported immediately with a full resuscitation effort to potentially save the fetus.

- IV. Causes for Pronouncement of Death (Base Station Physician or Coroner/Deputy Coroner Only)
 - A. Instances where a clear determination of death cannot be made.
 - B. Instances where the situation surrounding the patient's death are less clear, or when scene conditions, patient history, by-standing family or other circumstances make it prudent for paramedics and EMTs to seek the counsel and direction of the Base Station.
- V. Disposition of the Patient Who Has Been Determined/Pronounced Dead
 - A. Cases Where Death Is Expected
 - 1. In cases where a patient has a terminal illness and a valid DNR/DNR Medallion/DPAHCD, EMS responders may leave the patient with family and/or caregivers. If no responsible party is present on scene, one responder agency should remain on scene until a responsible party – family/caregivers, law enforcement, coroner or coroner's deputy, or mortuary personnel, etc. – arrives at the scene.
 - B. Cases Where Death Is Unexpected
 - 1. In cases where death of the patient is unexpected, one EMS responder agency must stay with the patient until a responsible official agency – law enforcement or coroner/deputy coroner – arrives to take over custody of the body. Steps should be taken to preserve all aspects of the patient's immediate personal effects, and any other surrounding material that may be needed by the coroner or law enforcement personnel.
 - C. Disposition of the Patient's Body
 - 1. In cases where the patient has been determined/pronounced dead in a public setting, responders should use all means to protect the patient's privacy and dignity. The patient should be placed in the ambulance when possible, or appropriately covered while awaiting law enforcement and the coroner's unit.

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DETERMINATION/PRONOUNCEMENT OF DEATH CHECKLIST

Incident Date: _____ Primary Paramedic/EMT

Incident Number: _____ FFD/Secondary Paramedic/EMT

Report Author: _____

Mark the criteria that qualifies this patient for determination/pronouncement of death.

BLS comments

- Decapitation
- Incineration
- Rigor Mortis
- Lividity
- Pulseless + absence of vital organs
- MCI Triage Decision
- Valid DNR, POLST, DPAHCD
- Submersion <=24 hours + pulseless
- Decomposition

ALS

- Asystole, or PEA with rate <40 complexes per minute (Trauma Only)
- Persistent cardiac arrest and ETCO2 < 10mmHg after >20 min. resuscitation
- Pulselessness confirmed for a minimum of 60 seconds
- Apnea confirmed for a minimum of 60 seconds
- Absence of heart sounds confirmed for minimum of 60 seconds
- ETCO2 at zero/unreadable for minimum of 60 seconds
- Patient observed for 10 minutes, with recheck of above criteria at 10-minute mark with no changes
- Hard copy of terminal rhythm ran for 60 seconds.
- Other criteria met:
- Base Station contacted

Comments

Primary Paramedic Signature _____ Date _____

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Policy 614: DNR, Advance Directives and End of Life Options

Revision 5/22/18
Effective 8/1/18

- I. Authority:
 - A. California Health and Safety Code, Division 1, Part 1.8, Section 442 – 443
 - B. California Health and Safety Code, Division 2.5, Section 1797.220 and 1798
 - C. California Probate Code, Division 4.7 (Health Care Decisions Law)
- II. Purpose:
 - A. To allow EMS personnel to honor valid Do Not Resuscitate (DNR) orders or Physician Orders for Life-Sustaining Treatment (POLST) and other patient designated end-of-life directives in the field and act in accordance with the patient's wishes when death appears imminent.
- III. Definitions:
 - A. Advance Health Care Directive (AHCD): A written document that allows an individual to provide healthcare instructions and/or appoint an agent to make healthcare decisions when unable or prefer someone speak for them. AHCD is the legal format for healthcare proxy or durable power of attorney for healthcare and living will.
 - B. Absent Vital Signs: Absence of respirations, absence of carotid pulse. When available, a capnography reading of less than 10 mmHg.
 - C. Basic Life Support (BLS) measures: The provision of treatment designed to maintain adequate circulation and ventilation for a patient in cardiac arrest without the use of drugs or special equipment. Examples include:
 - D. Assisted ventilation via a bag-valve-mask device
 - E. Manual or automated chest compressions
 - F. Automated External Defibrillator (AED) – only if an EMT is on scene prior to the arrival of paramedics
 - G. Do Not Resuscitate: DNR is a request to withhold interventions intended to restore cardiac activity and respirations. For example:
 1. no chest compressions
 2. no defibrillation
 3. no endotracheal intubation
 4. no assisted ventilation
 5. no cardio tonic drugs

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- H. DNR Medallion: Medal or permanently imprinted insignia, worn by a patient, that has been manufactured and distributed in accordance with EMSA and CMA DNR requirements and is imprinted with the words “Do Not Resuscitate, EMS.” (See Section V.)
- I. End of Life Option Act: This California state law authorizes an adult, eighteen years or older, who meets certain qualifications, and who has been determined by his or her attending physician to be suffering from a terminal disease to make a request for an “aid-in-dying drug” prescribed for ending his or her life in a humane and dignified manner.
- J. Aid-in-Dying Drug: A drug determined and prescribed by a physician for a qualified individual, which the qualified individual may choose to self-administer to bring about his or her death due to terminal illness. The prescribed drug may take effect within minutes to several days after self-administration.
- K. Physician Orders for Life Sustaining Treatment (POLST): This form stipulates levels of care to be delivered to the patient, signed by the patient/patient’s representative and the patient’s physician. It stipulates whether resuscitation should be performed in the event of cardiac arrest, and if the patient is alive, the level of care to be provided. For the purposes of Prehospital medical care provision, only Section A and B need to be evaluated.
- L. Resuscitation: Interventions intended to restore cardiac activity and respirations, for example:
 - 1. cardiopulmonary resuscitation
 - 2. defibrillation
 - 3. drug therapy
 - 4. other life saving measures
- M. Standardized Patient-Designated Directives: Forms or medallion that recognizes and accommodates patient’s wish to limit prehospital treatment at home, in long term care facilities or during transport between facilities. Examples include:
 - 1. Statewide Emergency Medical Services Authority (EMSA)/California Medical Association
 - 2. (CMA) Prehospital DNR Form
 - 3. Physician Orders for Life-Sustaining Treatment
 - 4. State EMS Authority-Approved DNR Medallion
- N. Supportive Measures: Medical interventions used to provide and promote patient comfort, safety, and dignity. Supportive measures may include but are not limited to:
 - 1. Airway maneuvers, including removal of foreign body
 - 2. Suctioning
 - 3. Oxygen administration

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4. Hemorrhage control
5. Oral hydration
6. Glucose administration
7. Pain control (i.e., **Morphine**)

IV. Valid DNR Order for Patients in a Licensed Health Care Facility:

- A. A written document in the medical record with the patient's name and the statement "Do Not Resuscitate", "No Code", or "No CPR" that is signed and dated by a physician, or
- B. A verbal order to withhold resuscitation given by the patient's physician who is physically present at the scene and immediately confirms the DNR order in writing in the patient's medical record, or
- C. POLST with DNR checked, or
- D. AHCD when the instructions state resuscitation should be withheld/discontinued

V. Valid DNR Order for Patients at a Location Other Than a Licensed Facility:

- A. EMSA/CMA Prehospital Do Not Resuscitate Form, fully executed, or
- B. DNR medallion, or
- C. POLST with DNR checked, or
- D. AHCD when the instructions state resuscitation should be withheld/discontinued

VI. Principles:

- A. The right of patients to refuse unwanted medical intervention is supported by California statute.
- B. Withhold or discontinue patient resuscitation if a valid AHCD or standardized patient-designated directive is provided.
- C. If the patient's personal physician will sign the death certificate, invasive equipment (i.e., intravenous line, endotracheal tube) used on the patient may be removed.
- D. Patients are encouraged to utilize one of the standardized patient-designated directives to ensure that end-of-life wishes are easily recognizable. If the patient is in a private home, the DNR or POLST should be readily accessible or clearly posted.
- E. Photocopies of all the patient-designated directives are acceptable.
- F. After a good faith attempt to identify the patient, EMS personnel should presume that the identity is correct.
- G. A competent person may revoke their patient-designated directive at any time.

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- H. An adult individual, eighteen years or older, who has the capacity to make medical decisions and has a terminal illness may receive a prescription for an aid-in-dying drug and self-administer the aid-in-dying drug to end his or her life in a humane and dignified manner.
- I. A health care provider, including EMS personnel, shall not be subject to censure, discipline, suspension, loss of license, loss of privileges, loss of membership, or other penalty for participating in good faith compliance with the End of Life Option Act.

VII. Policy:

A. General Procedures for Ems Personnel

- 1. Confirm the patient is the person named in the patient-designated directive. This will normally require either the presence of a form of identification or a witness who can reliably identify the patient.
- 2. Initiate BLS measures immediately on patients in cardiopulmonary arrest pending verification of a valid patient-designated directive or the criteria for discontinuing resuscitative measures outlined in Reference 814, Determination/ Pronouncement of Death in the Field, Policy I, C, have been met.
- 3. Begin resuscitation immediately and contact the base hospital for further direction if family members/caretakers disagree or object to withholding resuscitation, or if EMS personnel have any reservations regarding the validity of the DNR directive.
- 4. Transport to the facility designated by the physician or family members if the patient 's condition deteriorates during transport and they have a valid DNR. This includes 9-1-1 and non-9-1-1 transports.
- 5. Documentation of a DNR incident shall include, but is not limited to, the following:
 - a) Describe the care given. Print the base hospital physician's name, if consulted, and the date of the DNR directive.
 - b) Note the removal of any invasive equipment.
 - c) Document DNR orders written in the medical record of a licensed facility, including, the date signed, physician name, and other appropriate information or provide a copy of the DNR with the EMS Report Form.
 - d) Provide a copy of the AHCD and/or other patient-designated directive with the EMS Report Form, when possible.

B. Directive-Specific Procedures

- 1. A valid AHCD must be:
 - a) Completed by a competent person age 18 or older
 - b) Signed, dated, and include the patient's name

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- c) Signed by two witnesses or a notary public
 - d) Signed by a patient advocate or ombudsman if the patient is in a skilled nursing facility
2. If the situation allows, EMS personnel should make a good faith effort to review the AHCD and/or consult with the patient advocate.
 3. Base contact is required for any AHCD instructions other than withholding resuscitation.
 4. If the agent or attorney-in-fact is present, they should accompany the patient to the receiving facility.
- C. State EMS Authority-Approved DNR Medallion
1. A medallion or bracelet attached to the patient is considered the most accurate form of identification for anyone not in a licensed facility.
 2. Medallions are issued only after a copy of the DNR or POLST is received from an applicant. There are two (2) medallion providers approved in California; contact information:

Medic Alert Foundation
2323 Colorado Avenue
Turlock, CA 95382
Phone: 24-hour Toll Free Number (888)
633.4298
Toll Free FAX: (800) 863-3429
www.medicalert.org

Caring Advocates
2730 Argonauta St
Carlsbad, CA 92009
Phone: 1-800-647-3223
www.caringadvocates.org



3. If the medallion is engraved "DNR", treat in accordance with Ref. No. 815.1, Prehospital Do Not Resuscitate Form.
 4. If the medallion is engraved "DNR/POLST" and the POLST is available, treat as indicated on the POLST.
 5. If the medallion is engraved "DNR/POLST" and the POLST is not available, treat in accordance with the DNR until the valid POLST is produced.
- D. Physician Orders for Life Sustaining Treatment (POLST)

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6. The POLST must be signed and dated by the physician, and the patient or the legally recognized decision maker. No witness to the signatures is necessary.
7. The POLST is designed to supplement, not replace an existing AHCD. If the POLST conflicts with the patient's other health care instructions or advance directive, then the most recent order or instruction governs.
8. In general, EMS personnel should see the written POLST unless the patient's physician is present and issues a DNR order.
9. There are different levels of care in Sections A and B of the POLST. Medical interventions should be initiated, consistent with the provider's scope of practice and POLST instructions.
10. Contact the base hospital for direction in the event of any unusual circumstance.

II. End of Life Option Act:

- A. A patient who has obtained an aid-in-dying drug has met extensive and stringent requirements as required by California law. The law offers protections and exemptions for healthcare providers but is not explicit about EMS response for End of Life Option Act patients. The following guidelines are provided for EMS personnel when responding to a patient who has self-administered an aid-in-dying drug.
- B. Within 48 hours prior to self-administering the aid-in-dying drug, the patient is required to complete a "Final Attestation for An Aid-In-Dying Drug to End My Life in a Humane and Dignified Manner". However, there is no mandate for the patient to maintain the final attestation near of the patient. If a copy of the final attestation is available, EMS personnel should confirm the patient is the person named in the final attestation. This will normally require either the presence of a form of identification or a witness who can reliably identify the patient.
- C. There are no standardized "Final Attestation for An Aid-In-Dying Drug to End My Life in a Humane and Dignified Manner" forms but the law has required specific information that must be in the final attestation. If available, EMS personnel should make a good faith effort to review and verify that the final attestation contains the following information:
 1. The document is identified as a "Final Attestation for An Aid-In-Dying Drug to End My Life in a Humane and Dignified Manner"
 2. Patient's name, signature and dated
- D. Provide supportive measures, whenever possible.
- E. Withhold resuscitative measures if patient is in cardiopulmonary arrest.
- F. The patient may at any time withdraw or rescind his or her request for an aid-in-dying drug regardless of the patient's mental state. In this instance, EMS personnel shall provide medical

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care as per standard protocols. EMS personnel are encouraged to consult with their base hospital whenever possible.

- G. Family members may be at the scene of a patient who has self-administered an aid-in-dying drug. If conflict arises as to the resuscitation efforts, inform the family that only supportive measures will be provided according to the patient's wishes and consider Base Hospital contact to attempt resolution.
- H. Obtain a copy of the final attestation and attach it with the EMS Report Form, when possible.

III. References

- A. Emergency Medical Services Authority #111: Recommended Guidelines for EMS Personnel Regarding Do Not Resuscitate (DNR) and Other Patient-Designated Directives Limiting Prehospital Care, 4th Revision, October 2013

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Policy 615: Emergency Department Diversion and Bypass

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. To ensure optimum patient care and safety, this policy provides the opportunity for hospitals to briefly redirect incoming 911 ambulance traffic when they lack the capacity to care for another critically ill patient.
 - B. While diversion can provide the hospital a brief opportunity to prepare for the next critically ill patient, if overused, it can also have a significant negative effect on other hospital and ambulance resources in the county, thereby causing excessive risk to other patients in the EMS system.
 - C. This policy provides objective criteria in which hospitals can request EMS patients to be diverted from their facility.
- II. ED Diversion/Trauma Bypass General Requirements
 - A. Emergency Departments may request 911 System ambulance diversion/bypass in accordance with the following:
 1. The hospital's Emergency Department resources are fully committed to critically and/or severely ill/injured patients and are temporarily not available for additional ALS patients.
 - a) Lack of inpatient or intensive care unit (ICU) beds, or long wait times for low acuity patients, are not sufficient justification to implement ambulance diversion.
 2. All Santa Cruz County Emergency Departments must use EMResource to maintain availability status:
 - a) EMResource is continuously monitored at each facility. This will generally require a dedicated monitor that displays EMSsystem status.
 - b) Facility personnel are aware of the criteria for implementing emergency department (ED) Diversion.
 3. The diversion decision should be made by the emergency physician in the emergency department in coordination with nursing and/or administrative staff. Appropriate hospital representatives should be notified as soon as possible of the diversion status. All personnel with diversion decision authority must be identified and titles prospectively communicated to the EMS Agency.

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4. When on diversion, hospitals must make every attempt to maximize bed-space, screen elective admissions, and use all available personnel and facility resources to minimize the length of time on diversion.
5. A record of the diversion should be maintained by the hospital after each episode, which includes a record of appropriate approval, type of diversion and reason for it, time of diversion initiation and completion. All diversions must undergo physician review.

B. Patients not eligible for diversion (see Policy 621 *Patient Acuity Guidelines*)

1. Obstetric Patients with imminent delivery
2. In extremis patients with any uncontrollable problem such as an unmanageable airway, uncontrolled hemorrhage, unstable cardiopulmonary condition, or full arrest.

III. ED 911 System Ambulance Diversion Process

- A. If more than one Santa Cruz County hospital requests 911 System ambulance diversion status while the other hospital is diverting, then both hospitals will be considered **GREEN**.
- B. Hospitals may remain on **RED** ambulance diversion status for no more than two hours (120 minutes) per occurrence. A hospital that has closed to ambulance diversion must remain open for at least two hours (120 minutes) before being able to divert again.
- C. When the EMS System is being negatively affected by ambulance availability, the EMS Agency may require all hospitals to become **GREEN** as necessary.
- D. The hospital shall immediately notify NetCom of any/all changes in facility status via EMResource. NetCom will not make any status changes by phone or radio unless EMResource has failed.

IV. Emergency Department Receiving Status

- A. The following 4 status conditions apply to Emergency Departments that request the diversion of 911 System ambulances:
 1. **GREEN** (Open): Accepting all 911 System ambulance patients.
 2. **RED** (Diverting 911 System Ambulances): Diverting all 911 System ambulance patients, except those in-extremis or obstetric patients with imminent delivery. The receiving hospital's Emergency Department is temporarily unable to accept additional patients due to the number and/or acuity of patients currently being treated.
 - a) Patients who are in-extremis shall be accepted by the hospital regardless of the hospital's status.

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- b) A hospital's status at the time the ambulance begins transport (not when the prehospital provider contacts the hospital with a ring-down) will apply to that transport regardless of any subsequent status changes.
3. **YELLOW (Stroke Advisory):** This is an advisory status for ambulances specifically intended to be used when a CT scanner is non-operational and immediate stroke evaluation cannot be accomplished. Other patients (abdominal pain, non-specific headache etc.) that potentially need a CT scan sometime during their evaluation shall not be affected by yellow status
4. **BLACK (Internal Disaster):** A hospital may close to all patients (both walk-in and ambulance) if the facility or a portion of the facility is in a state of Internal Disaster as defined by the California Department of Health Care Services. In such cases, the facility shall attempt to change to Internal Disaster (black) status via EMResource. If it is not possible to change the status via this method, the hospital must contact NetCom immediately. The facility shall report this status to the Department of Health Care Services in accordance with applicable requirements.

V. References

- A. http://www.emsa.ca.gov/local_ems_agency_ambulance_diversion_policies
- B. <https://www.acep.org/Clinical---Practice-Management/Guidelines-for-Ambulance-Diversion/>
- C. <http://www.chcf.org/~media/MEDIA%20LIBRARY%20Files/PDF/PDF%20R/PDF%20ReducingAmbulanceDiversionsInCA.pdf>
- D. <http://californiaacep.org/wp-content/uploads/The-Effect-of-An-Ambulance-Diversion-Ban-on-Emergency-Department-Length-of-Stay-and-Ambulance-Turnaround-Time.pdf>

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Policy 616: Interfacility Transfers

Revision 12/10/19
Effective 12/10/19

I. Purpose

- A. To provide guidelines for ALS Interfacility transfers within Santa Cruz County.

II. Philosophy

- A. The Exclusive Operating Ambulance service (herein the County Ambulance Service) has the exclusive rights and responsibility to provide ALS 911 ambulance services and ALS interfacility transportation of hospitalized or emergency department patients to another medical facility.
- B. Whenever possible, patients transported by ground using the County Ambulance service should remain in Santa Cruz County, provided those services are available.
- C. Hospitals are encouraged to establish and maintain relationships and contracts with ambulance providers that provide BLS or CCT-RN not otherwise covered by this policy.
- D. This policy:
 - 1. Applies only to interfacility transfers between two acute care hospitals
 - 2. Does not apply to BLS or CCT transfers

III. Definitions

- A. *Advanced Life Support (ALS) Transport:* An ambulance staffed with a minimum of 1 Paramedic and 1 EMT with a scope of practice as defined by Policy 208: *EMS Responder Scope of Practice*. An ALS ambulance is capable of providing certain lifesaving medications, interpret cardiac monitors, start IV lines, provide IV fluids, intubate and provide Bag Valve Mask Ventilation. ALS ambulances are not capable of monitoring the infusion of many medications or any blood products, nor do they have ventilator capability.
- B. *Basic Life Support (BLS) Transport:* An ambulance staffed with a minimum of 2 Emergency Medical Technicians with a scope of practice as defined by Policy 208: *EMS Responder Scope of Practice*. Generally, a BLS ambulance can observe a patient and provide first aid interventions as needed. BLS ambulances are not authorized to initiate or monitor medications, start and maintain IV lines or observe a cardiac monitor. A saline or heparin locked IV or central catheter without any medications is considered BLS level.
- C. *Closest Appropriate Facility:* Time closest hospital with the needed capability not available at the sending facility that has formally accepted the patient.
- D. *Critical Care Transport-RN:* A critical Care transport ambulance is staffed with at least 1 registered nurse who is authorized under medical direction to provide most lifesaving

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medications, intubate and ventilate, and initiate and monitor most infusions and blood products.

- E. *Emergency Transfer*: Patients with emergency medical conditions requiring time sensitive specialty receiving center care such as acute stroke thrombectomy, STEMI cardiac catheterization, trauma services or emergency intensive pediatric care that require time sensitive interventions, procedures and/or expertise not available at the sending facility in order to avoid additional mortality or morbidity.
- F. *In Extremis*: Patients at or near the point of death as defined in Policy 621 *Patient Acuity Guidelines*.
- G. *Interfacility Transfer*: The transport of a patient between two healthcare facilities.
- H. *Non-Urgent Transfer*: Patient with medical conditions that could be provided by the sending facility but are being transferred for patient preference, insurance reasons, or mental health evaluation. No period of delay is expected to create additional mortality or morbidity.
- I. *Trauma Re-triage*: Trauma patients with Physiologic and/or Anatomic criteria as defined in Policy 627 *Emergency Department Trauma Re-Triage*.
- J. *Urgent Transfer*: Patients with urgent medical conditions that require time sensitive interventions and/or expertise not available at the sending facility but could tolerate a delay of up to 4 hours without expected additional mortality or morbidity.

IV. Guidelines for requesting County Ambulance Interfacility Transfer Services:

- A. Emergency transfers
 - 1. The medical condition meets Emergency Transfer criteria as defined herein.
 - 2. The patient requires or may potentially require ALS expertise or interventions during the course of the transfer and:
 - a) The care cannot otherwise be provided by a BLS ambulance.
 - b) The patient does not require, or may not potentially require, CCT-RN interventions or expertise during the course of the transfer
 - 3. In most cases, the receiving hospital is the closest appropriate facility.
 - 4. Response time is immediate, including the use of a 911 ambulance
- B. Urgent Transfers
 - 1. The medical condition meets Urgent Transfer criteria as defined herein.
 - 2. The patient requires or may potentially require ALS expertise or interventions during the course of the transfer and:
 - a) The care cannot otherwise be provided by a BLS ambulance.

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- b) The patient does not require, or may not potentially require, CCT-RN interventions or expertise during the course of the transfer
3. In most cases, the receiving hospital is the closest appropriate facility. Sending facilities should make their best effort to minimize the distance of the transfer as clinically appropriate.
4. Response time is urgent and should occur within 4 hours
 - a) In cases where the receiving hospital is greater than 60 miles from the sending facility then the response time may be increased up to 24 hours.

C. Non-Urgent Transfers

1. The medical condition meets Non-Urgent Transfer criteria as defined herein.
2. The patient requires or may potentially require ALS expertise or interventions during the course of the transfer and:
 - a) The care cannot otherwise be provided by a BLS ambulance.
 - b) The patient does not require, or may not potentially require, CCT-RN interventions or expertise during the course of the transfer
3. In most cases, the receiving hospital is the closest appropriate facility.
4. Response time is non-urgent and should occur within 8 hours

V. Hospital Procedure for Requesting ALS transfer.

A. Steps

1. Arrange acceptance to the closest appropriate facility
2. Verify patient meets ALS criteria
3. Determine Urgency (Emergency, Urgent or Non-Urgent)
4. Notify SCR911 (NEED PHONE NUMBER)
5. Prepare the patient for transfer
 - a) Patient is sufficiently resuscitated and can tolerate the transfer under ALS supervision.
 - b) Hospital records, images and transfer paperwork is signed are ready to be handed off
 - c) All infusions, including antibiotics, blood products, thrombolytics, pressors, or antihypertensives are discontinued.

VI. County Ambulance process for authorizing an ALS interfacility transfer.

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- A. All requests for ALS interfacility transfer will be honored within the specified time frames
 - 1. Emergency: Immediate
 - 2. Urgent: Within 4 hours
 - 3. Non-Urgent: Within 8 hours
 - B. Emergency transfer
 - 1. Allocate a 911 system ALS ambulance consistent with procedures for a scene call
 - C. Urgent and Non-Urgent Transfers
 - 2. Approve if:
 - a) No other system ambulances are out of county
 - b) The system level can accommodate expected 911 traffic during the estimated period of absence of the transfer ambulance.
 - c) A Phase 1 or above condition as described in Policy 618: *Critical Ambulance Demand Mitigation* is not activated.
 - 3. Delay if:
 - a) Any of the 3 conditions above exist
 - a) Provide an estimated delay to the hospital.
 - D. Notify the responding ambulance, providing the transfer category
- I. Ambulance Procedure
 - A. Emergency Transfers will be handled as highest priority (Code 3) responses consistent for procedures for a scene call.
 - B. Urgent and Non-Urgent Transfers will be handled as moderate priority (Code 2) responses consistent for procedures for a scene call.
 - C. EMS units must expedite return to Santa Cruz County upon completion of the call. Netcom should be notified when a unit is available within Santa Cruz County boundaries.
 - II. Special Circumstances
 - A. CCT-RN transfers when helicopters can't fly
 - 1. CCT-RN transfers are typically best accommodated by a medical helicopter, however when flight is not possible the County Ambulance service may team up with the helicopter crew to temporarily convert a 911 ALS ambulance into a CCT-RN capable ambulance. In such a situation the guidelines, criteria and authorization processes herein shall apply.

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- B. Area-wide emergency or disaster will void this policy. Patient transportation will be handled per the incident commander in accordance with the Multiple Casualty Management Plan (see Reference 811: *Multiple Casualty Management Plan*)

III. Utilization review

- A. The hospitals and ambulance service are expected to adhere to these guidelines and no requests for service will be prospectively denied unless an area wide emergency or disaster is in effect.
- B. The EMS agency will perform periodic review of interfacility transfer requests.
- C. Hospitals and/or the County Ambulance service may request the EMS agency to review any cases, and findings from the review will be reported to the Quality Improvement Committee.

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Policy 617: Out-of-County Transports

Revision 5/22/18
Effective 8/1/18

I. Philosophy:

- D. Unless otherwise specified herein, 911 patients transported by ground should remain in Santa Cruz County.
 - 1. Patients may request transport to either Dominican Hospital or Watsonville Community Hospital, unless otherwise prohibited by Santa Cruz County EMS Policy.
 - 2. Patients “in extremis” must be transported to the closest appropriate receiving facility (see Policy 621 *Patient Acuity Guidelines*)
- E. Physiologic and/or Anatomic Trauma patients will be automatically transferred to an out of county trauma center using the appropriate mode of transport in accordance with Policy 625 *Trauma Patient Transport and Hospital Destination*.
- F. Patients may be transported to a facility located outside of Santa Cruz County in accordance with Section II below.

II. Minimum criteria for out-of-county ground transport:

- A. Each of the following conditions shall be met:
 - 1. The patient is stable (no respiratory or cardiovascular instability)
 - 2. There remains an adequate reserve of ambulances to handle expected call volume
 - 3. Paramedic Supervisor authorization is provided.
 - 4. Reasons for out-of-county transport are clearly documented on the PCR.
 - 5. Transfers are limited to the following facilities:
 - a) Natividad Medical Center (Trauma)
 - b) El Camino Hospital Los Gatos
 - c) Good Samaritan Hospital (STEMI/Stroke)
 - d) Santa Clara Valley Medical Center (Trauma/Burn/Neuro/STEMI/Stroke)
 - e) Regional Medical Center (Trauma/STEMI/Stroke)
 - f) Stanford University Hospital (Trauma/STEMI/Stroke)
 - g) St. Louise Hospital
 - h) Salinas Valley Memorial Hospital (STEMI)
 - i) Community Hospital of the Monterey Peninsula

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j) Hazel Hawkins Hospital

- B. If each of the minimum criteria under Section IIA cannot be met the patient cannot be transported by ground out-of-county
- C. EMS units must expedite return to Santa Cruz County upon completion of the call. Netcom should be notified when a unit is available within Santa Cruz County boundaries.
- D. This policy does not apply to inter-facility or routine transfers or “state of emergency” situations.
- E. Out of County Transports are suspended during Phase II Critical Ambulance Demand Mitigation (see Policy 618 *Critical Ambulance Demand Mitigation*)

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Policy 618: Critical Ambulance Demand Mitigation

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. The following plan is intended to address unanticipated requests for 911 ambulance services by providing a progression of mitigating steps to ensure that capacity to respond is maximized and scarce ambulance resources are allocated to the best possible use.
 - B. Each phase represents a step-wise approach triggered by worsening levels of system status. Generally, it would be inappropriate to implement Phase II steps before all Phase I steps have been attempted, for example.
 - C. This document is intended for resource management, not for specific incident management such as an MCI.
 - D. Implementation of this plan does not require pre-authorization by the Santa Cruz County EMS Agency and real time notification of the EMS Administrator and EMS Medical Director is required.
 - E. This plan is not intended for mitigation of anticipated events such as specials events, severe weather, sick leave or strikes which shall be addressed proactively by the 911 ambulance agency.
- II. Phase I – Pending of one or more Code 3 calls due to contract transport units unavailable. (Activated by M100)
 - A. Mutual Aid request
 - B. Dispatch M3566
 - C. Consider call back of off duty personnel to staff additional ambulances
- III. Phase II – Continued pending of one or more Code 3 calls after implementation of Phase I strategies and system levels are anticipated to continue to degrade. (Activated by M100)
 - A. Activate an additional Medical Zone coordinator (ambulance supervisor) and Fire Zone coordinator (Chief Officer)
 1. The additional Zone Coordinator may post at NetCom to modify dispatch procedures
 - B. Notify as listed below
 - C. All Code 2 calls are pended. All responses are Code 3.
 1. Netcom to advise Reporting Party that delays are possible for non-life threatening requests for service.
 - D. Request all available private ambulances be placed in service in the EMS System to run any call type.

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- E. Request all available “BLS Transport Surge Task Force” ambulances be placed in service in the EMS system.
 - 1. Leave at least one (1) Fire Transport Vehicle in the San Lorenzo Valley
- F. Hospital Diversion Suspended. All Hospitals are Ordered Open (Green).
 - 1. All ambulances shall transport to the closest appropriate Emergency Department in Santa Cruz County.
 - 2. Patient preference suspended.
 - 3. Helicopters, when available, should be used to transport out of county specialty centers.
- G. First Responders encourage patient transport by POV where able.
- H. All ambulance transports are handled “Code 3”.
- I. All ambulances return to deployment staging post “Code 3”
- IV. Phase III – Continued pending of one or more Code 3 calls after implementation of Phase II strategies and system levels are anticipated to continue to degrade. (Activated by Medical and Fire Zone Coordinator)
 - A. Consider activating ambulance strike team through MHOAC
 - B. Ground transports to out of county specialty care centers may be suspended.
 - C. Medical and Fire Zone coordinators may consider suspended ambulance dispatch to lower priority calls.
 - D. Verbal report at patient handoff at hospital. Delay TOC and/or PCRs
 - 1. PCRs can be completed within 48 hours
 - E. Request all available Fire Service Transport ambulances be placed in service in the EMS system to handle all request types.
 - F. Other EMS System Response may be additionally modified as determined by the Medical and Fire Zone Coordinators.
- V. Phase IV – Anticipated or Declared Countywide Disaster
 - A. Refer to Countywide Disaster Plan.
- VI. Execution of Phase II and above Actions requires immediate notification to the following:
 - A. EMS Administrator or his/her designee, Public Health Officer, MHOAC – if not already involved
 - B. EMS Medical Director
 - C. Director of Operations of AMR
 - D. General Manager of NetCom
 - E. Fire Zone Coordinators
 - F. Notification via All-Chiefs page (NetCom)
 - G. Notification to all field responders (NetCom)
 - H. Notification of Dominican and Watsonville Hospital ED’s (NetCom)

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- I. Notification to all Police Watch Commanders (NetCom)
 1. All code 2 requests will be pended
- VII. Suspension of the above Actions and return to Day to Day requires immediate notification to the above.
- VIII. Any phase activation will require a post incident analysis

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Policy 619: Suspected Child, Elder and Dependent Adult Abuse Reporting

Revision 5/22/18
Effective 8/1/18

- I. Authority:
- A. California Welfare and Institutions Code (W&I), Sections 15600-15659. Any health practitioner shall make a report regarding known or suspected cases of abuse and neglect of child, elder and dependent adults. California Penal Code, Chapter 916, Sections 11164-11174.3
- II. Definitions:
- A. Child Abuse
1. Agencies authorized to accept mandated reports: Any police department or sheriff's department, and the Department of Children and Family Services (DCFS) Child Protection Hotline (CPH). School district police and security departments are not authorized to accept reports.
 2. Child: Any person less than eighteen years of age.
 3. Mandated reporter: Any healthcare practitioner, child care custodian, or an employee of a child protective agency. This includes EMTs and paramedics.
 4. Neglect: The negligent treatment or maltreatment of a child by a person responsible for the child's welfare under circumstances indicating harm or threatened harm to the child's health or welfare. The term includes both acts and omissions on the part of the responsible person.
 5. Physical abuse: Physical injury or death inflicted by other than accidental means upon a child by another person.
 6. Sexual abuse: Sexual assault or the exploitation of a minor. Sexual assault includes, but is not limited to, any intrusion by one person into the genitals; anal opening of a child; oral copulation intentional touching for the purposes of sexual arousal or gratification, or masturbation in the presence of a child. Sexual exploitation includes conduct involving matters depicting minors engaged in obscene acts; and/or prostitution.
- B. Elder Abuse and Neglect
1. Elder abuse means physical abuse, neglect, financial abuse, abandonment, isolation, abduction, or other treatment with resulting physical harm or pain or mental suffering, or the deprivation by a care custodian of goods and services which are necessary to avoid physical harm or mental suffering (W&I 15610.07).
 2. Elder means any person residing in the state 65 years of age or older (W&I 15610.27).
 3. Dependent adult means any person residing in the state between the ages 18-64 who has physical or mental limitations which restrict his or her ability to carry out normal

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activities or to protect his or her rights. In addition, “Dependent Adult” includes any person between the ages of 18 and 64 who is admitted as an inpatient to a 24-hour health facility (W&I 15610.23 (b)). This includes a person who has physical or developmental disabilities or whose physical or mental capacities have diminished with age (W&I 15610.07).

4. Reasonable suspicion means a credible concern that elder abuse may have occurred based on an analysis of facts gathered from an incident or observation.
5. Long-term care ombudsman means the State Long-Term Care Ombudsman, local ombudsman coordinators, and other persons currently certified as ombudsmen by the Department of Aging (W&I 15610.50).

III. Child Abuse

A. General Principles

1. The purpose of reporting suspected child abuse/neglect is to protect the child, prevent further abuse of the child and other children in the home, and to facilitate treatment for the entire family. The presence of abuse rather than the degree of that abuse is the determinant for intervention by DCFS and law enforcement.
2. California Penal Code, Sections 11166 and 11168, require mandated reporters to promptly report all suspected non-accidental injuries, sexual abuse, or neglect of children that they suspect, have knowledge of, or observe in their professional capacity. A verbal report shall be made to DCFS Child Protection Hotline immediately, or as soon as practically possible, and the Suspected Child Abuse Report shall be completed within 36 hours.
3. It is not necessary for the mandated reporter to determine child abuse but only to suspect that it may have occurred. Law enforcement, DCFS and the courts determine whether child abuse/neglect has, in fact, occurred.
4. Current law mandates (CPC 11166) all healthcare professionals to report suspected child abuse/neglect that they know of or observe in their professional capacity. Mandated reporters are required to sign a statement acknowledging their understanding of the law. Any person who fails to report as required may be punished by a fine or imprisonment.
5. When a mandated reporter suspects or has observed child abuse/neglect, that individual is required to report by telephone to local law enforcement and/or to DCFS Child Protection Hotline.
6. When two or more mandated reporters are present at scene and jointly know, or suspect an instance of child abuse/neglect, a member of the reporting team may be designated to report on behalf of the team. Any member who knows that the

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designated reporter failed to uphold their agreement shall thereafter make the report. If paramedics are not selected as the designated reporters, they shall document the name and agency of the designated reporting team member on the EMS Report Form.

7. Persons legally required to report suspected child abuse are immune from criminal or civil liability for reporting as required.

B. Reporting Procedure

1. Notify local law enforcement immediately if a child is suspected to be in imminent danger. Prehospital care providers should be aware of their local law enforcement reporting procedures and telephone numbers for notification.
2. Call the 24-hour Child Protection Hotline at (877) 505-3299 or (831) 454-2273 as soon as possible to make the verbal report.
 - a) The telephone report shall include the following:
 - b) Name of the person making the report
 - c) Name of the child
 - d) Present location of the child
 - e) Nature and extent of the injury
 - f) Information that led reporting party to suspect child abuse
3. Within 36 hours:
 - a) Complete and submit the Suspected Child Abuse Report (SS8572), that is accessible at http://www.ag.ca.gov/childabuse/pdf/ss_8572.pdf
 - b) Document the following on the PCR
 - c) The name of the social worker and/or name, department and badge number of the law enforcement officer contacted.
 - d) Time of notification
 - e) Disposition of the child
4. Additional information can be found at <http://santacruzhumanservices.org/Portals/0/fcsd/publications/Child-Abuse-Reporting-Law-Condensed.pdf>

IV. Elder Abuse and Neglect

A. Agencies Receiving Reports:

1. It is the responsibility of each individual provider to ensure that suspected elder abuse is reported in a timely fashion.

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2. If there is a threat to the patient that must be handled immediately, or suspicion that a crime has been committed, EMS personnel should request that Law Enforcement respond to the scene.
 3. If the abuse has occurred in a long-term care facility, except a state mental health hospital or a state developmental center, the report shall be made to the Long-Term Care Ombudsman (W&I 15630(b, 1, A). In all other instances, Adult Protective Services should be notified.
 4. If the individual provider is not sure of whom to contact to report suspected elder or dependent adult abuse a report can be made to the Long-Term Care Ombudsman who will refer the report to the appropriate agency.
 5. The reporting duties are individual, and no supervisor or administrator may impede or inhibit the reporting duties. No provider who reports suspected abuse shall be held civilly or criminally liable for any report required or authorized (W&I 15634).
- B. Reporting Procedure:
1. Initial Report:
 - a) A verbal report must be given to Adult Protective Services, a Law Enforcement Agency, or the Long-Term Care Ombudsman immediately or as soon as possible (i.e. on arrival in the emergency department) by telephone or in person.
 - (1) Adult Protective Services
 - (a) Phone: 454-4101 (APS)
 - (b) Toll-free – 1-866-580-HELP (4357)
 - (2) Law Enforcement Agency
 - (a) Notify through NetCom
 - (3) Long-Term Care Ombudsman
 - (a) Phone: 429-1913
 - (b) Fax: 429-9102
 - (c) Or call Netcom.
 - b) The telephone report shall include the following:
 - (1) Name of person making the report
 - (2) Name of victim
 - (3) Present location of the elder
 - (4) Nature and extent of injury or abuse

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(5) Information that led reporting party to suspect elder abuse

C. Written Referral Report:

1. Providers will also fill out a report of suspected dependent adult/elder abuse (SOC 341) in all cases of suspected dependent adult/elder abuse. A written report must be filed within two working days. Referral forms (SOC 341) are available in each Emergency Department and should be completed before end of shift and given to the charge nurse.
2. The written report will also be delivered or faxed to Adult Protective Services, the appropriate Law Enforcement Agency, or the Long-Term Care Ombudsman. In cases reported to Law, it is encouraged that the Long-Term Care Ombudsman also be contacted.
3. Two or more persons reporting:
 - a) When two or more persons who are required to report, elder abuse are present and jointly have knowledge of a suspected instance of abuse, and when there is agreement among them, the verbal and written reports may be made by one individual. A paramedic may make such an agreement with the Emergency Department nurse or physician.
 - b) Any individual who has knowledge that the designated person failed to file the appropriate reports shall file these reports in accordance with the law (W&I 15630).

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Policy 620: Intranasal Naloxone by Law Enforcement

Revision 10/20/21
Effective 11/1/21

- I. Authority:
 - A. California Code of Regulations, Title 22, Div. 9, Chat 1.5.
- II. Purpose:
 - A. To describe criteria for law enforcement officer administration of Naloxone hydrochloride in cases of suspected acute opioid overdose
- III. Notification of Agency Approval:
 - A. Upon Santa Cruz County EMS (SCEMS) Medical Director authorization of a law enforcement agency or department to administer Naloxone in the field, there shall be notification of all hospitals, provider agencies and appropriate political jurisdictions.
- IV. Participant Criteria:
 - A. Law enforcement officers employed by authorized law agencies or departments who have completed approved First Responder Naloxone training may administer Naloxone in the field or in jails by authority of the SCEMS Medical Director.
 - B. Current certification in Basic Life Support (AHA, American Red Cross, or SCEMS approved equivalent) is required of any deputy or officer approved for administration of Naloxone.
- V. Approved Departments and Responding Units
 - A. Santa Cruz County law enforcement agencies and departments approved for administration of Naloxone by the SCEMS.
 - B. Those agencies or departments approved by SCEMS will determine deployment of Naloxone capability within their jurisdiction and notify SCEMS of those law enforcement units that carry Naloxone for emergency administration.
- VI. Training
 - A. Training shall consist of a one-hour presentation approved by SCEMS which shall cover
 1. Background information on opioid use and abuse
 2. Definition of opioids
 3. Signs and symptoms of overdose
 4. Reversal of opioids using Naloxone
 5. Emergency field treatment of the opioid overdose patient
 6. Mechanism of drug action of Naloxone

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7. Dosing and Administration of intranasal Naloxone
 8. Safety, medical asepsis, and personal protective equipment measures
- B. Training will include a written examination and student demonstration of the administration of intranasal Naloxone
 - C. One hour refresher training shall be conducted at least every 2 years.
 - D. Training records for each individual officer designated by the law agency as a participant shall be kept by that agency. Records should demonstrate the date of successful initial training or refresher training.
- VII. Procedure for Treating Possible Opioid Overdose
- A. Identify patient with possible opioid overdose
 1. Environment is suspicious for illegal or prescription use of narcotics, AND
 2. Patient is poorly responsive and respiratory (breathing) rate appears slow or shallow; or victim is unresponsive and not breathing.
 - B. Assure EMS has been activated using the 9-1-1 system.
 - C. Maintain standard blood and body fluid precautions, use personal protective equipment
 - D. Stimulate the patient, using sternal rub technique as necessary. If no response to stimulation and continued poor breathing,
 1. Open the airway using Basic Life Support techniques
 2. Administer Naloxone (Narcan®):
 - a) Assemble 2 mg syringe and atomizer
 - (1) Administer 2-4 mg into one nostril
 - (2) If needed repeat in other nostril
 - b) Use prepackaged Narcan nasal spray (4mg)
 - (1) Spray into one nostril
 - (2) If needed repeat in other nostril
 - E. After Naloxone administration observe for improved breathing and consciousness,
 1. If breathing or consciousness do not improve,
 - a) Perform rescue breathing, if indicated using bag-valve-mask or protective face shield
 - b) If patient is in full cardiac arrest as demonstrated by no breathing effort, begin CPR.

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- c) If patient responds to Naloxone
 - (1) Prepare for possible narcotic reversal behavior or withdrawal symptoms (vomiting, irritability, agitation).
 - (2) The patient may refuse further care at this point. Continue the EMS response and notify the first arriving crew.

F. Notify responding EMS personnel of Naloxone administration.

G. Provide patient with contact card with information on local substance abuse treatment resources

H. Complete report per law enforcement agency protocol

VIII. Reports and Quality Assurance

A. All cases of law officer administered Naloxone shall be reported to the EMS Medical Director within 10 business days. The report should contain, at a minimum:

- 1. Date, time and location of service
- 2. Brief description of initial physical findings (e.g., unresponsive, not breathing, blue skin, no pulse)
- 3. Amount of Naloxone administered

B. The EMS Agency, in accordance to the EMS Quality Improvement Plan, will notify the sponsoring law agency of any opportunities for improvement, should any exist.

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Policy 621: Patient Acuity Guidelines

Revision 5/22/18
Effective 8/1/18

I. Purpose:

- A. To delineate patient clinical status levels and provide recommendations for evaluating patient acuity to facilitate accurate communication among prehospital and hospital providers.

II. Patient Acuity Levels

- A. All patients evaluated in the Santa Cruz County EMS system will be assigned a clinical acuity level, referred to as a "Patient Status Level." This 1 – 5 numeric acuity rating system describes patients from highest acuity (Status 1) to lowest acuity (Status 5). Guidelines for classification using this system are as follows:
 - 1. Status 1 Patients (*In Extremis*)
 - a) Patients with immediate, life-threatening airway, breathing or circulatory compromise, despite pre-hospital basic & advanced life support interventions.
 - b) In extremis patients will die quickly if their life threats cannot be resolved. Examples of Status 1 patient conditions include: cardiac or respiratory arrest, profound decompensated shock; respiratory failure; unmanageable obstructed airways; and uncontrolled life-threatening hemorrhage.
 - c) These patients require immediate BLS and ALS interventions, and in most cases, immediate transport with treatments performed enroute to the hospital. When transported, in extremis patients should always be taken to the closest hospital.
 - 2. Status 2 Patients (Severe Distress)
 - a) Patients are in substantial physiologic distress and without timely intervention, they will worsen. They are physiologically unstable, and often present with significantly abnormal vital signs.
 - b) Most Status 2 patients have significant life threats including compromises to their respiratory, circulatory or neurologic systems. Examples of Status 2 patients include:
 - (1) trauma patients with substantial multiple hits;
 - (2) respiratory distress patients requiring aggressive nebulizer therapy and/or CPAP; patients with anginal equivalent chest pain, and abnormal

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vital signs whose pain is refractory to nitroglycerin; seizing patients, or patients with significantly altered consciousness and abnormal vital signs.

- (3) These patients require Code 3 transport to the hospital, and ALS intervention.

3. Status 3 Patients (Moderate Distress)

- a) Patients are moderately distressed patients who require modest ALS interventions. They are physiologically stable and will not likely worsen with/without intervention.
- b) Their vital signs may be mildly abnormal, secondary to pain or increased respiratory effort for example, but are stable.
- c) Status 3 patients include:
 - (1) post-seizure patients regaining full consciousness requiring a prophylactic IV;
 - (2) an asthmatic in compensatory respiratory distress who responds to a breathing treatment;
 - (3) chest pain whose pain is resolved with nitroglycerin and oxygen therapy;
 - (4) trauma patients with extremity injuries requiring parenteral analgesia;
 - (5) patients with significant mechanism but minor/moderate anatomic or physiologic findings.
- d) Status 3 patients may have significant co-morbidities which contribute to their chief complaint.
- e) These patients require Code 2 transport to the hospital (with some ALS interventions) to reduce pain and suffering, or for prophylactic purposes.

4. Status 4 Patients (Mild Distress)

- a) Mildly distressed patients who only require non-invasive care. They are physiologically stable, have normal vital signs, mild amounts of discomfort, and generally require only BLS interventions.
- b) Examples of Status 4 patients include:
 - (1) Traffic collision patients requiring only spinal immobilization;
 - (2) Minor extremity injury;

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- (3) Minor burns;
 - (4) Pediatric fever and/or URI symptoms but no respiratory distress;
 - (5) Elderly patients with isolated, non-systemic complaints (such as mild pain from chronic conditions).
- c) Status 4 patients may have major co-morbidities, but these should not be contributing to the patient's current distress.
 - d) These patients require Code 2 transport to the hospital with BLS interventions.
5. Status 5 Patients (No Apparent Distress)
- a) No physiologic distress and have no substantive clinical findings on exam.
 - b) Status 5 patients have normal vital signs and are extremely stable patients. These patients require no substantive treatment on scene or enroute to the hospital.
 - c) Examples of Status 5 patients would include:
 - d) a status-post choking child now appearing without any complaint,
 - e) a swimmer who was thought to be requiring rescue towed to shore by lifeguards with no complaints.
 - f) Status 5 patients have no other substantial co-morbidities which might indicate subtle presentations of more serious conditions.
 - g) They need only Code 2 transport to the hospital and may in fact AMA on scene

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Policy 622: Patient Restraint

Revision 5/22/18
Effective 8/1/18

III. Purpose:

- A. To provide guidelines for the use of restraints (physical & chemical) on patients in the pre-hospital setting. On occasion, it becomes necessary to use restraints on patients when their behavior poses a danger to themselves and most importantly, the emergency personnel on scene. Patients with an ALOC have the potential to cause great bodily harm to themselves and others. In these situations, it becomes imperative to be able to quickly and effectively restrain these patients from causing further harm.

II. Procedure:

A. Physical Restraints.

1. Restraints may be applied at the discretion of field personnel with reasons documented on PCR.
2. Only soft restraints may be used by field personnel. This does not include law enforcement.
3. Restraints should be securely fastened to patient, but at no time should circulation be compromised. CSM distal to any restraint shall be assessed frequently.
4. At no time shall a restrained patient be left unattended.

B. Chemical Restraints.

1. **Midazolam** may be administered as a chemical restraint by sedating patients who are in an excited, agitated, combative state, and who pose a threat to themselves or emergency personnel.
2. Reasonable attempts will be made to contact the Base Hospital prior to the use of **Midazolam**. When Base Contact is not possible given the imminent threat of the patient to him/herself and/or emergency personnel, paramedics may administer **Midazolam** 5-10mg IM on standing order to adult patients. Hospital contact should be attempted as soon as possible thereafter. Base station contact is required for the use of **Midazolam** for chemical restraint on all pediatric patients (age 14 or younger) See Policy 601
3. Paramedics will monitor the patient's airway, breathing, circulation and level of consciousness throughout the call.

C. Law enforcement.

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1. Field personnel should not hesitate to call for law enforcement in situations where patient restraint is needed. If field personnel safety is an issue, consider requesting an officer accompany the patient to the hospital.
 2. The various law enforcement agencies in Santa Cruz County have specific, although differing, policies on how certain patients are to be managed. At no time shall field personnel argue with the officer having jurisdiction of the crime scene.
- D. It is the role of field personnel to provide the best patient care possible within the parameters set forth by law enforcement procedures as dictated by officers on scene.
- E. All patients that have been placed into restraint devices (handcuffs, etc.) by law enforcement shall be accompanied by a law enforcement officer who can remove the restraints if needed. At no time shall a patient be transported in restraints without the means to be removed if needed for patient care

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Policy 623: Mass Casualty Incidents

Revision 5/22/18
Effective 8/1/18

- I. Definition
 - A. Calls and incidents occur in any EMS system that, due to their size, complexity, and number of patients, may overwhelm the resources available for a typical EMS response. Any incident which significantly overwhelms the day-to-day emergency medical response system may be deemed a Mass Casualty Incident (MCI). Neither this policy, nor the Santa Cruz County Mass Casualty Plan that it references, is designed to accommodate a Countywide, ongoing disaster.
- II. Authority and References
 - B. MCI organization is based on the latest version of the Santa Cruz County Multiple Casualty Incident Plan which is Attachment No. 8 to the Health Services Agency's Annex to the Santa Cruz County Emergency Plan. (See also Reference 811, *Multiple Casualty Incident Plan for Santa Cruz County*) The Plan complies with the State of California Standard Emergency Management System (SEMS) as well as the principles and practices of standard Incident Command System (ICS) and the Simple Triage and Rapid Treatment (START) method of triage.
 - A. References: Operational System Description ICS 420-1, Incident Command System Publication. SEMS Guidelines, State of California Publication, Governor's Office of Emergency Services, 2006
- III. Applicability
 - A. The MCI Plan is applicable to ALL emergency responders and to ALL governmental and non-governmental medical support services in Santa Cruz County.
- IV. Scope and Activation
 - A. An MCI may be declared when an incident overwhelms the initial responder's human resources and/or equipment.
 - B. An MCI may be declared by any fire, law enforcement, or EMS personnel.
 - C. When an MCI is declared, NetCom will be immediately notified so that appropriate incident organization may be established, and appropriate resources activated.
 - D. MCIs in Santa Cruz County will be managed using the guidelines established in the Santa Cruz (See Reference 811 Multiple Casualty Incident Plan)
 1. County Mass Casualty Incident Plan. These will include using the precepts of the Incident Command System, Unified Command, and START Triage.
 - E. In managing an MCI, it is understood that certain Santa Cruz County EMS policies and

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1. protocols may need to be modified to meet the needs of any incident. This may include field screening treatment and release of minor injured individuals, discontinuation of dual response by both first responders and ambulances, alternate patient transport modes or destinations as well as alternate patient field dispositions, among other things. At no time will any responder to an MCI work outside his/her scope of practice or outside an acceptable standard of care for the circumstances presented at the incident.
- F. When deviations in County EMS policies or protocols occur, they will be thoroughly documented. In addition, when necessary, Base Station contact will be made to advise the Base Station Physician of these changes, and to seek Base Station guidance. In all situations where the Incident Commander has modified or suspended specific Policies or Protocols an After-Action Report will be submitted to the EMS Medical Director documenting the action

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Policy 624: Emergency Worker Rehabilitation

Revision 5/22/18
Effective 8/1/18

- I. Overview
 - A. Emergency responder rehabilitation is designed to ensure the physical and mental wellbeing of members operating at the scene of an emergency. Emergency responder rehabilitation is an essential element at the incident scene designed to prevent serious and life-threatening conditions such as heat stroke and heart attack. Fire ground rehab is the term used for the care given to emergency workers while performing their duties at an emergency scene. It includes monitoring vital signs, hydrating and nourishing responders, and identifying those responders who may safely return to the line, or who may need additional rehab time or further medical care.
- II. Policy
 - A. Emergency worker rehabilitation shall be activated in any emergency operation or training exercise where strenuous activity or exposure to environmental extremes exist.
 - B. This policy is guided by the Santa Cruz County Fire Chief's Association Policy 3212, "Medical Management of Fire Fighter Rehabilitation."
 - C. Rehabilitation will be coordinated through the structure and chain of command/accountability stipulated by the Incident Command System.
 - D. Rehabilitation may be coordinated and administered by any EMT or paramedic so designated by the Incident Commander and may include the use of all personnel qualified to perform their respective rehab assignments.
- III. Oversight
 - A. County EMS has ultimate oversight authority over the clinical evaluation algorithm used in this policy, and will intermittently review it and make recommendations to the County Fire Chief's Association as warranted

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Policy 625: Trauma Transport and Destination

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. To establish guidelines for determining the transport mode and hospital destination for trauma patients in Santa Cruz County.
 - B. Authority for this policy is noted in Division 2.5, California Health and Safety Code, Sections 1797.222, 1798.162, 1798.163 California Code of Regulations Section 100255
- II. Definitions
 - A. "PAM triage criteria" refers to Santa Cruz County's adaptation of the CDC's published method for determining the need for a trauma center using physiologic criteria, anatomic criteria, and mechanism of injury <http://www.cdc.gov/FieldTriage/>. "PAM" as opposed to "MAP" uses very similar criteria but reverses the order in terms of assessing the severity of the injuries. Physiologic criteria should be assessed before Mechanistic criteria. (See Policy 625)
 - B. "Pediatric patient" is < 15 years old.
 - C. "Non-trauma patient" is a patient who does not meet any Physiologic, Anatomic or Mechanism criteria for trauma.
- III. Policy
 - A. The trauma plan in Santa Cruz County is driven by the tenet that all patients constituting both major and minor trauma should be triaged to the most appropriate receiving hospital.
- IV. General Principles on Guiding Mode and Destination Decisions
 - A. When not otherwise specified herein, paramedics and EMTs will coordinate the appropriate transport mode with the Incident Commander. Base Station consultation may also be utilized to affect the best transport mode decision.
 - B. Factors to consider include:
 1. Patient status (See Policy 621 *Patient Acuity Guidelines*)
 - a) In Extremis or unstable
 - b) Need for advanced field treatment
 - c) Need for immediate specialty care, such as pediatric, amputation, or burn
 2. Distance
 - a) Distance between the patient and the closest appropriate trauma center
 - b) The need to rendezvous at a distant LZ

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3. Delays
 - a) Status of the roadway along the transport route (traffic, obstructions)
 - b) ETA of the air ambulance
 - c) Prolonged extrication
 - d) Weather at the scene, LZ, and destination
4. Resources
 - a) Extraordinary system wide demands for ambulances, such as an MCI
 - b) Need for more field treatment personnel on the scene
 - c) Hospital disaster, overload or diversion status
- C. Depending on traffic conditions, NMC is closer when south of HWY 1 and Freedom Blvd. VMC is closer when north of that intersection.
- D. When air transport is utilized, air crews will make the destination decision.
- IV. Patients Meeting Physiologic and/or Anatomic Criteria (see Policy 626 *Trauma Triage*)
 - A. Patients meeting physiologic or anatomic criteria may be directly flown or driven to a trauma center without base station approval or notification. Mode and destination decisions are dependent on the catchment area.
 1. Santa Cruz County
 - a) Adult:
 - (1) Air transport should be considered according section IV B above:
 - (2) Otherwise, ground transport to the time-closest trauma center will be necessary.
 - b) Pediatric:
 - (1) Air transport should be considered according section IV B above
 - (2) Otherwise, ground transport to the time-closest pediatric trauma center will be necessary
 2. North Monterey County (Auto-Aid)
 - a) Adult:
 - (1) Ground transport directly to NMC.
 - b) Pediatric
 - (2) Air transport to a pediatric trauma center

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- (a) If air unavailable contact NMC first. If declined then ground transport to closest pediatric trauma center, typically VMC.

V. Patients Meeting Mechanism-Only Criterion

- A. Patients meeting Mechanism only criteria, with no Physiologic or Anatomic criteria or other Special Considerations will typically be transported to the local hospital.
- B. Base Station contact for destination directions is required on Mechanism only patients. For North Monterey County contact with NMC is required, if declined then follow Santa Cruz County protocols
- C. If the Base Station directs transport to a trauma center, a patient meeting any mechanism will be transported to the closest appropriate trauma center by ground only. The fact that only ground transport is authorized for this patient must be clearly communicated to the Base Physician.

VI. Patients Meeting No PAM Criteria

- A. Patients who meet no PAM criteria (non-trauma patient) may be injured (lacerations, fractured extremity etc.) but are not considered trauma patients and should generally be transported, by ground, to a local Santa Cruz County hospital. Location of the call, patient preference and hospital status and ambulance availability should be used to guide the destination decision within the county.
- B. Special Considerations (see Policy 626 Trauma Triage) may guide transportation to a trauma center or regional specialty center when no other trauma criteria are met. One example of such a patient may include those with digital amputations where the amputated part is intact and available for possible re-implantation. Base contact is recommended when such situations arise.

VII. Patients In-extremis

- A. In extremis trauma patients are those patients in cardiac arrest, or with profound, life-threatening airway, breathing or circulatory compromise, despite pre-hospital basic and advanced life support interventions. These patients will always be transported to the closest Emergency Department.

VIII. Additional Guidelines:

- A. Paramedics and EMTs are encouraged to seek Base consultation when complex situations not otherwise specified in this policy arise regarding trauma transport destination or mode of transport.
- B. If a declared MCI is occurring elsewhere in the county, crews will not drive trauma patients out of county. When participating in a declared MCI, crews may drive patients no matter their PAM score, in accordance with the Transport Officer's directive.

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Policy 625: Trauma Patient Transport and Destination Matrix

Santa Cruz County				
Physiologic	Anatomic	Mechanism	Special	Transport Destination/Mode
				Local Hospital
		√		Base Contact
		√	√	Base Contact
	√			Trauma Center
√				Trauma Center
North Monterey County (Auto Aid)				
Physiologic	Anatomic	Mechanism	Special	Transport Destination/Mode
		√		Trauma Center
		√	√	Trauma Center
	√			Trauma Center
√				Trauma Center

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Policy 626: Trauma Triage

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. To establish guidelines for evaluating trauma patients to determine the most appropriate receiving hospital.
 - B. Authority for this policy is noted in Division 2.5, California Health and Safety Code, Sections 1797.222, 1798.162, 1798.163 California Code of Regulations Section 100255
 - C. References for this policy include:
 1. Recommendations of the American College of Surgeons and the Centers for Disease Control, January 13, 2012 issue of the Morbidity and Mortality Weekly Report.
 2. Validation of a Prehospital Trauma Triage Tool: A 10-Year Perspective. J. Trauma 2008; 65:1253-1257.
 3. Guidelines for the Field Triage of Injured Patients: <http://www.cdc.gov/fieldtriage/>
- II. Definitions
 - A. "PAM" refers to the (P)hysiologic, (A)natomic, and (M)echanism, findings on a trauma patient
- III. Policy
 - A. All trauma patients will be triaged using the following trauma triage tool. After completing this evaluation, pre-hospital personnel will transport patients in accordance with Policy 625 *Trauma Patient Transport and Hospital Destination*.

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PAM Triage Criteria

P: Vital Signs and Level of Consciousness: (P)hysiologic

- Glasgow Coma Scale ≤13
- Systolic Blood Pressure <90 mmHg
- Respiratory Rate <10 or >29 breaths/min or need for ventilator support (<20 in infant aged <1 year)

A: Anatomy of Injury: (A)natomic

- All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee
- Chest wall instability or deformity (e.g. flail chest)
- Two or more proximal long-bone fractures
- Crushed, de-gloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Pelvic fractures
- Open or depressed skull fracture
- Paralysis

M: Mechanism of Injury and Evidence of High-Energy Impact: (M)echanism

Falls

- Adults: >20 feet (one story is equal to 10 feet)
- Children:>10 feet or two or three times the height of the child

High-risk auto crash

- Intrusion, including roof: >12 inches occupant site; >18 inches any site
- Ejection (partial or complete) from automobile
- Death in same passenger compartment
- Vehicle telemetry data consistent with a high risk of injury

Auto vs. pedestrian/bicyclist

- thrown, run over, or with significant (>20 mph) impact

Motorcycle crash

- >20 mph

S: Special Patient or System Considerations

Older Adults

- Risk of injury/death increases after age 55 years
- SBP <110 may represent shock after age 65
- Low impact mechanisms (e.g., ground level falls) may result in severe injury

Children

- Should be triaged preferentially to pediatric capable trauma centers

Anticoagulants and bleeding disorders

- Patients with head injury are at high risk for rapid deterioration

Burns

- Without other trauma mechanism: triage to burn facility
- With trauma mechanism: triage to trauma center

Pregnancy >20 weeks

EMS provider judgment

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Policy 627: Emergency Department Trauma Re-Triage

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. To outline the criteria and process for emergency re-triage and for transfer of patients needing trauma care from non-trauma facilities to appropriate trauma centers.
- II. Definitions
 - A. Emergency Trauma Re-Triage: The movement of patients meeting specific high-acuity criteria to a trauma center for trauma care. Timeliness of evaluation and intervention at the trauma center is critical.
 - B. Trauma Transfer: The movement of other patients with traumatic injuries to the trauma center (those not meeting Emergency Re-Triage criteria) whose needs may be addressed in a prompt fashion but are less likely to require immediate intervention.
- III. Policy
 - A. Under Policy 625 Trauma Patient Transport and Hospital Destination critical trauma patients are to be triaged directly to a Trauma Center from the field by EMS personnel. Trauma patients, who present at other facilities via EMS or other arrival mode, when medically appropriate, should be considered for re-triage or transfer to a trauma center for definitive care. It is well established that trauma patient mortality and morbidity is directly proportional to the time required to complete the transport to a trauma center, including time spent at a non-trauma center.
 - B. Transferring facilities should use the attached algorithm to assist with identification of those trauma patients who would benefit from care at a trauma center.
 - C. Transferring facilities should also make use of the process outlined in the attached algorithm to facilitate transfer to the trauma center.

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STEP 1: Determine Acuity Level

RED BOX: EMERGENCY TRANSFER CRITERIA
911 or Air Ambulance

- | | |
|--|--|
| <ul style="list-style-type: none"> • Blood Pressure <ul style="list-style-type: none"> ○ SBP <90mmHg ○ Decrease in BP by 30 mmHg after 2 liters of crystalloid solution infusion • Head Injury <ul style="list-style-type: none"> ○ Blown pupil ○ Obvious Open Skull Fracture | <ul style="list-style-type: none"> • Penetrating injuries <ul style="list-style-type: none"> ○ thoracic, ○ neck ○ abdominal • Patient requiring IMMEDIATE evaluation/resuscitation per transferring physician. |
|--|--|

BLUE BOX: URGENT TRANSFER CRITERIA
Non 911 or Air Ambulance

- | | |
|--|---|
| <ul style="list-style-type: none"> • Central Nervous System <ul style="list-style-type: none"> ○ Penetrating injury or open fracture to head
GCS <14 with abnormal CT ○ Spinal cord or major vertebral injury • Chest <ul style="list-style-type: none"> ○ Major chest wall injury with >3 rib fractures and/or pulmonary contusion ○ Wide mediastinum or other signs of great vessel injury ○ Cardiac Injury ○ Penetrating Chest Injury • Major extremity injuries <ul style="list-style-type: none"> ○ Fracture/dislocation with loss of distal pulses and/or ischemia ○ Open long bone fractures ○ Two or more long bone fractures ○ Amputations requiring re-implantation: (STH if < 15, RMC or STH if > 15) | <ul style="list-style-type: none"> • Pelvis/Abdomen <ul style="list-style-type: none"> ○ Pelvic ring disruption ○ Solid organ injury confirmed by CT or ultrasound demonstrating abdominal fluid • Multiple System Injury <ul style="list-style-type: none"> ○ Burns with associated injuries: (VMC) ○ Major injury to more than two body regions ○ Signs of Hypoperfusion (Lactate >4 or Base Deficit >4) • Co-morbid factors <ul style="list-style-type: none"> ○ Adults > 65 y/o ○ Children < 6 y/o (VMC, STH) ○ Insulin dependent diabetes ○ Morbid obesity ○ Cardiac or respiratory disease ○ Immunosuppression ○ Pregnancy >22 weeks' gestation: (STH, VMC) • Patient requiring URGENT evaluation/resuscitation per transferring physician. |
|--|---|

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STEP 2: Contact Trauma Center

Adult (>15)	Pediatric (<15)
Natividad Medical Center.....855-445-7872	Santa Clara VMC—Children’s 408-947-4087
Regional Medical Center.....408-729-2841	Lucille Packard Children’s Hospital..... 650-723-4696
Santa Clara Valley Medical Center.....408-947-4087	UCSF Benioff Children’s Hospital Oakland . 855-246-5437
Stanford Medical Center.....650-723-7337	
Burn	Re-Implantation
Santa Clara Valley Medical Center.....408-947-4087	Stanford Medical Center 650-723-7337
Pregnancy > 22 Weeks	Spinal Cord Injury
Santa Clara Valley Medical Center.....408-947-4087	Santa Clara Valley Medical Center 408-947-4087
Stanford Medical Center.....650-723-7337	

STEP 3: Arrange Appropriate Transportation

	ALS	CCT-RN	AIR Ambulance
Provider	Paramedic	Critical Care RN & EMT	RN/RN RN/Paramedic
Capability	Standard Paramedic Scope. No paralyzing agents or blood products. Can sedate intubated patients with Midazolam .	Mechanical ventilation, most medications including paralyzing agents, blood products	Mechanical ventilation, most medications including paralyzing agents, blood products
Mode	911 for RED BOX only if faster than AIR Non-911 for BLUE BOX	Direct Contact with Provider	Direct Contact with Provider

STEP 4: Patient Preparation and Packaging

- Package patient for immediate transfer:
 - Prepare copies of diagnostic studies
 - Prepare transfer documents
 - Terminate or initiate infusions as appropriate for level of transport
- Packaging shall be complete before initiating 911 request for **RED BOX** patients.

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Policy 628: Infectious Disease Precautions and Exposure Management

Revision 5/22/18
Effective 8/1/18

- I. Authority
 - A. Division 2.5, California Health and Safety Code, Sections 1797.186, 1797.188, 1797.189. www.leginfo.ca.gov Blood borne pathogens - 1910.1030, U.S. Department of Labor.
- II. Purpose
 - A. To provide guidelines and procedures for EMS prehospital personnel, to reduce risk of infectious disease exposure to themselves and patients, and to evaluate and report suspected exposures to the Santa Cruz County Public Health Division's Communicable Disease Unit.
 1. Although the presence of disease-causing agents may or may not be known, these agents may be present in body fluids and substances. Even apparently healthy persons may carry and be capable of transmitting disease.
 2. Precautions identified in this policy are intended to provide prehospital personnel with information to safely care for all patients, regardless of disease status.
- III. Exposure Risk Reduction
 - A. Prehospital Personnel. Prehospital personnel shall:
 1. Follow employer's policies/procedures for infection control to protect both patients and themselves. When employer's policies differ from these policies then the most stringent policy shall apply.
 2. Use standard precautions for all patient contacts. Additional barrier precautions are to be used based on the potential for exposure to body fluids and substances.
 3. Wash hands, prior to and following patient contact at a minimum, regardless of the use of gloves or other barrier precautions. Thorough hand washing with soap and water is the most effective infection control activity for prehospital personnel. Waterless hand sanitizers are an option if soap and water are not available.
 - B. Provider Agency. Each EMS provider agency shall:
 1. Comply with all federal, state, and local regulations regarding infectious disease precautions.
 2. Establish and maintain a written exposure control plan designed to eliminate or minimize employee exposure. This plan shall include a procedure to be used if an employee is possibly exposed to a communicable disease and this plan shall be made easily accessible.

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3. Designate an infection control officer to evaluate and respond to possible infectious disease exposure of provider agency's prehospital personnel.
4. Make available equipment, supplies and training necessary for prehospital personnel to reasonably protect themselves and their patients against infectious disease exposure.

C. Receiving Facility. Receiving hospitals should have staff procedures for:

1. Assisting possibly exposed prehospital personnel in assessing the significance of the exposure, and the need for and provision of prophylaxis.
2. Obtaining the appropriate testing to determine if the source patient is infected with a communicable disease.

IV. Exposure Definition

D. A significant communicable disease exposure is defined by criteria set by the Centers for Disease Control (CDC) and the Local Public Health Department and may include:

1. Contact with patient's blood, bodily tissue, or other body fluids containing visible blood on non-intact skin (e.g. open wound; exposed skin that is chapped, abraded, affected with a rash) and/or mucous membranes (e.g., eye, mouth).
2. Contaminated (used) needle stick injury.
3. Unprotected mouth-to-mouth resuscitation.
4. Face-to-face contact in areas with restricted ventilation with patients who have airborne and or droplet transmissible diseases (e.g. Influenza, Measles, Chickenpox, Pertussis, Tuberculosis or Meningitis). See <http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf>
5. If extent of exposure is in question, contact Santa Cruz County Public Health Department for additional guidance. (831) 454-4114 (weekdays), (831) 471-1170 (afterhours/weekends/holidays)

V. Center for Disease Control Recommendations

E. CDC recommendations should be used for post-exposure prophylaxis following significant exposures. Provider agencies, designated officers, occupational injury treatment centers, and emergency department staffs are expected to coordinate efforts to ensure prompt treatment for affected prehospital personnel.

VI. Responsibilities in A Case of Suspected Exposure

F. Individual that may have been exposed shall:

1. Contact his or her employer's Infection Control Officer/Designated Officer as soon as possible to determine the extent of the exposure and if follow-up recommendations including prophylaxis are required.

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2. Refer to employer's internal notification requirements and internal policy for direction and advice on reporting, evaluation and treatment.
3. EMS Provider Agency of the individual who may have been exposed should:
4. Assess the potential exposure to determine if the exposure meets the definition as defined above.
5. Assure the individual with a suspected exposure is instructed to report immediately to emergency department, or other health treatment facilities for risk assessment and determination of need for prophylactic treatment.

VII. Receiving Hospital Responsibilities – Source Patient

- G. Evaluate source patient for any history, signs or symptoms of a communicable disease.
1. Obtain consent to, and collect appropriate specimens (e.g. blood, sputum) from the source patient necessary to determine potential risk to the exposed person.
 2. Expedite the testing process (select the tests with rapid turnaround in mind), to the extent possible, in consideration of the exposed individual's concerns and the need for continued prophylactic care.
 3. Complete a CONFIDENTIAL MORBIDITY REPORT form and promptly report any reportable communicable diseases found in the source patient to the Public Health Division's Communicable Disease Unit in accordance with the CONFIDENTIAL MORBIDITY REPORT form instructions as required by law.

VIII. Receiving Hospital Responsibilities – Exposed Individual

- H. Receiving hospitals must assist prehospital personnel who have had significant exposures.
1. Receiving hospital emergency department staff shall:
 2. Actively assist exposed prehospital personnel in evaluating risk and recommending and/or providing appropriate prophylactic care when indicated.
 3. Obtain blood and necessary tests from the exposed prehospital person necessary to determine base-line status.
 4. Emergency departments are expected to follow CDC guidelines when managing prehospital exposure to potentially infectious substances. Go to <http://www.cdc.gov/> for the latest information.

II. Santa Cruz County Public Health Division Responsibilities

- A. Upon notification, the Public Health Division will:
1. Verify the exposure is significant and contact the receiving hospital(s) and the prehospital employer's designated officer for infection control.

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2. Dependent on the disease, notify the exposed person of any recommended disease prevention/prophylaxis.
3. If exposed individuals or her employer's Infection Control Officer/Designated Officer have immediate concerns about possible exposures, or if the exposures are significant, they should contact the Public Health Division's Communicable Disease Unit using the contact phone numbers on the CONFIDENTIAL MORBIDITY REPORT

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Policy 629: Controlled Substances

Revision 5/22/18
Effective 8/1/18

- I. Purpose:
 - A. To maintain clear documentation and legal custody of narcotic usage in the prehospital environment the following will be observed:
 1. The Paramedic administering the narcotic will not transfer the narcotic vial or syringe to the custody of a Paramedic from a different agency.
 2. The narcotic vial or syringe may be transferred to the custody of another Paramedic within the same agency.
 3. If the narcotic in the vial or syringe is not completely used by the Paramedic, the remainder will be disposed of in accordance to generally accepted wasting procedures

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Policy 630: Organ Donor Information

Revision 5/22/18
Effective 8/1/18

- I. Purpose
 - A. To establish guidelines for EMS field personnel to meet requirements that they search for organ donor information on adult patients for whom death appears imminent, as required by Health & Safety Code, Section 7152.5(b)(3).
- II. Definitions:
 - A. Reasonable Search: A brief attempt by EMS field personnel to locate documentation that may identify a patient as a potential organ donor, or one who has refused to make an anatomical gift. This search shall be limited to a wallet or purse that is on or near the individual to locate a driver's license or other identification card with this information. This requirement may be met by asking a family member, if one is present, about the presence of an organ donor card. A reasonable search shall not take precedence over patient care/treatment.
 - B. Imminent Death: A condition wherein illness or injuries are of such severity that, in the opinion of EMS field personnel, death is likely to occur before the patient arrives at the receiving hospital. For purposes of this policy, this definition does not include any conscious patient regardless of the severity of illness or injury.
- III. Policy/Procedure:
 - A. When EMS field personnel encounter a patient that appears to fit the criteria for field determination of death or field pronouncement (see Policy 613), they shall attempt a "reasonable search" of the patient's belongings to determine if the individual carries information indicating the patient's status as an organ donor. This search must be done in the presence of a witness, preferably a public safety officer.
 - B. Treatment and transport of the patient remains the highest priority for field personnel. This search shall not interfere with patient care or transport.
 - C. Field personnel shall notify the receiving hospital personnel if organ donor information is discovered.
 - D. Any organ donor document that is discovered should be transported to the receiving hospital with the patient unless it is requested by the investigating law enforcement officer. If no transport is made, any document should remain with the patient.
 - E. Field personnel should briefly note the results of the search, notification of hospital, and witness name(s), on the EMS Prehospital Care Record (PCR).
 - F. If a member of the patient's immediately family objects to the search for an organ donor document at the scene, their response to a question about the patient's organ donation wishes

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may be considered to satisfy the requirement.

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Policy 631: Hazard Assessment and Mitigation in Unsecured Environments

Revision 1/31/19
Effective 2/22/19

- I. Philosophy:
 - A. Santa Cruz County EMS responders are dedicated to providing care to anyone in need and, as a natural consequence, are often called upon to provide care in unsecured environments. These environments are wide ranging and can include traffic hazards, active crime scenes, fall risks, crowded areas, downed utilities, toxic or infectious exposures, and many others.
 - B. Our ability to serve our patients is completely dependent on responder health and safety, and systematic hazard assessment is essential. While every response entails some unavoidable and unanticipated risk, including the act of driving to the scene for example, this hazard assessment is intended to identify dangerous or potentially dangerous conditions that present inordinate risk to the providers.
 - C. Identifying and quantifying those hazards relies on training and experience and is beyond the scope of this policy. Responders are encouraged to refer to their agency specific policies, procedures, training materials and health and safety plans.
- II. Procedure
 - A. Hazard Evaluation
 - 1. Multiple pieces of information are usually necessary when performing a hazard assessment. This usually starts with dispatch information and always includes a scene size-up that considers all physical hazards.
 - 2. Ambulance personnel are generally not equipped to perform extrication or rescue activities and occasionally full prehospital medical care is necessarily delayed until the patient can be brought to a secure location.
 - B. Hazard Mitigation
 - 1. When, after evaluating all available information, the responding crew perceives a threat to themselves, such crews are authorized to avoid placing themselves at risk until additional resources are available that mitigate those hazards as is reasonably possible.
 - 2. The list of necessary additional resources will vary on a case by case basis, but may include law enforcement, fire personnel and equipment, Coast Guard, lifeguards, public works and utility personnel.

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Policy 632: Assisting Patients with their Emergency Medications

New 10/1/19
Effective 10/1/19

- I. Specific Condition: Congenital Adrenal Hyperplasia
 - A. Paramedics might be asked to assist with the IM administration of a specific emergency medication. Some children are born with a genetic defect that prevents their body from producing adequate amounts of Cortisol. The signs & symptoms of an adrenal crisis includes nausea, fever, pallor, confusion, weakness, tachycardia, tachypnea, hypoglycemia, hypotension and shock. Symptoms that might lead to their death.
 - B. Families who have such a child will be very aware of their condition. When these children experience an adrenal crisis, the proper treatment is the IM administration of the drug Solu-Cortef. During this emergency, the parents or caregivers may not be able to properly deliver the IM medication and might request assistance from the EMS system. In this type of an emergency Paramedics can assist the parents or caregivers with drawing up and administering the Solu-Cortef. The family members, if available, should be familiar with the proper dosage and should have the necessary equipment. In some cases, such as when a child is at school, the school personnel may have medication and instructions available.
- II. Procedure
 - A. State law authorizes a paramedic to assist a patient or parents who request help administering an emergency medication that is outside ordinary scope of practice.
 - B. If faced with this rare situation, Base Contact shall be made to determine the appropriate course of action.
 - C. All children in adrenal crisis shall be transported to the hospital.

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Policy 633: Pandemics, Emerging Diseases and other Emergencies

Revision: New
Effective X/X/XX

- I. Scope
 - A. An EMS Response Plan which includes modified EMS procedures and policies, when activated by order of the Medical Director during the event of a Pandemic, Emerging Infectious Disease or other health emergency, shall supersede applicable provisions elsewhere written in the Santa Cruz County EMS Policies and Procedures
- II. Purpose
 - A. Extraordinary conditions may arise that necessitate the temporary suspension and modification of normal EMS procedures and patient care.
 - B. The goal of these modifications is to optimize the delivery of overall patient care in the context of extraordinary demand and interruption of normally available health care and other resources.
- III. Specific Situations
 - A. Each situation that may arise will require unique modifications and suspension of policy and protocol and are addressed specifically in this reference section.
 - B. Activation and deactivation of the EMS Response Plan
 1. Activation and deactivation will be through an administrative order from the Medical Director

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Policy 634: Leave Behind Naloxone

Revision: New
Effective X/X/XX

- I. Scope
 - A. To contribute to decreasing morbidity and mortality related to opioid overdose.
 - B. This standing order permits clinical and non-clinical staff who have completed Naloxone Training to distribute naloxone to eligible clients from CDPH-provided supplies. Restock of harm reduction naloxone will be through the EMS Innovator or Medic 100.
- II. Distribution
 - A. Eligible clients include any person at risk of experiencing an opioid-related drug overdose, or a family member, friend or other person able to assist a person at risk of experiencing an opioid-related drug overdose.
 - B. Assess the client who presents for contraindications and precautions, including:
 1. Contraindications: hypersensitivity or allergy to naloxone.
 2. Precautions:
 - a) Anaphylactic shock may occur in those allergic to naloxone or any component of the medication.
 - b) Acute withdrawal symptoms may occur in individuals currently using opioids including: body aches, fever, sweating, runny nose, sneezing, yawning, weakness, shivering or trembling, nervousness, restlessness or irritability, diarrhea, nausea, abdominal cramps, increased blood pressure and tachycardia.
 - c) Persons, especially those with pre-existing cardiovascular disorders, should be closely monitored in an appropriate healthcare setting after receiving naloxone.
- III. Order
 - A. Document in ImageTrend on Narrative screen "Innovator Followup", then select "Narcan left on scene" from the dropdown menu.
 - B. Distribute as available one box (two naloxone 4 mg/0.1 ml) intranasal administration devices.
 - C. Offer all clients a copy of the Naloxone Fact Sheet (English or Spanish).

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Section 700: Adult Treatment Protocols

Protocol 700-C1: Cardiac Arrest

Revision 1/19/20
Effective 8/1/18

BLS Treatment

- ❖ Treat life threats. (See Procedure 701 Life Threats)
- ❖ Confirm DNR Status
- ❖ PIT Crew CPR. (See Reference 806 Core Principles: Managing Cardiac Arrest.)
- ❖ CPR per current County guidelines. Minimize delays and interruptions
- ❖ Apply AED and use as indicated
- ❖ Mechanical CPR Device
 - After at least 2 rounds of manual CPR and defibrillation (if indicated), use a mechanical compression device wherever manual CPR is indicated and if device is available
 - Refer to specific manufacturer’s instructions for specific information
 - Minimize interruptions when performing manual or mechanical chest compressions
 - Upon ROSC, discontinue mechanical CPR device but leave in place should it be needed again
 - If the patient is transported with a mechanical compression device, a rescuer from the agency that applied the device should accompany the patient to the hospital
 - Contraindications for mechanical CPR

Autopulse	LUCAS
<ul style="list-style-type: none"> ▪ ≤ 17 years of age 	<ul style="list-style-type: none"> ▪ Too small patient: device alerts w 3 fast signals, cannot enter PAUSE or ACTIVE mode
<ul style="list-style-type: none"> ▪ Traumatic injury 	<ul style="list-style-type: none"> ▪ Too large patient: cannot lock the upper part of LUCAS to the back plate without compressing the patient’s chest

- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 Life Threats)
- ❖ Cardiac Monitor and determine rhythm
- ❖ Identify possible causes*
 - Treat according to Table 1
 - Known dialysis patients with possible hyperkalemia
 - **Sodium Bicarbonate** 1 mEq/kg IV/IO
 - **Calcium Chloride** 1 gram IV/IO.

*Causes of Cardiac Arrest	
• Hypovolemia	• Tox (OD/Drugs) (M1)
• Hypoxemia	• Tamponade (Cardiac)
• Hydrogen Ion (Acidosis)	• Tension Pneumothorax (702)
• Hyper/Hypokalemia	• Thrombosis (MI, PE)
• Hypothermia (E2)	

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- Penetrating Chest Trauma
- Consider Tension Pneumothorax (see Procedure 702 Pleural Decompression)
- ❖ If ROSC achieved:
 - Maintain SpO2 ≥ 95% using lowest concentration of O2 possible
 - Ventilate the patient 10-12 breaths per minute to achieve an end tidal CO₂ of 35 – 45 mmHg **Warning:** Avoid hyperventilation
 - Maintain SBP ≥ 90 mmHg.
 - IV fluids, **Normal saline** 1 liter bolus
 - Push-dose **Epinephrine** 0.5 ml (5 mcg) very slow IV/IO every 3-5 minutes prn SBP < 90. See Procedure 708 *Push-dose Epinephrine Mixing Instructions*
 - If the patient's BP is 90 systolic or higher, there is no need for any further circulatory support.
 - Manage post-arrest arrhythmias as needed.
 - Obtain a 12 lead ECG and transmit as indicated. Crews in South County should contact Dominican Hospital before transporting a post-arrest STEMI patient north as transport to Watsonville Community Hospital may be more appropriate.
- ❖ Consider transporting hypothermic, drug-overdosed, or electrocuted patients.
- ❖ Consider termination of resuscitative efforts after at least 20 contiguous minutes if: (See Policy 613 Determination of Death in the Field)
 - Unwitnessed arrest with no bystander CPR
 - No shock delivered (AED or manual defibrillator)
 - No ROSC
 - ETCO₂ waveform or readings less than 10

Table 1

Asystole	Pulseless Electrical Activity (PEA)	Ventricular Fibrillation or Pulseless Ventricular Tachycardia
<ul style="list-style-type: none"> ❖ Epinephrine <ul style="list-style-type: none"> ➢ (1:10,000)1mg IVP/IO ➢ Repeat q3-5minutes for duration of arrest. ❖ Consider Normal saline <ul style="list-style-type: none"> ➢ 250 ml fluid challenge. ➢ May repeat as indicated, ❖ If no response consider termination of resuscitative efforts (see Policy 613, <i>Determination of Death in the Field</i>) 	<ul style="list-style-type: none"> ❖ Epinephrine <ul style="list-style-type: none"> ➢ (1:10,000)1mg IV/IO ➢ Repeat q3-5minutes for duration of arrest. ❖ Consider Normal saline <ul style="list-style-type: none"> ➢ 250 ml fluid challenge. ➢ May repeat as indicated, ❖ If electrical HR <40 BPM due to blunt trauma, consider determination of death prior to initiating resuscitation (see Policy 613, <i>Determination of Death in the Field</i>) 	<ul style="list-style-type: none"> ❖ Defibrillate ASAP ❖ Epinephrine <ul style="list-style-type: none"> ➢ (1:10,000)1mg IV/IO ➢ Repeat q3-5min ❖ Defibrillate at max. joules as above after 5 cycles of CPR ❖ Defibrillate after each medication throughout the arrest ❖ Amiodarone <ul style="list-style-type: none"> ➢ 300 mg IVP/IO ➢ Repeat with 150 mg IV/IO if no response ❖ If return to supraventricular rhythm, consider: ❖ Normal saline 250ml bolus

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Documentation

- ❖ Cardiac Arrest is a System Quality Indicator (See Policy 101 Quality Improvement Program and System Evaluation and Policy 502 Santa Cruz County Patient Care Record (PCR) and Transfer of Care Document)
- ❖ Minimum documentation elements include:
 - Primary or Secondary Impression (esituation.11 or esituation.12) = *“Cardiac Arrest -Non-traumatic”*
 - Bystander CPR (PUB-1)
 - AED prior to arrival (CAR-1)
 - First Arrival time to rescuer CPR
 - Initial rhythm recorded
 - EtCO₂ readings (initial and continuous)
 - Defibrillation (number and dose)
 - Intubation (see #6)
 - ROSC (y/n) (CAR-2)
 - Survival to ED discharge(CAR-3)
 - Survival to hospital discharge (CAR4)

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Protocol 700-C4: Tachycardia > 150 with Pulse

Revision 5/22/18
Effective 8/1/18

BLS Treatment

- ❖ Treat life threats. (See Procedure 701 Life Threats)
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Cardiac Monitor: Confirm rate >150. If other rhythm or pulseless see Protocol 700-C1, Cardiac Arrest
- ❖ Consider 12-lead-ECG. Transmit as needed for treatment guidance.
- ❖ Treatment (see Table 1)

Table 1: Tachycardia > 150

Stable (SBP > 90) Adequate perfusion	Borderline (SBP > 90) Severe chest pain, SOB, pallor, decreased LOC	Unstable (SBP < 90) Severe chest pain, SOB, pallor, decreased LOC
<ul style="list-style-type: none"> ❖ Transport ❖ Contact Base Station. 	<ul style="list-style-type: none"> ❖ Consider vagal maneuver (no carotid massage) ❖ Consider Adenosine <ul style="list-style-type: none"> ➤ 1st dose: Adenosine rapid 6mg IV/IO; if no change after 1-2 min. ➤ 2nd dose: Adenosine rapid 12mg IV/IO; if no change after 1-2 min. ➤ Warning: Do not use if rhythm is irregular, polymorphic or evidence of WPW (see fig 1) ❖ Transport/Contact Base Station. 	<ul style="list-style-type: none"> ❖ Midazolam 5 mg IM/IN or 2.5 mg IV/IO ❖ Synchronized cardioversion 100J; if no change 200J; if no change 300J; if no change 360J ❖ If patient is unstable but conscious with wide complex: <ul style="list-style-type: none"> ➤ Consider Adenosine administration if there is the possibility that this rhythm is an aberrantly conducted SVT. ➤ Warning: Do not use if rhythm is irregular or polymorphic. Use Adenosine dosing as above. ➤ Midazolam 5 mg IM/IN or 2.5 mg IV/IO ➤ Synchronized cardioversion 100J » 200J » 300J » 360J prn ➤ Consider Amiodarone drip – 150 mg infused over 10 minutes. ❖ Transport/Contact Base Station.

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Special Considerations

- ❖ Consider common causes of tachycardia. See Table 2
- ❖ Consult the Base Station if you are unclear about the cause of the dysrhythmia, and whether you should treat it
- ❖ Whenever possible, contact Base Station prior to administering synchronized cardioversion in unstable but conscious patients. In the unstable, unconscious patient where rapid synchronized cardioversion is the highest priority, do not hesitate administering cardioversion before initiating transport and contacting the Base Station
- ❖ Unconsciousness should be attributed to a lack of perfusion caused by the tachycardia itself, not due to some other etiology unrelated to the tachycardia.

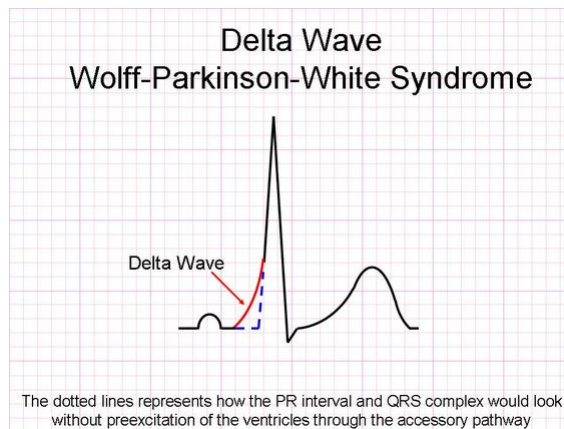


Table 2: Possible Causes of Tachycardia

- | | |
|------------------------|------------------------|
| • Hypoxemia | • Tamponade |
| • Hypothermia | • Tension pneumothorax |
| • Hypovolemia | • Thrombosis |
| • Metabolic disorders | • Pain |
| • Toxins/poisons/drugs | • Sepsis |

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Protocol 700-C5: Ventricular Assist Devices

Revision 5/22/18
Effective 8/1/18

❖ Purpose

- Provide prehospital personnel with guidelines on how to assess and treat patients with ventricular assist devices (VAD). A VAD is a device that supplements or replaces the cardiac ventricle in pumping blood to the body. The ventricle in these patients is weak and can't pump enough blood to meet normal demands.
- Patients with VADs present prehospital providers with unique assessment difficulties because of issues related to the VAD. While first generation VADs had a pumping mechanism, second generation VADs (which most patients today have) do not. This feature makes palpating a pulse impossible.
- Prehospital EMS providers will not be able to obtain a pulse-oximetry reading or a blood pressure on patient's that have second generation VADs. In trauma patients, this makes evaluation and assessment very difficult. Also, automatic blood pressure devices are not accurate.
- Prehospital EMS providers should rely upon the patient's level of consciousness, skin signs, capillary refill, etc. to make any clinical decisions. It should also be noted that many patients with a VAD, also have an implanted cardioverter-defibrillator (ICD) and/or a pacemaker/ICD.
- An ETCO₂ value of <20 mm Hg in an unresponsive, correctly intubated, pulseless patient with a left ventricular assist device (VAD) would seem to be a reasonable indicator of poor systemic perfusion and should prompt rescuers to initiate chest compressions.

❖ Procedure

- Always assess the patient first.
- The patient's needs may have nothing to do with a problem with the VAD.
- Auscultate for heart sounds to determine if the device is functioning.
- You should expect to hear a continuous "whirring" sound for most devices.
- Assess the device for any alarms/malfunctions.
- Check with the patient or caregivers for device reference materials or contact the VAD center directly.
- Start a least 1 large bore (18g or greater) IV in a proximal vein and give a 1-liter Normal saline bolus of 0.9% if the patient appears to be in shock.

❖ Follow the appropriate treatment protocol based upon the patient's clinical condition, with the following exceptions:

- Warning: DO NOT perform chest compressions unless there are signs of inadequate perfusion with an ETCO₂ < 20 and the patient is unresponsive and properly intubated and ventilated.
- Warning: DO NOT disconnect the VAD power source except during transport
- DO follow the directions of the patient's caregiver when moving or transporting patient.

❖ Contact the base hospital for any questions regarding medical direction.

❖ Arrhythmias

- If defibrillation or cardio-version is required, then follow the appropriate treatment protocol.
- These pumps are insulated so that electrical therapy should not be an issue.
- Defibrillate per ACLS protocol.

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- **Warning:** do not defibrillate directly over the VAD.
- ❖ Altered Mental Status
 - Immediately check blood glucose and end-tidal CO₂ using capnography.
 - Low values (<20mmHg) likely indicate the cause of altered mental status as hypoperfusion.
 - These patients and/or their VAD assistants are taught to call 911 in any emergency and then contact the on-call VAD coordinator immediately.
 - These VAD coordinators will typically be on the phone when first responders arrive and can help troubleshoot the devices but cannot provide medical control.
 - Paramedics are authorized to take direction from the VAD center provided the direction is within your ALS scope of practice.
- ❖ When transporting these patients to the hospital, bring:
 - the entire VAD emergency bag
 - power source
 - battery and charger.
 - Whenever possible plug the unit into a 120 VAC power source as soon as possible.
- ❖ The patient and/or the patient's VAD assistant will be able to advise prehospital personnel of the requested transport destination.
 - If neither the patient nor the assistant can determine a destination, or the patient's condition does not warrant transportation to a VAD center, contact the base hospital for direction

Special Considerations

- ❖ Due to long ground travel distances, transportation of VAD patients will generally be done by air. If this is impossible then ground transport is authorized to Kaiser Santa Clara or to Stanford, as these are the two closest VAD capable hospitals. Strong preference toward the patient's host hospital is authorized.
- ❖ There are no absolute medication contraindications for VAD patients. If possible, avoid medications that reduce cardiac preload such as nitrates, as these patients are dependent upon preload.
- ❖ **Warning:** Chest compressions are usually contraindicated in patients with VADs, unless there are no other signs of life.
- ❖ Chest compressions and blunt trauma to the chest and/or abdominal trauma may dislodge the VAD grafts and cause sudden death.
- ❖ **Warning:** Do Not determine death in the field for patients with VAD's. The base hospital should be contacted for VAD patients that are unresponsive.
- ❖ These patients are at high risk for the following conditions:
 - Hemorrhage
 - Stroke
 - Sepsis
 - Dysrhythmias

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Protocol 700-C6: Suspected Cardiac Ischemia

Revision 4/23/19
Effective 8/1/18

BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Treatment and Medications (see Table 1)
- ❖ Prepare for transport / transfer of care

Table 1: BLS Treatment and Medications

Aspirin Hold if Allergic	❖ 324 mg PO	❖ 324 mg PO	❖ 324 mg PO
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ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
 - 12-lead-ECG for high risk patients (see Procedure 706 *12 Lead ECG*)
 - If interpretation results reveal ***ACUTE MI/SUSPECTED*** or manufacturer equivalent, expedite transport to STEMI Receiving Center. (see Procedure 714 STEMI Identification, Transmission and Destination)
 - Transmit EKG for treatment and transport destination guidance. (see Policy 714 STEMI Identification, Transmission and Hospital Destination)
- ❖ Treatment and Medications (see Table 2)
- ❖ Transport/ Contact Base Station

Table 2: ALS Treatment and Medications

	SBP > 100mmHg	SBP < 100mmHg	SBP < 90 mmHg
Nitroglycerin	<ul style="list-style-type: none"> ❖ 0.4 mg SL q2 min ❖ Apply 1" paste 	❖ Hold	❖ Hold
Morphine	<ul style="list-style-type: none"> ❖ 2-5mg slow IVP/IO or 10 mg IM prn pain ❖ Repeat q5min prn, 5mg max IV, 10 mg max IM 	❖ Hold	❖ Hold
Normal saline	❖ Hold	<ul style="list-style-type: none"> ❖ 250ml bolus ❖ Shock Position 	<ul style="list-style-type: none"> ❖ 250ml bolus ❖ Shock Position
Push-dose Epi	❖ Hold	❖ Hold	<ul style="list-style-type: none"> ❖ Start at 0.5ml (5 mcg). ❖ Titrate for SBP > 90 ❖ Give every 3-5 minutes

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Special Considerations

- ❖ **Warning:** Hold NTG if the patient has taken an erectile dysfunction agent within the past 24 hours (i.e., Cialis, Levitra, Viagra, Relation, Tadalafil, etc.)
- ❖ **Warning:** Patients with right ventricular infarctions are preload sensitive due to poor contractility. These patients can develop severe hypotension in response to nitrates. Some inferior wall STEMIs (ST elevation in II, III, if) will be right sided MIs. Treat with fluid loading. NTG is contraindicated.
- ❖ Hold **Morphine Sulfate** if patient has or develops respiratory depression, bradycardia or hypotension. **Narcan** should be immediately available to reverse adverse effects. (See Protocol 700-M1, *Overdose and Poisoning*)

Documentation

- ❖ Chest Pain is a Core Measures Indicator (See Policy 101 Quality Improvement and System Evaluation and Policy 502 Santa Cruz County Patient Care Record (PCR) and Transfer of Care Document)
- ❖ Required minimum documentation elements on the PCR
 - Primary or Secondary Impression (esituation.11 or esituation.12) = "Chest Pain - Suspected Cardiac" or "Chest Pain - STEMI"
 - 12 lead obtained (y/n)
 - 12 lead transmitted (y/n)
 - 12 lead interpretation
 - STEMI Alert (y/n)
 - ASA given (y/n)
 - NTG given (y/n)
 - Morphine** given (y/n)
 - Destination Hospital
 - Mode of transport
 - All pertinent response times

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Protocol 700-C7: Bradycardia and Heart Blocks

Revision 5/22/18
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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
 - If pulseless, see Protocol 700-C1 *Cardiac Arrest*
- ❖ Identify presence of serious signs or symptoms*
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Cardiac Monitor/12-lead-ECG
- ❖ HR < 60 bpm without serious signs or symptoms*:
 - Transport/Contact Base Station.
- ❖ HR < 60 bpm and serious signs or symptoms*:
 - **Atropine** 0.5mg IV/IO.
 - May be administered while awaiting pacing set up
 - Repeat q 3-5 min. prn to alleviate symptoms or increase pulse to 60 bpm.
 - Not to exceed 3mg maximum total dose IV/IO.
 - If cardiac transplant, Type II, 2nd degree block, 3rd degree block with widened QRS or in-extremis then proceed directly to Transcutaneous Cardiac Pacing
 - Establish TCP. See Procedure 705, *Transcutaneous Cardiac Pacing*.
 - **Warning:** Avoid TCP with severe hypothermia (See Protocol 700-E2 *Cold Exposure/Hypothermia*)
 - Transport/Contact Base
 - Consider positioning, 250ml fluid bolus.
 - If persistent hypotension
 - Push-dose **Epinephrine** 0.5 ml (5 mcg) very slow IV/IO every 3-5 minutes prn SBP < 90. See Procedure 708 *Push-dose Epinephrine Mixing Instructions*

*Serious Signs or Symptoms	
Chest Pain	Decreased LOC
SBP < 90 mmHg	Pulmonary Congestion
Acute MI	CHF
Shock	SOB

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Santa Cruz County EMS Agency
Adult Treatment Protocols

Section 700

Protocol 700-D1: Adult Drug List

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Name	Indication	Dose & Route	Max Dose
Adenosine	<ul style="list-style-type: none"> Narrow Tachycardia 	<ul style="list-style-type: none"> 6 mg 1 dose, 12 mg subsequent doses Rapid IVP/IO 	<ul style="list-style-type: none"> 18 mg
Albuterol	<ul style="list-style-type: none"> Bronchoconstriction/ Wheezing 	<ul style="list-style-type: none"> 5 mg via Nebulizer 	<ul style="list-style-type: none"> As Needed HR<160
Amiodarone	<ul style="list-style-type: none"> Cardiac Arrest (Vfib/Vtach) Unstable V-Tach 	<ul style="list-style-type: none"> 300 mg IVP/IO Repeat 150 mg 150 mg infused over 10 minutes 	<ul style="list-style-type: none"> 450 mg 150 mg
Aspirin	<ul style="list-style-type: none"> Chest Pain of Cardiac Origin 	<ul style="list-style-type: none"> 324 mg PO 	<ul style="list-style-type: none"> 324 mg
Atropine Sulfate	<ul style="list-style-type: none"> Symptomatic Bradycardia Organophosphate poisoning 	<ul style="list-style-type: none"> 0.5 mg IVP/IO 2 mg IVP/IO 	<ul style="list-style-type: none"> 3 mg As Needed
Calcium Chloride	<ul style="list-style-type: none"> Crush Injury 	<ul style="list-style-type: none"> 10 ml (10%) Slow IVP/IO 	<ul style="list-style-type: none"> 10 ml (1 gm)
Dextrose 10%	<ul style="list-style-type: none"> Hypoglycemia 	<ul style="list-style-type: none"> 25 grams IVP/IO 	<ul style="list-style-type: none"> 50 grams
Diphenhydramine	<ul style="list-style-type: none"> Allergic Reaction Dystonic Reaction 	<ul style="list-style-type: none"> 1 mg/ kg IVP/ IM 1 mg/ kg IVP/ IM 	<ul style="list-style-type: none"> 50 mg 50 mg
Epinephrine	<ul style="list-style-type: none"> Anaphylaxis Cardiac Arrest Severe Allergic Reaction Severe Bronchospasm 	<ul style="list-style-type: none"> 0.3mg IM (1:1,000) every 5 m prn 1 mg IVP/IO (1:10,000) 0.3 mg IM (1:1,000) 0.3 mg IM (1:1,000) 	<ul style="list-style-type: none"> Base Station None As Needed 0.3 mg
Push-Dose Epinephrine	<ul style="list-style-type: none"> Persistent Shock 	<ul style="list-style-type: none"> 0.5 ml (5 mcg) IVP/IO (1:100,000) q 3-5 m 	<ul style="list-style-type: none"> 5 mcg per dose
Fentanyl Citrate	<ul style="list-style-type: none"> Non-Traumatic Pain Extremity Trauma/Burns Snake Bite 	<ul style="list-style-type: none"> 50-100 mcg IVP/IO/IM/IN 	<ul style="list-style-type: none"> 200 mcg max
Glucagon	<ul style="list-style-type: none"> Hypoglycemia Calcium Channel Blocker OD 	<ul style="list-style-type: none"> 1 unit (1 mg) IM 1 unit (1 mg) IVP/ IM/IO 	<ul style="list-style-type: none"> 2 mg 2 mg
Glucose Paste	<ul style="list-style-type: none"> Hypoglycemia 	<ul style="list-style-type: none"> As Needed PO 	<ul style="list-style-type: none"> As Needed
Lidocaine	<ul style="list-style-type: none"> Intraosseous Infusion 	<ul style="list-style-type: none"> 40 mg IO 	<ul style="list-style-type: none"> 40 mg
Midazolam (Versed)	<ul style="list-style-type: none"> Sedation for Cardioversion Seizures Airway Management Chemical Restraint 	<ul style="list-style-type: none"> 5 mg IM/IN or 2.5 mg IVP/IO 5 mg IM/IN or 2.5 mg IVP/IO 5 mg IM/IN or 2.5 mg IVP/IO 5-10 mg IM/IN or 2.5 mg IVP/IO 	<ul style="list-style-type: none"> 10 mg/5 mg 10 mg/5 mg 10 mg/5 mg Base Station
Morphine Sulfate	<ul style="list-style-type: none"> Cardiac Chest Pain Non-Traumatic Pain IO Fluid Administration Extremity Trauma/Burns Snake Bite 	<ul style="list-style-type: none"> 2-5 mg SLOW IVP, 10 mg IM 2-5 mg SLOW IVP, 10 mg IM 2-5 mg SLOW IO 2-5 mg SLOW IVP 10 mg IM 2-5 mg SLOW IVP 10 mg IM 	<ul style="list-style-type: none"> 5 mg IV, 10 mg IM 5 mg IV, 10 mg IM 5 mg 15 mg 15 mg
Narcan (Naloxone)	<ul style="list-style-type: none"> Narcotic Overdose 	<ul style="list-style-type: none"> 2 mg IVP/IM/IO, 2-4 mg IN 	<ul style="list-style-type: none"> As Needed
Nitro Spray/tab Nitro Paste	<ul style="list-style-type: none"> Cardiac Chest Pain & Pulmonary Edema 	<ul style="list-style-type: none"> 0.4 mg SL 1 Inch 	<ul style="list-style-type: none"> As Needed 1 Application
Ondansetron (Zofran)	<ul style="list-style-type: none"> Nausea and Vomiting 	<ul style="list-style-type: none"> 4 mg IV/IO/IM/ODT 	<ul style="list-style-type: none"> 16 mg
Sodium Bicarbonate	<ul style="list-style-type: none"> Cardiac Arrest Cyclic Antidepressant OD Crush Injury 	<ul style="list-style-type: none"> 1 mEq/kg IV/IO 1 mEq/kg IV/IO 1 mEq/kg IV/IO 	<ul style="list-style-type: none"> 1 mEq/kg 100 mEq 1 mEq/kg
TXA	<ul style="list-style-type: none"> Trauma Hemorrhage Control 	<ul style="list-style-type: none"> 1 gram mixed in 100-250 ml Normal Saline or D5W 	<ul style="list-style-type: none"> 1 gram (single dose)

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Protocol 700-E1: Heat Exposure

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Implement cooling measures.
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Heat Exhaustion:
 - Transport.
 - IV NS 1 liter. Repeat as needed to maintain perfusion.
 - Contact Base Station.
- ❖ Heat Stroke:
 - Start aggressive cooling measures.
 - Transport.
 - If symptomatic hypotension, IV/IO NS 1 liter. Repeat as needed to maintain perfusion.
 - Contact Base Station.

Special Considerations

Heat Exhaustion vs Heat Stroke

	Background	Clinical Signs	Treatment
Heat Exhaustion	<ul style="list-style-type: none"> ❖ Usually healthy ❖ Exercise induced ❖ Hypovolemia 	<ul style="list-style-type: none"> ❖ Normal temperature ❖ Wet pale skin ❖ Tachycardia ❖ Syncope ❖ Vomiting/diarrhea 	<ul style="list-style-type: none"> ❖ Passive Cooling ❖ IV fluids
Heat Stroke	<ul style="list-style-type: none"> ❖ Inactive, elderly, exposed to hot environments ❖ Overactive, healthy youth. ❖ Phenothiazines, tricyclics, antihistamines, amphetamines, ETOH, diuretics 	<ul style="list-style-type: none"> ❖ High temperature ❖ ALOC ❖ Dry hot skin ❖ Seizures ❖ Tachycardia 	<ul style="list-style-type: none"> ❖ Rapid aggressive cooling. ❖ IV fluids only if hypotensive

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Protocol 700-E2: Cold Exposure/Hypothermia

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BLS Treatment

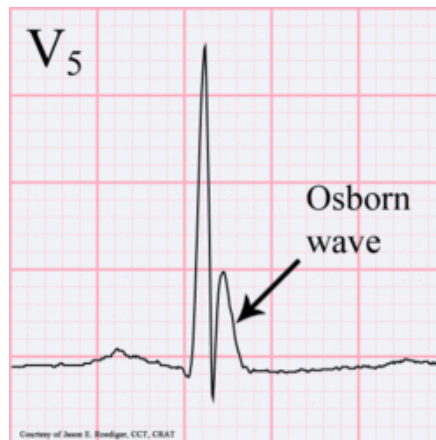
- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ CPR per current County guidelines. Minimize delays and interruptions
- ❖ Implement warming measures but avoid aggressive external rewarming for pulseless patients.
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Moderate Hypothermia to Severe Hypothermia
 - Treat life threats. (See Procedure 701 *Life Threats*)
 - Obtain 12 lead ECG (See Procedure 706, *12 Lead ECG Procedure*)
 - Avoid TCP for Bradycardia
 - Continue warming measures.
 - Tape heat packs around coiled IV tubing
- ❖ Transport.
- ❖ Contact Base Station.

Special Considerations

- ❖ If patient is pulseless, consider a single counter shock at 360J and a single round of drugs. Do not repeat. Generally, avoid IV medications (excluding warmed saline) when in severe hypothermia.
- ❖ Avoid rough movement and excess activity. Stimulation of the patient could significantly cause deterioration of vital signs.



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Protocol 700-E4: Burns

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BLS Treatment

- ❖ Scene Survey - Identify hazard potential - (chemical, electrical, thermal).
- ❖ Mitigate hazard and stop burning process. Remove jewelry and constrictive clothing.
- ❖ Treat life threats. (See Procedure 701 *Life Threats*).
- ❖ Identify extent of burn. Use rule of nines. Refer to PAM criteria (Policy 626 *Trauma Triage*) when appropriate.
- ❖ Cover affected body surface with clean, dry cotton or linen sheet.
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*).
- ❖ Consider early intubation for patients with evidence of inhalation injury or respiratory distress. Use nebulized saline when indicated.
- ❖ If Bronchospasm or wheezes are present:
 - **Albuterol** 5mg via nebulizer, may repeat as needed.
 - If heart rate >160 bpm, withhold treatment and contact Base Station.
- ❖ To relieve pain, refer to Policy 703 Pain Management. Contact Base Station for additional doses. (See Notes)
- ❖ Transport. Consider direct transport to a Burn Center (see table 1)
- ❖ Contact Base Station as needed.

Special Considerations

- ❖ Hold **Morphine** or **Fentanyl** if patient has or develops respiratory depression, bradycardia or hypotension. **Narcan** should be immediately available to reverse adverse effects.
- ❖ Remember that hypothermia is much more common than hyperthermia in burn patients. Once burn is properly covered, consider covering patient with additional insulating material
- ❖ Enclosed space burn patients are at high risk for respiratory burns

Table 1: Burn Center Criteria

<input type="checkbox"/> >10% TBSA 2°/3° burns	<input type="checkbox"/> Burns that cross joints
<input type="checkbox"/> >2% 3° burns	<input type="checkbox"/> Significant electrical burns
<input type="checkbox"/> Evidence of respiratory burns	<input type="checkbox"/> Burns involving face, hands, feet, perineum
<input type="checkbox"/> Circumferential burns	

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Protocol 700-E5: Venomous Snake Bites

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Remove any potentially constricting jewelry or clothing.
- ❖ Apply elastic band proximal to bite, tight enough to obstruct lymphatic flow (one should be able to slip an index finger under the band).
 - If the swelling progresses, apply a second band proximal to the first, and remove the first band.
 - **Warning:** Do not apply ice.
- ❖ Keep the bite area below heart level in a dependent position.
 - If the bite is on an extremity, immobilize the extremity.
 - Reduce patient physical activity to a minimum.
- ❖ Get an accurate description of snake.
 - If the snake is dead, bring it in for positive identification in a closed solid container.
 - Avoid the fangs because they are capable of envenomation even when dead.
 - If alive, do not try to capture.
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ To relieve pain, refer to Policy 703 *Pain Management*. Contact Base Station for additional doses
- ❖ Contact Base Station.

Special Considerations

- ❖ Do not incise envenomation.
- ❖ Exotic poisonous snakes such as those in zoos or pet stores have different signs and symptoms than those of the pit vipers. Zoos and legal exotic snake collectors are required to have a starter supply of antivenin on hand for each type of snake. Bring the antivenin with the patient to the hospital.
- ❖ Bites from coral snakes, and snakes related to cobras, usually do not have any early symptoms; thus, all bites are considered envenomated.
- ❖ * Hold **Morphine Sulfate** if patient has or develops respiratory depression, bradycardia or hypotension. **Narcan** should be immediately available to reverse adverse effects.

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Protocol 700-M1: Overdose and Poisoning

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Ensure Scene Safety. Wear appropriate PPE
- ❖ CPR per current County guidelines. Minimize delays and interruptions
- ❖ Prepare for transport/transfer of care.

BLS Treatment Table

Narcotics / Opioids	<ul style="list-style-type: none"> ◆ Naloxone 2-4 mg IN. May repeat twice every 2-3 minutes as needed. Methadone, Darvon, and Darvocet overdose may require repeated doses
---------------------	--

ALS Treatment

- ❖ Treat according to ingestion. (See Table)
- ❖ Transport/Contact Base Station.

ALS Treatment Table

Narcotics / Opioids	<ul style="list-style-type: none"> ◆ Naloxone 2 mg IVP/IM/IO. 2-4 mg IN. May repeat twice every 2-3 minutes as needed. Methadone, Darvon, and Darvocet overdose may require repeated doses. Consider Leave Behind Naloxone (see Policy 634, <i>Leave Behind Naloxone</i>)
Suspected Ecstasy, Rohypnol, GHB	<ul style="list-style-type: none"> ◆ Ensure airway protection and monitor for signs of aspiration. ◆ Monitor the patient's body temperature. Use cooling measures as indicated.
Tri-Cyclic Anti-Depressants	<ul style="list-style-type: none"> ◆ Administer Sodium Bicarbonate 1mEq/kg IVP (max dose 100mEq) for hypotension (SBP 90mmHg or less), seizure, and/or a QRS widening greater than 0.10s. ◆ If hypotension and seizures persist, or if the QRS becomes greater than 0.12s, administer additional Sodium Bicarbonate at 0.50 mEq/kg IVP to a max dose of 100mEq.
Organophosphates/Cholinergics/ Pesticides	<ul style="list-style-type: none"> ◆ Administer Atropine 2 mg IVP (may repeat every 5 minutes until asymptomatic) ◆ Normal saline bolus as necessary for hypovolemia.
Major Tranquilizers/ Neuroleptics	<ul style="list-style-type: none"> ◆ Administer Diphenhydramine 50 mg IVP/IM for dystonic reactions.
Calcium Channel Blockers (diltiazem, verapamil, nifedipine)	<ul style="list-style-type: none"> ◆ Administer Glucagon 1 mg IM for hypotension (SBP 90mmHg or less) ◆ Administer Calcium Chloride 1 gram given over 5-10 minutes IVP for persistent hypotension or symptomatic bradycardia ◆ Warning: Calcium Chloride is contraindicated if the patient is currently taking Digoxin
Beta Blockers (atenolol, metoprolol, nadolol)	<ul style="list-style-type: none"> ◆ Administer Glucagon 1 mg IM for SBP 90mmHg or less ◆ Treat symptomatic bradycardia as necessary with additional Glucagon 1mg IM

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Protocol 700-M2: Allergic Reaction/Anaphylaxis

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Moderate to Severe Reaction
 - Symptoms:
 - swelling of mucous membranes of the mouth or eyes, and/or respiratory distress
 - **Epinephrine** Auto-injector (See Procedure 715 *Epinephrine Auto-Injector*)
 - ◆ For draw and inject **Epinephrine** see Special Considerations below
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Mild Reaction
 - Symptoms
 - urticaria, itching, raised welts
 - **Benadryl** 1mg/kg IM up to 50mg.
 - Transport/Contact Base Station.
- ❖ Moderate to Severe Reaction
 - Symptoms:
 - swelling of mucous membranes of the mouth or eyes, and/or respiratory distress
 - **Epinephrine** 1:1,000, 0.3mg IM, repeat every 5 minutes as needed.
 - **Benadryl** 1mg/kg IM/ IVP/IO up to 50mg.
 - If Bronchospasm or wheezes are present, administer **Albuterol** 5mg via nebulizer, may repeat as needed. If heart rate > 160 bpm, withhold **Albuterol** and contact Base Station.
 - Profound shock
 - Base Station Contact
 - Push-Dose **Epinephrine** 1:10,000, 1 ml (10 mcg) very slow IV/IO every 3-5 minutes. See Procedure 708 *Push-dose Epinephrine Mixing Instructions*
- ❖ Transport/Contact Base Station.

Special Considerations

- ❖ **Warning:** The #1 cause of sudden death from severe anaphylaxis is upper airway obstruction secondary to laryngeal edema. Aggressive treatment and airway management is critical in these instances.
- ❖ EMTs accredited for Optional Scope of Practice per Policy 208 *EMS Responder Scope of Practice* may draw and inject epinephrine in accordance with ALS procedures

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Protocol 700-M3: Routine Medical Care

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*).
- ❖ Consider other treatment protocols as appropriate.
- ❖ Transport.
- ❖ Contact Base Station.

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Protocol 700-M4: Nausea and Vomiting

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Pay attention to maintaining a patent airway and protecting the patient from aspiration.
- ❖ Consider underlying causes for nausea/vomiting, and treat as appropriate
- ❖ Attempt non-invasive methods of reducing nausea/vomiting, including reducing environmental stimulation, providing fresh air, applying oxygen, reducing unpleasant odors, and using distracting techniques.
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ **Ondansetron**
 - 4 mg IV/IO/IM/ODT.
 - May repeat every 5-10 minutes as needed. Max 16 mg.
- ❖ Transport/ Contact Base Station as needed.

Special Considerations

- ❖ **Ondansetron** is considered safe for pregnancy (Class B)
- ❖ **Ondansetron** rarely causes sedation and is typically well tolerated by all ages of patients.
- ❖ Nausea/vomiting is a symptom. Be aware of underlying causes*
- ❖ **Ondansetron** is contraindicated in patients with diagnosed Long QT Syndrome, and for those who are currently taking **Amiodarone**, Haldol, Methadone, Procainamide, or Seroquel.

*Causes of Nausea

Narcotics	Toxic Ingestion
Motion Sickness	Gastroenteritis
Head Injury	Acute MI
Abdominal Pain	Stroke
Pregnancy	

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Protocol 700-M5: Excited Delirium

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BLS Treatment

- ❖ Scene Survey – Responder safety is the top priority.
 - If Law Enforcement not on-scene, call for assistance.
 - Closely monitor risk level to patient and personnel.
- ❖ Coordinate patient restraint management with Law Enforcement (see Policy 622, *Patient Restraint*).
- ❖ Treat life threats. (See Procedure 701 *Life Threats*)

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ If the patient remains combative, contact Base Station.
 - **Midazolam** 5-10 mg IM may be used as a standing order if Base contact not practical (see Policy 622, *Patient Restraint*).
 - Larger doses may be required by Base Station order only.
 - Transport.
 - Request Law Enforcement to accompany to hospital.
 - **Warning:** All patients should be transported on a cardiac monitor and pulse oximeter, at a minimum, and capnography if possible.
 - **Warning:** All patients should be transported in a supine position whenever possible to avoid asphyxia
 - Treat other medical problems (hypoglycemia, vomiting, etc.) as indicated. If the patient appears hyperthermic, initiate cooling measures

Special Considerations

- ❖ Excited delirium is characterized by extreme agitation, confusion and hallucinations, erratic behavior, profuse diaphoresis, elevated VS, hyperthermia, unexplained strength and endurance, and behaviors that include clothing shedding, shouting out, and extreme thrashing when restrained. It is often found in correlation with alcohol and illicit drug use, and in those patients with preexisting mental illness.
- ❖ The most immediate threat to patients experiencing this syndrome is sudden apnea and cardiac arrest, usually after thrashing against physical restraint. This is thought to commonly be the cause of “in-custody” sudden death.
- ❖ It is paramount that patient exhibiting symptoms of this syndrome be effectively and quickly physically restrained, and then calmed using **Midazolam** and verbal coaching. *The likelihood of sudden apnea and death increases the longer these patients struggle against restraint.* Managing these patients therefore requires a coordinated effort among all responders and Law Enforcement personnel.
- ❖ Because excited delirium patients can quickly progress to apnea and death, responders must monitor their VS closely. When possible, this must include use of pulse oximetry, ECG monitoring, and if possible,

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capnography. This latter monitoring tool provides the best, and most immediate, measure of respiratory rate and depth, and ventilatory sufficiency.

- ❖ EMS personnel should be especially vigilant if a combative patient suddenly becomes quiet. This will often be the first sign that apnea has occurred. Patients who experience apnea and cardiac arrest may first complain of an inability to breathe.
- ❖ Restraint techniques should be utilized which allow patient monitoring, and which can be removed rapidly should apnea and cardiac arrest ensue. Supine positioning is safest.
- ❖ Excited delirium can mimic several medical conditions, including hypoxia, hypoglycemia, stroke, or intracranial bleeding. Blood glucose should be measured when possible. A thorough exam to rule out other causes should be completed when possible.

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Protocol 700-M6: Sepsis

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Prepare for transport/transfer of care. Be sure to notify ALS responders of your suspicion for sepsis

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Check blood sugar. BG >140 mg/dl in a non-diabetic patient may be a sign of sepsis. Less commonly, hypoglycemia can occur with overwhelming sepsis. Treat per Protocol 700-M7 *Diabetic Emergencies*.
- ❖ Check ETCO₂. ETCO₂ <25 mmHg is associated with sepsis.
- ❖ Transport and contact hospital with sepsis alert
- ❖ Maintain SAO₂ at 95% or greater
- ❖ Treat Shock
 - Up to 30 ml/kg **Normal saline** with signs and symptoms of severe sepsis or septic shock.
 - Use cautiously in patients with structural heart disease (cardiomyopathy, severe valvular disease, etc.) or CHF. Administer in 10ml/kg boluses, repeating as indicated if the patient shows no signs of fluid overload (pulmonary edema, hypertension).
 - Profound hypotension refractory to fluid resuscitation
 - Push-dose **Epinephrine** 0.5 ml (5 mcg) very slow IV/IO every 3-5 minutes prn SBP < 90. See Procedure 708 *Push-dose Epinephrine Mixing Instructions*
- ❖ Report and handoff at the receiving hospital should include all history and physical exam information, including that the patient has “suspected sepsis.”

Sepsis Risk Factors
▪ >70 years of age
▪ History of diabetes
▪ Recent hospitalization or living at a SNF
▪ Recent surgery or invasive procedure
▪ Hx of cancer, kidney disease, malnutrition, alcoholism, other immune compromising diseases

Special Considerations

- ❖ Sepsis Evaluation
 - Gather accurate patient information including risk factors for sepsis:

	Sepsis Criteria		
Vital Signs (Any 2)	▪ Heart rate >90	▪ Respiratory rate >20	▪ Temp >100.4 or < 96.0
Signs and Symptoms (Any 2)	▪ SOB, tachypnea, cough	▪ Skin infection	▪ Current infection diagnosis
	▪ Abdominal pain, vomiting, diarrhea	▪ General weakness, lethargy, ALOC, esp. in the elderly	▪ Urinary pain, urinary frequency, flank pain

- Note: The single most important element of the prehospital management of sepsis is recognizing that a patient might be septic and communicating this information to other responders and the receiving hospital as soon as possible.

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Protocol 700-M7: Diabetic Emergencies

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Document history, medications, and any neurologic deficits
- ❖ Suspected Hypoglycemia
 - Provide 1 tube of oral **Glucose Paste** under the following circumstances:
 - Known diabetic
 - Intact Gag Reflex
 - Able to hold head upright
 - Can self-administer the paste
 - If patient doesn't improve in 5-15 minutes with oral glucose
 - Repeat 1 tube of oral **Glucose Paste**
- ❖ Suspected Hyperglycemia
 - Document
 - Progression of symptoms:
 - Several days (HHS)
 - Within a few hours (DKA)
 - Presence of:
 - Rapid, irregular respirations
 - Dehydration (dry mouth, sunken eyes)
 - Fruity breath
- ❖ Suspected Seizure (see Protocol 700-N2 *Seizure*)
- ❖ Suspected Stroke (see Protocol 700-N3 *Non-Traumatic Neuro Impairment*)

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Suspected Hypoglycemia
- ❖ Check for Hypoglycemia
 - Perform Blood Glucose check
 - if less than 60 mg/dl treat as needed. If 60-80 mg/dl use clinical judgment.
 - If conscious
 - consider giving **Glucose PO**.
 - If unconscious or unable to take oral sugar
 - **Dextrose 10%** IV up to 250 ml. Titrate to clinical response. Following initial infusion, check level of consciousness and BG Chem. If BG
 - If BG < 80 and the patient still has altered mentation, consider repeating **Dextrose 10%** 250 ml. Recheck patency of IV line frequently.

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- If no IV can be established and patient presents with altered mentation, give **Glucagon** 1unit (1mg) IM.
- ❖ Suspected Hyperglycemia, Diabetic Ketoacidosis (DKA) and Hyperosmolar Hyperglycemic State (HHS)
 - Check blood sugar level. Treat if BSL >400 mg/dl:
 - IV **Normal Saline** Bolus, 1000 ml
 - 12 Lead ECG. Observe for:
 - STEMI
 - Peaked T-waves (hyperkalemia)
 - Check ETCO2
 - Values less than 25 may indicate DKA

Special Considerations

- ❖ The beneficial effect of **Glucagon** on raising blood sugar levels is reliant on adequate glycogen stores in the liver. Debilitated or malnourished patients such chronic alcoholics or end stage cancer patients, for example, may not benefit from **Glucagon**. IV/IO access with dextrose administration will be crucial for these patients.

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Protocol 700-M8: Abdominal Pain

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Place patient in recovery position
- ❖ Treat associated signs and symptoms as appropriate

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Consider a bolus via IV flow rate at wide open if hypotensive
- ❖ Suspected Aneurysm
 - Establish a second IV TKO
 - **Normal saline** 250 ml bolus for Suspected Kidney Stones, Bowel Obstruction, Food Poisoning, or Ectopic Pregnancy
- ❖ Consider pain management (see Procedure 703 *Pain Management*)

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Protocol 700-M9: Non-Traumatic Hypotension (Shock)

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ High-flow oxygen 15L/min
- ❖ Place patient in recovery position
- ❖ Treat associated signs and symptoms as appropriate

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Assess perfusion status and if SBP <90 consider cause of hypotension (sepsis, cardiogenic, dehydration, non-traumatic bleeding, neurogenic, anaphylaxis)
- ❖ Cardiac monitor, document rhythm and attach ECG strip if dysrhythmia
- ❖ 12 Lead EKG. If STEMI see Protocol 700-C6 *Suspected Cardiac Ischemia*
- ❖ Check Lung sounds
 - Clear breath sounds
 - Give IV fluids
 - **Normal saline**, 10ml/kg IV/IO
 - ◆ Reassess after each 250ml increment for evidence of volume overload (pulmonary edema)
 - ◆ Stop infusion if pulmonary edema develops
 - No response or pulmonary edema develops
 - Push-dose **Epinephrine** 0.5 ml (5 mcg) very slow IV/IO every 3-5 minutes prn SBP < 90. See Procedure 708 *Push-dose Epinephrine Mixing Instructions*
 - Titrate to maintain SBP > 90mmHg
 - Abnormal lung sounds (pulmonary edema)
 - Hold IV fluids
 - Push-dose **Epinephrine** 0.5 ml (5 mcg) very slow IV/IO every 3-5 minutes prn SBP < 90. See Procedure 708 *Push-dose Epinephrine Mixing Instructions*
 - Titrate to maintain SBP > 90mmHg

Special Considerations

- ❖ Patient mortality with shock is 30-50%
- ❖ Treatment consists of oxygen, fluids and pressers. Pressers are only used when patient remains unresponsive to fluids or cannot tolerate additional fluids due to pulmonary edema.
- ❖ Patients in shock due to bleeding from traumatic injury are typically not treated with pressor in the field due to risk of greater blood loss.

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Protocol 700-N1: Altered Mental Status

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Spinal precautions as indicated.
- ❖ Consider causes*
- ❖ If unconscious, place a dime size amount of **Glucose Paste** under the tongue.
- ❖ If patient can swallow on command, administer **Glucose Paste** or let patient self-administer glucose product.
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Check for Hypoglycemia
 - Perform Blood Glucose check
 - if less than 60 mg/dl treat as needed. If 60-80 mg/dl use clinical judgment.
 - If conscious
 - consider giving **Glucose PO**.
 - If unconscious or unable to take oral sugar
 - **Dextrose 10%** IV up to 250 ml. Titrate to clinical response. Following initial infusion, check level of consciousness and BG Chem. If BG
 - If BG < 80 and the patient still has altered mentation, consider repeating Dextrose 10% 250 ml. Recheck patency of IV line frequently.
 - If no IV can be established and patient presents with altered mentation, give Glucagon 1unit (1mg) IM.
- ❖ If BG normal and persistent altered mentation, consider stroke or opioid overdose. (see Protocols N3 *Stroke and M1 Overdose*)

*Causes of Altered Mental Status

- A** Alcohol
- E** Epilepsy with seizure activity
- I** Infection
- O** Overdose
- U** Uremia (renal failure)
- T** Trauma
- I** Insulin (high or low BSL)
- P** Poisoning
- S** Stroke

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Special Considerations

- ❖ If the patient's history of present illness/clinical presentation suggests acute hypoglycemia, give sugar even if the blood sugar reading is in the "low normal" range (60-80mg/dl).
- ❖ Mental status improvement following treatment for hypoglycemia may lag behind improved glucose levels.
- ❖ Oral glucose is the preferred treatment for hypoglycemia when the patient can take medication orally.
- ❖ Insulin pumps administer very small quantities of insulin at any one time. Insulin pumps should not be discontinued when treating hypoglycemia.
- ❖ **Glucagon** often causes nausea and vomiting. (see Protocol 700-M4 *Nausea and Vomiting*)
- ❖ **Glucagon** may take 10–15 minutes or longer to increase glucose levels.
 - Wait at least 15 minutes to recheck glucose before considering additional therapy.
- ❖ **Warning:** Transport of hypoglycemic patients is strongly urged in those patients over 65 years of age or who developed hypoglycemia secondary to oral diabetic medication.
- ❖ Acute hypoglycemia can occur with renal failure, starvation, alcohol intoxication, sepsis, **Aspirin** overdoses, sulfa drug ingestion or following bariatric surgery.

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Protocol 700-N2: Seizure

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Protect patient from injury. Spinal precautions as indicated
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*).
- ❖ Do BG Chem and if less than 60 mg/dl treat as needed. (see Protocol 700-N1 *Altered Mental Status*)
- ❖ For Status Epilepticus
 - administer **Midazolam**, 5mg IM/IN or 2.5 mg IV/IO
 - Repeat if continued seizures
- ❖ Transport.
- ❖ Contact Base Station if additional doses of **Midazolam** are needed.

Special Considerations

- ❖ After max dose, contact Base Station for additional doses. In higher doses **Midazolam** may cause respiratory depression.
- ❖ Status epilepticus is defined as either continuous full body seizures lasting at least 10 minutes or two or more discrete seizures between which there is an incomplete recovery of consciousness.
- ❖ Consider meningitis especially in patients with no seizure history who present with headache, high fever and nuchal rigidity.
- ❖ Continuous Capnography, EKG, pulse oximetry, and blood pressure monitoring are mandatory during and after administration of **Midazolam**.

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Protocol 700-N3: Stroke

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*).
- ❖ Determine Last Known Well Time
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Check blood sugar level. Treat if BG < 60 (Policy M7 *Diabetic Emergencies*)
- ❖ Perform Stroke Screen (**B.E.F.A.S.T.**)

BEFAST Stroke Screen

B	Balance	Unable to stand/walk without losing balance? Sensation of room spinning?
E	Eyes	Acute change in vision? Areas of darkness or blindness?
F	Face	Asymmetry when asked to smile? Does forehead wrinkle equally when asked to raise eyebrows?
A	Arm	Can both arms be held equally for 10 seconds?
S	Speech	Slurred or garbled speech? Difficulty finding words or names of objects?
T	Time Last Known Well	If <6 hours activate ACUTE STROKE ALERT Transport to nearest hospital

- ❖ Any single positive finding on the BEFAST scale AND time last seen normal <6 hours
 - Activate ACUTE STROKE ALERT
 - Transport to the closest emergency department
- ❖ Obtain 2 IV's if able to without multiple missed attempts.
- ❖ Document patient use of anticoagulants; include if known time of last use.
- ❖ Obtain phone contact number or organize safe transport for family decision maker.

Documentation

- ❖ Stroke is a System Quality Indicator (See Policy 101 Quality Improvement Program and System Evaluation and Policy 502 Santa Cruz County Patient Care Record (PCR) and Transfer of Care Document)
- ❖ Minimum documentation elements include:
 - Primary or Secondary Impression (esituation.11 or esituation.12) = "Stroke / CVA / TIA"

<input type="checkbox"/> Time Last Known Well	<input type="checkbox"/> Stroke Alert (y/n)
<input type="checkbox"/> Blood sugar level	<input type="checkbox"/> Destination Hospital
<input type="checkbox"/> Stroke scale findings	<input type="checkbox"/> Mode of Transport

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Protocol 700-01: Childbirth

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BLS Treatment

- ❖ Treat maternal life threats. (See Procedure 701 *Life Threats*).
- ❖ Assess. Examine for crowning during contractions. Time the contractions. If baby is crowning and mother feels urge to defecate (push), deliver at scene.
- ❖ If baby is delivered: apply two clamps on cord at 6 and 8 inches from baby. Cut cord between clamps.
- ❖ Assess using the APGAR scoring matrix. Keep the baby warm.
- ❖ Treat neonatal life threats as needed.
- ❖ Prepare for transport / transfer of care

ALS Treatment

- ❖ Treat life threats in both the mother and neonate. (See Procedure 701 *Life Threats*).
- ❖ Transport
- ❖ Contact Base Station.

Special Considerations

- ❖ See Protocol 700-C8-P *Neonatal Resuscitation* for direction regarding neonatal resuscitation.
- ❖ Remember that patients in their second and third trimester can suffer from supine hypotensive syndrome when lying supine. When possible position these patients in a left lateral position.
- ❖ Possible Complications (BLS/ ALS):
 - Significant Bleeding (greater than 500cc):
 - Before delivery - Place mother in left lateral position.
 - After delivery - Massage fundus of uterus and place baby to breast.
 - Track bleeding by applying peripads.
 - Prolapsed Cord
 - Place mother in knee-chest position or elevate hips with pillows or folded blankets.
 - Insert hand into vagina and attempt to gently push the presenting part upward to release pressure on the cord. Do not damage cord by attempting to push back inside vagina.
 - Nuchal cord:
 - Attempt to gently slide umbilical cord over neonate's head. If unable to do so, place mother in knee/chest position and transport. Cutting the cord before the neonate's chest is delivered will cause severe hypoxia and anoxia of the neonate.
 - Breech / Limb Delivery:
 - Place mother in left lateral or knee/chest position
 - Eclampsia (Actively Seizing):
 - Place mother in left lateral position
 - See Protocol 700-N2 *Seizure*

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Protocol 700-R1: Respiratory Distress

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Place patient in position of comfort.
- ❖ Observe for signs of severe respiratory distress (Table 1)
 - **Epinephrine** Auto-injector (See Procedure 715 *Epinephrine Auto-Injector*)
 - **Warning:** Obtain Base contact for patients > 50 y/o
 - For draw and inject **Epinephrine** see Special Considerations below
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Cardiac Monitor and determine rhythm
- ❖ Obtain baseline SpO₂ on room air or baseline O₂ usage
 - Titrate O₂ to main SpO₂ above 94%
- ❖ 12 lead EKG (See Procedure 706 *12 Lead EKG*)
- ❖ Treat in accordance with suspected condition (Table 2)
- ❖ Transport/Contact Base Station.

Special Considerations

- ❖ Both severe fluid overload and severe bronchospasm may present with diminished lung sounds. Differentiating between conditions should be based on the patient’s history.
- ❖ **Epinephrine** should be reserved for those patients who are unable to generate adequate tidal volume to deliver aerosolized drugs to their bronchial tree.
- ❖ In patients who are experiencing severe bronchospasm, breath sounds may sound clear with no audible wheezing. This is due to decreased tidal volume with little to no air movement. Do not withhold **Albuterol** with these patients.
- ❖ Provider should take caution to not get Nitro-Paste on skin.
- ❖ EMTs accredited for Optional Scope of Practice per Policy 208 *EMS Responder Scope of Practice* may draw and inject epinephrine in accordance with ALS procedures

Table 1: Signs of Severe Respiratory Distress	
❖ ALOC	❖ low SpO ₂ ,
❖ Sig. accessory muscle use	❖ poor skin signs
❖ fatigue	❖ Elevated EtCO ₂
	❖ inability to speak

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Table 2: Treatment Protocols for Respiratory Distress

Suspected Acute CHF	Bronchospasm (Diffuse Wheezing)
<ul style="list-style-type: none"> • Nitroglycerine (NTG) <ul style="list-style-type: none"> ○ 0.4 mg sublingual every 2 minutes. Hold if hypotensive (SBP < 90) ○ Apply 1 inch Nitro Paste. Hold if hypotensive. • Consider CPAP (See Procedure 710 <i>Continuous Positive Airway Pressure CPAP</i>) • If symptomatic hypotension <ul style="list-style-type: none"> ○ Positioning ○ 250ml Normal saline fluid bolus. • If persistent hypotension: <ul style="list-style-type: none"> ○ Push-dose Epinephrine 0.5 ml (5 mcg) very slow IV/IO every 3-5 minutes prn SBP < 90. See Procedure 708 <i>Push-dose Epinephrine Mixing Instructions</i> ○ Titrate to maintain SBP > 90mmHg • Warning: Do NOT administer NTG if the patient has taken erectile dysfunction agent within the past 24 hours (i.e., Cialis, Levitra, Viagra, Revatio, Tadalafil, etc.). 	<ul style="list-style-type: none"> • Albuterol: 5 mg via nebulizer <ul style="list-style-type: none"> ○ Repeat Albuterol as needed ○ Obtain base contact if HR >160 ○ Hold if chest pain or dysrhythmias • If the patient is in severe distress and his/her tidal volume decreased, <ul style="list-style-type: none"> ○ administer Albuterol via in-line CPAP, BVM, or ET • If, after all other interventions, the patient's condition remains the same or worsens, consider <ul style="list-style-type: none"> ○ Epinephrine (1:1,000) 1mg/1ml: 0.3 mg IM every 3-5 minutes to a max of 0.6mg. • Warning: Base Contact required for Epinephrine 1:1,000 (0.3 mg) IM for patients > 50 y/o <ul style="list-style-type: none"> ○ Exception: Unusual communication delay ○ See Policy M2 - <i>Allergic Reaction</i>
Allergic Reaction/ Anaphylaxis	Smoke Inhalation
<ul style="list-style-type: none"> • See Policy M2 - <i>Allergic Reaction</i> 	<ul style="list-style-type: none"> • See Policy R2 – <i>Smoke Inhalation</i>
Suspected Pulmonary Embolus (PE)	Decompression Illness
<ul style="list-style-type: none"> • Place the patient in a position of comfort • Ensure high flow oxygen 	<ul style="list-style-type: none"> • Left lateral Trendelenburg position (patient on left side, body tilted with head lower than torso) • Transport to ED for stabilization. Do not transport directly to hyperbaric chamber

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Protocol 700-R2: Smoke Inhalation

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BLS Treatment

- ❖ Ensure scene safety
- ❖ Remove the victim from the source of exposure
- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Administer high flow oxygen via a NRB
- ❖ Evaluate the patient for facial burns, hoarseness, black sputum, and soot in the nose and/or mouth
- ❖ Completely remove the victim’s clothing prior to transport.
- ❖ Perform spinal immobilization if c-spine precautions are indicated
- ❖ Assess and treat for thermal and/or traumatic injuries (See Policy *E4 Burns* or Policy *T1 Trauma*)
- ❖ Manage the patient’s airway early. Use BVM with airway adjuncts as appropriate
- ❖ Treat bronchospasms and airway problems as necessary (See Policy *R1 Respiratory Distress*)
- ❖ Place patient in position of comfort.
- ❖ Observe for signs of severe respiratory distress (Table 1)
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Manage the patient’s airway early. Intubate the patient if necessary (See Procedure 704, *Advanced Airway Management*)
- ❖ Consider a **Normal saline** bolus
- ❖ Transport/Contact Base Station.

Special Considerations

- ❖ **Warning:** Pulse oximetry values may be unreliable in smoke inhalation patients.
- ❖ Cyanide and/or the combination of cyanide and carbon monoxide may be responsible for most smoke inhalation deaths.

Table 1: Signs of Severe Respiratory Distress

• ALOC	• low SpO ₂ ,
• Sig. accessory muscle use	• poor skin signs
• fatigue	• Elevated EtCO ₂
	• inability to speak

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Protocol 700-T1: Trauma

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Control external bleeding using:
 - Direct Pressure
 - Tourniquets
 - Pressure Bandages
 - Hemostatic Gauze
- ❖ Spinal precautions as indicated
- ❖ Splint as appropriate in position of comfort.
- ❖ A traction splint is indicated for mid-shaft femur fractures.
- ❖ Cover eviscerations with moist, sterile dressings.
- ❖ Cover open chest wounds with approved chest seal dressings. Evaluate frequently.
- ❖ Prepare for transport/ transfer of care.
- ❖ Refer to PAM Triage Tool (Policy 626 *Trauma Triage*) during assessment and treatment.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Control internal bleeding (see also *Protocol 700-T4 Hemorrhage Control*)
 - **Tranexamic Acid (TXA)**
 - Indications
 - Blunt or penetrating traumatic injury with signs and symptoms of hemorrhagic shock (including SBP <90)
 - Hemorrhage not controlled by direct pressure, hemostatic agents, or commercial tourniquet application
 - Contraindications
 - Any patient < 15 years old
 - Time since injury > 3 hours
 - Thromboembolic event (i.e., stroke, MI, PE, DVT) in past 24 hours
 - Traumatic arrest with > 5 minutes of CPR without ROSC
 - Hypotension secondary to suspected cervical cord injury with motor deficit or spinal shock
 - Known hypersensitivity or allergy to TXA
 - Adverse Reactions
 - GI: Nausea, vomiting, diarrhea
 - Visual: Blurry vision or changes in color perception
 - CNS: Fatigue, dizziness, headache, seizure

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- Thromboembolic: Deep venous thrombosis or pulmonary embolism
- Administration
 - Mix 1-gram **TXA** in 100 ml or 250 ml **Normal Saline** or **D5W** and infuse IV/IO over 10 minutes
 - ◆ Avoid push dose due to risk of hypotension
 - ◆ Onset of action: 5-15 minutes
 - ◆ Duration of action: 3 hours
 - ◆ Single dose only
- ❖ Transport.
- ❖ Contact Base Station as indicated.

Special Considerations

- ❖ If a trauma patient is being transported to a local hospital, make early notification.
- ❖ Most fractures on multi-systems trauma patients should be splinted to the backboard.
- ❖ Remember that the top causes of preventable trauma fatality include hypoxia, open chest wounds, and uncontrolled external hemorrhage.
- ❖ Try to adhere to the “time rule” when managing critical trauma:
- ❖ If the intervention is not critical for managing an immediate life threat, then it should not be done on scene as time is always more important.

Documentation

- ❖ Trauma is a System Quality Indicator (See Policy 101 Quality Improvement Program and System Evaluation and Policy 502 Santa Cruz County Patient Care Record (PCR) and Transfer of Care Document.
- ❖ Minimum documentation elements include:
 - Scene times (TRA-1)
 - PAM scale recorded
 - Appropriate destination (TRA-2)

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Protocol 700-T2: Isolated Limb Injuries (including hip)

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Control bleeding.
- ❖ Spinal precautions as indicated.
- ❖ Splint as appropriate. Traction splints are indicated for mid-shaft femur fractures.
- ❖ Manage amputated part.
 - Place in a watertight plastic bag and keep cool
 - Do not allow ice to come in direct contact with the amputated part. Freezing will destroy tissue.
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ For pain control refer to pain management policy (see Policy 703 *Pain Management*)
- ❖ Transport.
- ❖ Contact Base Station as indicated.

Special Considerations

- ❖ Hold **Morphine Sulfate** or **Fentanyl** if patient has or develops respiratory depression, bradycardia or hypotension. **Narcan** should be immediately available to reverse adverse effects. Contact the Base Station for additional **Morphine Sulfate** or **Fentanyl**.

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Protocol 700-T3: Crush Injury Syndrome

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Spinal Precautions as indicated.
- ❖ Prepare for transport / transfer of care.
- ❖ Consider consult with ALS level care prior to removing compression.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ For pain control refer to pain management policy (Policy 703 *Pain Management*)
- ❖ Contact Base Hospital
- ❖ Prior to Release of Compression
 - IV NS 1000 ml bolus prior to release of compression.
 - **Albuterol** up to 5mg via nebulizer.
- ❖ After Release of Compression
 - If hyperkalemia is suspected (compression >4 hours with abnormal EKG-peaked "T" wave, absent "P" wave, or widened "QRS" complexes, discuss with Base Hospital prior to administering any of the following:
 - **Calcium Chloride** 1gm slow IVP followed by 20ml saline flush.
 - **Sodium Bicarbonate** 1mEq/kg in 1000ml NS set to wide open.

Special Considerations

- ❖ Crush Injury Syndrome is the name given to the systemic manifestations of muscle crush injury and cell death. Crush injury syndrome should be suspected in patients with an extensive area of involvement such as a lower extremity and/or pelvis.
- ❖ It requires more involvement than just one hand or foot.
- ❖ The crushing force must be present for some time before crush injury syndrome can occur.
 - The syndrome may develop after one hour in a severe crush situation, but usually takes 4 – 6 hours
 - The end goal of treatment above is to prevent the life-threatening hyperkalemia which can result when crush injuries occur.
 - Hold **Morphine Sulfate** and/or **Fentanyl** if patient has or develops respiratory depression, bradycardia or hypotension. **Narcan** should be immediately available to reverse adverse effects.

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Protocol 700-T4: Hemorrhage Control

Revision 11/11/19
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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Apply substantial direct pressure using 4x4 gauze pads, abdominal, or trauma dressings.
 - If bleeding saturates the dressing, leave in place the dressing material that is in contact with the wound, and replace outer layers with fresh dressing. Secure with pressure dressing.
- ❖ Hemorrhage to a limb:
 - In cases where substantial bleeding to a limb cannot be controlled with direct pressure and plain gauze, apply a tourniquet 2 – 3 inches above the wound and tighten until bleeding stops.
 - Assess distal circulation for absence of a pulse and bleeding control.
 - Apply a visible tag (using two-inch tape, a triage tag, etc.) and mark it with a large “T” and the time that the tourniquet was applied.
 - Inform all subsequent care providers of the location of the tourniquet, its effectiveness and its time of application.
 - If the initial tourniquet does not control bleeding, a second tourniquet may be applied 2 – 3 inches above the first and marked accordingly.
 - If substantial bleeding persists despite the use of direct pressure, tourniquets, and pressure dressings, consider the patient in extremis and transport to the closest, most appropriate facility.
 - Prepare for transport/transfer of care.
- ❖ Hemorrhage to the head, neck, or trunk
 - Large, gaping wounds to the patient’s head, neck, or trunk should have pooled blood cleared out and then packed with gauze and secured as needed.
 - Avoid bulky dressings that do not allow isolation of the actual location of the bleeding, and merely act as a blood sponge.
 - It is possible for a patient to exsanguinate into bulky dressings applied without regard to hemostasis.
 - If substantial bleeding persists despite the use of direct pressure and gauze, consider the patient in extremis and transport to the closest, most appropriate facility.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Continue all BLS interventions listed above.
- ❖ If substantial external bleeding persists despite the use of direct pressure, place hemostatic gauze directly on the source of the bleeding and apply direct pressure for at least three minutes. Secure with a pressure dressing.
- ❖ Control internal bleeding (see also *Protocol 700-T1 Trauma*)
 - **Tranexamic Acid (TXA)**
 - Indications

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- Blunt or penetrating traumatic injury with signs and symptoms of hemorrhagic shock (including SBP <90)
 - Hemorrhage not controlled by direct pressure, hemostatic agents, or commercial tourniquet application
 - Contraindications
 - Any patient < 15 years old
 - Time since injury > 3 hours
 - Thromboembolic event (i.e., stroke, MI, PE, DVT) in past 24 hours
 - Traumatic arrest with > 5 minutes of CPR without ROSC
 - Hypotension secondary to suspected cervical cord injury with motor deficit or spinal shock
 - Known hypersensitivity or allergy to TXA
 - Adverse Reactions
 - GI: Nausea, vomiting, diarrhea
 - Visual: Blurry vision or changes in color perception
 - CNS: Fatigue, dizziness, headache, seizure
 - Thromboembolic: Deep venous thrombosis or pulmonary embolism
 - Administration
 - Mix 1 gram **TXA** in 100 ml or 250 ml **Normal Saline** or **D5W** and infuse IV/IO over 10 minutes
 - Onset of action: 5-15 minutes
 - Duration of action: 3 hours
 - Single dose only
- ❖ P.A.M. the patient and expedite transport to the appropriate facility.
 - ❖ Treat other injuries and complaints as needed.
 - ❖ Transport.
 - ❖ Contact Base Station as needed.

Special Considerations

- ❖ Elevating bleeding extremities or applying pressure to arteries (“pressure points”) has not been found to reduce substantial bleeding. These actions are not recommended in the treatment of significant external bleeding.
- ❖ Life threatening hemorrhage to a limb is better managed if it is splinted to reduce movement.
- ❖ Patients with major arterial bleeding can bleed to death in as little as two or three minutes. It is important to control external bleeding before the patient experiences shock.
- ❖ When a tourniquet is applied to an isolated wound on a patient that does not meet P.A.M. criteria, consult with the base station hospital for direction regarding patient destination.
- ❖ Any patient with a tourniquet applied should be considered to have a time dependent injury and should be transported C/3 to the appropriate hospital.
- ❖ Hemostatic gauze can be used prior to, or after, the use of tourniquets in managing severe limb hemorrhage.

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- ❖ Tourniquets can be safely applied for at least 2 hours without causing irreversible, limb-threatening ischemia. In some cases, tourniquets have been applied for as long as four hours without causing irreversible limb ischemia.
- ❖ Most patients who require a tourniquet to manage bleeding should be transported to a trauma center.
- ❖ Tourniquets need to be accounted for on all patient hand-offs, and in all prehospital documentation. It is critical that the time of tourniquet application be accurately communicated to all care providers.
- ❖ Pressure dressings, tourniquets and hemostatic gauze should be reevaluated every time there is a change in the patient's status, or the patient is moved.
- ❖ **Tranexamic Acid (TXA)** is a Lysine analogue that works to inhibit the formation of plasmin, which is a molecule responsible for clot degradation. Plasmin works to break down already-formed blood clots in the human body by attacking and breaking down fibrin. This process of destroying clots is called fibrinolysis. It has had multiple medical applications in the past including pre-operative use, menorrhagia, hemophilia and hereditary angioedema. It has recently been shown in multiple studies to reduce mortality in trauma patients meeting specific physiologic criteria or who have obvious signs of massive hemorrhage.

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Section 700P: Pediatric Treatment Protocols

Protocol 700-C1-P: Cardiac Arrest

Revision 5/22/18
Effective 8/1/18

BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Confirm DNR Status
- ❖ CPR per current County guidelines. Minimize delays and interruptions
- ❖ Apply AED and use as indicated
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Cardiac Monitor and determine rhythm
- ❖ Identify possible causes*
 - Treat according to Table 1
 - Known dialysis patients with possible hyperkalemia
 - Sodium Bicarbonate 1 mEq/kg IV/IO
 - **Calcium Chloride** 20 mg/kg IV/IO.
 - Penetrating Chest Trauma
 - Consider Tension Pneumothorax (see Procedure 702 *Pleural Decompression*)
- ❖ If ROSC achieved:
 - Maintain SpO₂ ≥ 95% using lowest concentration of O₂ possible
 - Ventilate to achieve an end tidal CO₂ of 35 – 45 mmHg **Warning:** Avoid hyperventilation
 - Maintain SBP ≥ 90 mmHg.
 - IV fluids, **Normal saline** 20 cc/kg bolus
 - Push-dose **Epinephrine** 0.1 ml/kg (1 mcg/kg) very slow IV/IO every 3-5 minutes prn SBP < 90.
See Procedure 708 *Push-dose Epinephrine Mixing Instructions*
 - ◆ Titrate to maintain SBP > 90 mmHg
 - ◆ For patients ≥ 5 kg, standard adult doses of 0.5 ml (5 mcg) will apply
 - Manage post-arrest arrhythmias as needed.
 - Obtain a 12 lead ECG and transmit as indicated. Crews in South County should contact Dominican Hospital before transporting a post-arrest STEMI patient north as transport to Watsonville Community Hospital may be more appropriate.
- ❖ Consider transporting hypothermic, drug-overdosed, or electrocuted patients.

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Table 1

Asystole	Pulseless Electrical Activity (PEA)	Ventricular Fibrillation or Pulseless Ventricular Tachycardia
<ul style="list-style-type: none"> ❖ Epinephrine <ul style="list-style-type: none"> ➢ (1:10,000) 0.01mg/kg IVP/IO ➢ Repeat q3-5minutes for duration of arrest. ❖ Consider Normal saline <ul style="list-style-type: none"> ➢ 20 ml/kg fluid challenge. ➢ May repeat as indicated, ❖ If no response consider termination of resuscitative efforts (see Policy 613, <i>Determination of Death in the Field</i>) 	<ul style="list-style-type: none"> ❖ Epinephrine <ul style="list-style-type: none"> ➢ (1:10,000)0.01mg/kg IVP/IO ➢ Repeat q3-5minutes for duration of arrest. ❖ Consider Normal saline <ul style="list-style-type: none"> ➢ 20 ml/kg fluid challenge. ➢ May repeat as indicated, ❖ If electrical HR <40 BPM due to blunt trauma, consider determination of death prior to initiating resuscitation (see Policy 613, <i>Determination of Death in the Field</i>) 	<ul style="list-style-type: none"> ❖ Defibrillate ASAP ❖ Epinephrine <ul style="list-style-type: none"> ➢ (1:10,000) 0.01mg/kg IVP/IO ➢ Repeat q3-5min ❖ Defibrillate at max. joules as above after 5 cycles of CPR <ul style="list-style-type: none"> ➢ Start at 2 joules/kg then 4 joules/kg ➢ Defibrillate after each medication throughout the arrest ❖ Amiodarone <ul style="list-style-type: none"> ➢ 5mg/kg mg IVP/IO ❖ If return to supraventricular rhythm, consider: <ul style="list-style-type: none"> ➢ Normal saline 250ml bolus

Documentation

- ❖ Cardiac Arrest is a System Quality Indicator (See Policy 101 Quality Improvement Program and System Evaluation and Policy 502 Santa Cruz County Patient Care Record (PCR) and Transfer of Care Document)
- ❖ Minimum documentation elements include:
 - Bystander CPR (PUB-1)
 - AED prior to arrival (CAR-1)
 - First Arrival time to rescuer CPR
 - Initial rhythm recorded
 - EtCO₂ readings (initial and continuous)
 - Defibrillation (number and dose)
 - Intubation (see #6)
 - ROSC (y/n) (CAR-2)
 - Survival to ED discharge (CAR-3)
 - Survival to hospital discharge (CAR4)

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Protocol 700-C4-P: Tachycardia with Pulses

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Cardiac Monitor: Confirm rate >220 (Infants) or > 180 (Children)
- ❖ Consider 12-lead-ECG. Transmit as needed for treatment guidance.
- ❖ Treatment (see Table 1)
- ❖ Consider and Treat Causes of Tachycardia (see Table 2)
- ❖ Transport/Contact Base Station

Table 1: Tachycardia Treatment

	Stable	Unstable
QRS Complex	<ul style="list-style-type: none"> • Narrow (<0.08s) 	<ul style="list-style-type: none"> • Wide (>0.08s)
Perfusion	<ul style="list-style-type: none"> • Adequate • Conscious 	<ul style="list-style-type: none"> • Inadequate • Diminished LOC
Treatment	<ul style="list-style-type: none"> • Vagal maneuvers • Consider Adenosine <ul style="list-style-type: none"> ○ 1st dose: Adenosine rapid 0.1mg/kg IV/IO (max 6 mg); if no change after 1-2 min. ○ 2nd dose: Adenosine rapid 0.2mg/kg IV/IO (max 12 mg); if no change after 1-2 min. ○ Warning: Do not use if rhythm is irregular, polymorphic or evidence of WPW (see fig 1) • Synch. cardioversion (see Unstable, Wide) 	<ul style="list-style-type: none"> • Normal saline bolus 20ml/kg • Vagal maneuvers • Lidocaine 1 mg/kg IVP. <ul style="list-style-type: none"> ○ May repeat once at 0.5-1 mg/kg IVP. ○ If still no improvement, consider • Sync. cardioversion (see Unstable, Wide)

Special Considerations

- ❖ Consider and treat possible causes of tachycardia. See Table 2
- ❖ SVT usually occurs in younger patients with HRs greater than 200 bpm.
- ❖ Typical heart rates for PSVT in infants and children:
 - Infants: 220 to 300/min.
 - Children 1-5 years: 200/min.
 - Children 5-10 years: 180 to 200/min.
- ❖ Confirm a wide complex tachycardia (QRS >0.08 sec) using multiple leads.

Table 2: Possible Causes of Tachycardia

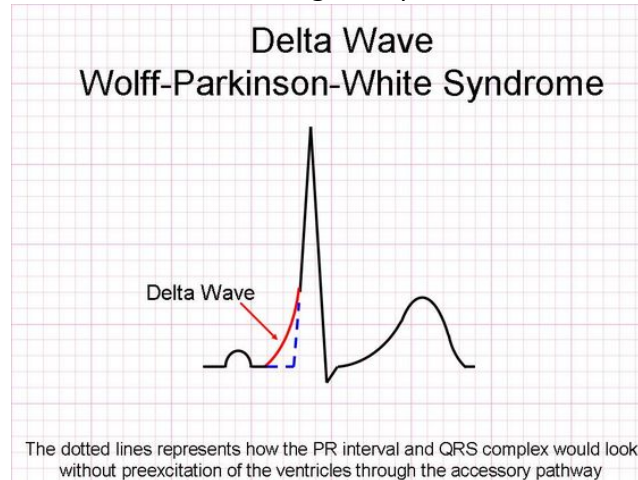
- | | |
|------------------------|------------------------|
| ❖ Hypoxemia | ❖ Tamponade |
| ❖ Hypothermia | ❖ Tension pneumothorax |
| ❖ Hypovolemia | ❖ Thrombosis |
| ❖ Metabolic disorders | ❖ Pain |
| ❖ Toxins/poisons/drugs | ❖ Sepsis |

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- ❖ **Warning:** Avoid **Adenosine** in wide complex tachycardia or in suspected WPW (Figure 1)
- ❖ Consult the Base Station if you are unclear about the cause of the dysrhythmia, and if you should treat it.
- ❖ Whenever possible, contact Base Station prior to administering synchronized cardioversion in unstable but conscious patients.
- ❖ In the unstable, unconscious patient where rapid synchronized cardioversion is the highest priority, do not hesitate administering cardioversion before initiating transport and contacting the Base Station.



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Protocol 700-C7-P: Bradycardia/Heart Blocks

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
 - If pulseless, (see Protocol 700-C1-P *Cardiac Arrest*)
- ❖ Identify presence of serious signs or symptoms*
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Cardiac Monitor/12-lead-ECG
- ❖ HR < 60 bpm without serious signs or symptoms*:
 - Transport/Contact Base Station.
- ❖ HR < 60 bpm and serious signs or symptoms*:
 - **Epinephrine** 0.01mg/kg 1:10,000 IV/IO (0.1ml/kg)
 - Repeat every 3-5 minutes
 - **Atropine** 0.02mg/kg IV/IO (min dose 0.1 mg or 1 ml)
 - May be administered while awaiting pacing set up
 - Repeat q 3-5 min. prn to alleviate symptoms or increase pulse to 60 bpm.
 - Not to exceed 1mg maximum total dose IV/IO.
 - If cardiac transplant, Type II, 2nd degree block, 3rd degree block with widened QRS or in-extremis then proceed directly to Transcutaneous Cardiac Pacing
 - Establish TCP. See Procedure 705; *Transcutaneous Pacing*
 - **Warning:** Avoid TCP with severe hypothermia (See Protocol 700-E2 *Cold Exposure/Hypothermia*)
 - Transport/Contact Base
 - Consider positioning and **Normal saline** 20 ml/kg fluid bolus.

*Serious Signs or Symptoms	
Shock	Decreased LOC
Delayed Cap Refill	Cool Extremities
Diminished Distal Pulses	SOB

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Protocol 700-C8-P: Neonatal Resuscitation

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BLS Treatment

- ❖ Neonates are defined as newborn infants up to 30 days old or less
- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Suction/Dry/Stimulate/Warm
- ❖ Evaluate breathing and heart rate – If not breathing adequately, or if heart rate is less than 100 bpm, begin bagging with neonatal BVM.
- ❖ If heart rate is less than 60 bpm, begin compressions.
- ❖ Evaluate color
- ❖ APGAR score is assigned at one and five minutes, as circumstances allow (do not delay critical care treatment to score)
- ❖ HEART RATE > 60 BPM
 - Monitor breathing, ventilate with neonatal BVM @100 % O₂ if respirations are weak or absent
 - Administer O₂ @ 100% if lips are blue via BLOW BY oxygen (even if patient has adequate spontaneous respirations)
 - Prepare for transport/transfer of care
 - Keep as warm as possible throughout resuscitation.
- ❖ HEART RATE < 60 BPM
 - CPR (when heart rate >100 and spontaneous respirations return, discontinue compressions but continue to provide supplemental O₂).
 - Prepare for transport/ transfer of care
 - Keep as warm as possible throughout resuscitation.

ALS Treatment

- ❖ HEART RATE < 60 BPM
 - Cardiac monitor.
 - IV NS bolus 10cc/kg
 - Administer **Epinephrine** 0.01mg/kg (0.1ml/kg) 1:10,000 IV/IO. May repeat every 3-5 minutes.
 - Transport.
 - Consider Heel Stick Blood Glucose. For neonates, if BG < 45 mg/dl or for age > 1 y/o if BG<60mg/dl give **Dextrose 10%** 5ml/kg IV/IO.
 - Contact Base Station.
 - Keep as warm as possible throughout resuscitation.

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Protocol 700-D1-P: Pediatric Drug List

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Name	Indication	Dose & Route	Max Dose
Adenosine	<ul style="list-style-type: none"> Narrow Tachycardia 	<ul style="list-style-type: none"> 0.1 mg/kg, 0.2 mg/kg subsequent doses Rapid IVP/IO 	<ul style="list-style-type: none"> 18 mg
Albuterol	<ul style="list-style-type: none"> Bronchoconstriction/ Wheezing 	<ul style="list-style-type: none"> 2.5 mg via Nebulizer 	<ul style="list-style-type: none"> As Needed HR<180
Amiodarone	<ul style="list-style-type: none"> Cardiac Arrest 	<ul style="list-style-type: none"> 5 mg/kg IVP/IO, single dose only 	<ul style="list-style-type: none"> 300 mg
Atropine Sulfate	<ul style="list-style-type: none"> Symptomatic Bradycardia Organophosphate poisoning 	<ul style="list-style-type: none"> 0.02 mg/kg IVP/IO 0.05 mg IVP/IO 	<ul style="list-style-type: none"> 1 mg As Needed
Calcium Chloride	<ul style="list-style-type: none"> Crush Injury 	<ul style="list-style-type: none"> 10 ml (10%) Slow IVP/IO 	<ul style="list-style-type: none"> 10 ml (1 gm)
Dextrose 10%	<ul style="list-style-type: none"> Hypoglycemia 	<ul style="list-style-type: none"> 0.25-0.5 g/kg/dose IV; (> 6 months) 0.5-1 g/kg/dose IV (> 6 months and Children) IV: 10-25 g (Adolescents) 	<ul style="list-style-type: none"> 25 grams
Diphenhydramine	<ul style="list-style-type: none"> Allergic Reaction Dystonic Reaction 	<ul style="list-style-type: none"> 1 mg/kg IVP/ IM 1 mg/kg IVP/ IM 	<ul style="list-style-type: none"> 50 mg 50 mg
Epinephrine	<ul style="list-style-type: none"> Anaphylaxis Cardiac Arrest Severe Allergic Reaction Severe Bronchospasm 	<ul style="list-style-type: none"> 0.01 mg/kg IVP/IO (1:10,000) 0.01 mg/kg IVP/IO (1:10,000) 0.01 mg/kg IM (1:1,000) q 5 min prn 0.01 mg/kg IM (1:1,000) 	<ul style="list-style-type: none"> Base Station None As Needed 0.3 mg (0.3 ml)
Epinephrine (Push-Dose)	<ul style="list-style-type: none"> Persistent Shock 	<ul style="list-style-type: none"> 0.1 ml/kg (1 mcg/kg) IVP/IO Push-dose q 3-5 m 	<ul style="list-style-type: none"> 5 mcg per dose
Fentanyl Citrate	<ul style="list-style-type: none"> Non-Traumatic Pain Extremity Trauma/Burns Snake Bite Thoracic or Abdominal Trauma 	<ul style="list-style-type: none"> 1 mcg/kg IV/IO, IM or IN 1 mcg/kg IV/IO, IM or IN 1 mcg/kg IV/IO, IM or IN 1 mcg/kg IV/IO, IM or IN 	<ul style="list-style-type: none"> 2 mcg/kg or 100 mcg max 2 mcg/kg or 100 mcg max 2 mcg/kg or 100 mcg max 2 mcg/kg or 75 mcg max
Glucagon	<ul style="list-style-type: none"> Hypoglycemia Calcium Channel Blocker OD 	<ul style="list-style-type: none"> < 20 kg give 0.5 units or 0.5 mg IV/IO/IM > 20 kg give 1 unit or 1 mg IV/IO/IM 	<ul style="list-style-type: none"> 2 mg 2 mg
Glucose Paste	<ul style="list-style-type: none"> Hypoglycemia 	<ul style="list-style-type: none"> As Needed PO 	<ul style="list-style-type: none"> As Needed
Lidocaine	<ul style="list-style-type: none"> Stable Wide Tachycardia Intraosseous Administration 	<ul style="list-style-type: none"> 1 mg/kg IVP/IO 0.5 mg/kg IO 	<ul style="list-style-type: none"> 3 mg/kg 40 mg
Midazolam (Versed)	<ul style="list-style-type: none"> Sedation for Cardioversion Seizures Airway Management Chemical Restraint 	<ul style="list-style-type: none"> 0.1 mg/kg IM/IN or 0.05 mg/kg IVP/IO 0.1 mg/kg IM/IN or 0.05 mg/kg IVP/IO 0.1 mg/kg IM/IN or 0.05 mg/kg IVP/IO 0.1 mg/kg IM/IN or 0.05 mg/kg IVP/IO 	<ul style="list-style-type: none"> 5 mg (2 mg IV/IO) 5 mg (2 mg IV/IO) 5 mg (2 mg IV/IO) Base Station
Morphine Sulfate	<ul style="list-style-type: none"> Non-Traumatic Pain IO Fluid Administration Extremity Trauma/Burns Snake Bite 	<ul style="list-style-type: none"> 0.1 mg/kg IVP/IO/IM 0.1 mg/kg IVP/IO/IM 0.1 mg/kg IVP/IO/IM 0.1 mg/kg IVP/IO/IM 	<ul style="list-style-type: none"> 5 mg 5 mg 5-10 mg 5-10 mg
Narcan (Naloxone)	<ul style="list-style-type: none"> Narcotic Overdose 	<ul style="list-style-type: none"> 0.1 mg/kg IVP/IN/IM/IO or 4 mg IN 	<ul style="list-style-type: none"> 10 mg
Ondansetron (Zofran)	<ul style="list-style-type: none"> Nausea or Vomiting 	<ul style="list-style-type: none"> 0.1 mg/kg IV/IO/IM 2 mg ODT (2-3 y/o) 4 mg ODT (≥ 4 y/o) 	<ul style="list-style-type: none"> 4 mg
Sodium Bicarbonate	<ul style="list-style-type: none"> Cyclic Antidepressant OD 	<ul style="list-style-type: none"> 1 mEq/kg IVP 	<ul style="list-style-type: none"> 1 mEq/kg

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Protocol 700-E1-P: Heat Exposure/Hyperthermia

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Implement cooling measures.
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Heat Exhaustion:
 - Transport.
 - If symptomatic hypotension, IV NS 20ml/kg. Repeat as needed to maintain perfusion.
 - Contact Base Station.
- ❖ Heat Stroke:
 - Start aggressive cooling measures.
 - Transport.
 - If symptomatic hypotension, IV/IO NS 20ml/kg. Repeat as needed to maintain perfusion.
 - Contact Base Station.

Special Considerations

Heat Exhaustion vs Heat Stroke

	Background	Clinical Signs	Treatment
Heat Exhaustion	<ul style="list-style-type: none"> • Usually healthy • Exercise induced • Hypovolemia 	<ul style="list-style-type: none"> • Normal temperature • Wet pale skin • Tachycardia • Syncope • Vomiting/diarrhea 	<ul style="list-style-type: none"> • Passive Cooling • IV fluids
Heat Stroke	<ul style="list-style-type: none"> • Infants exposed to hot environments • Overactive, healthy youth. 	<ul style="list-style-type: none"> • High temperature • ALOC • Dry hot skin • Seizures • Tachycardia 	<ul style="list-style-type: none"> • Rapid aggressive cooling. • IV fluids only if hypotensive

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Protocol 700-E2-P: Cold Exposure/Hypothermia

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ CPR per current County guidelines. Minimize delays and interruptions
- ❖ Implement warming measures but avoid aggressive external rewarming for pulseless patients.
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Moderate Hypothermia to Severe Hypothermia
 - Obtain 12 lead ECG (See Procedure 706 12 Lead ECG Procedure)
 - IV **Normal saline** 20 ml/kg bolus
 - Avoid TCP for Bradycardia
 - Continue warming measures.
 - Tape heat packs around coiled IV tubing
 - Transport.
 - Contact Base Station.

Degrees of Hypothermia	
Moderate	Severe
• 82-90°F, 28-32°C	• <86°F, <30°C
• No Shivering	• "Rigor mortis" muscle tone
• Decreased LOC	• Apneic
• Atrial Fib or Bradycardia	• Comatose
• Hypoventilation	• V. fib or asystole
• Dilated or Fixed pupils	• Dilated/fixed pupils
• Bright Pink to Pale Skin	• Skin edema/Swollen face
	• Osborne Waves on ECG

Special Considerations

- ❖ If patient is pulseless, consider a single counter shock at 1J/kg and a single round of drugs. Do not repeat. Generally, avoid IV medications (excluding warmed saline) when in severe hypothermia.
- ❖ Avoid rough movement and excess activity. Stimulation of the patient could significantly cause deterioration of vital signs.

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Protocol 700-E3-P: Burns

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BLS Treatment

- ❖ Scene Survey - Identify hazard potential - (chemical, electrical, thermal).
- ❖ Mitigate hazard and stop burning process. Remove jewelry and constrictive clothing.
- ❖ Treat life threats. (See Procedure 701 Life Threats).
- ❖ Identify extent of burn. Use rule of nines. Refer to PAM criteria (Policy 626 *Trauma Triage*) when appropriate.
- ❖ Cover affected body surface with clean, dry cotton or linen sheet.
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ If Bronchospasm or wheezes are present:
 - **Albuterol** 2.5mg via nebulizer, may repeat as needed.
 - If heart rate >180 bpm withhold treatment and contact Base Station.
- ❖ To relieve pain, refer to Policy 703 *Pain Management*. Contact Base Station for additional doses. (See Notes)
- ❖ Transport. Consider direct transport to a Burn Center (see table 1)
- ❖ Contact Base Station as needed.

Special Considerations

- ❖ Hold **Morphine** or **Fentanyl** if patient has or develops respiratory depression, bradycardia or hypotension. **Narcan** should be immediately available to reverse adverse effects.
- ❖ Remember that hypothermia is much more common than hyperthermia in burn patients. Once burn is properly covered, consider covering patient with additional insulating material
- ❖ Enclosed space burn patients are at high risk for respiratory burns

Table 1: Burn Center Criteria

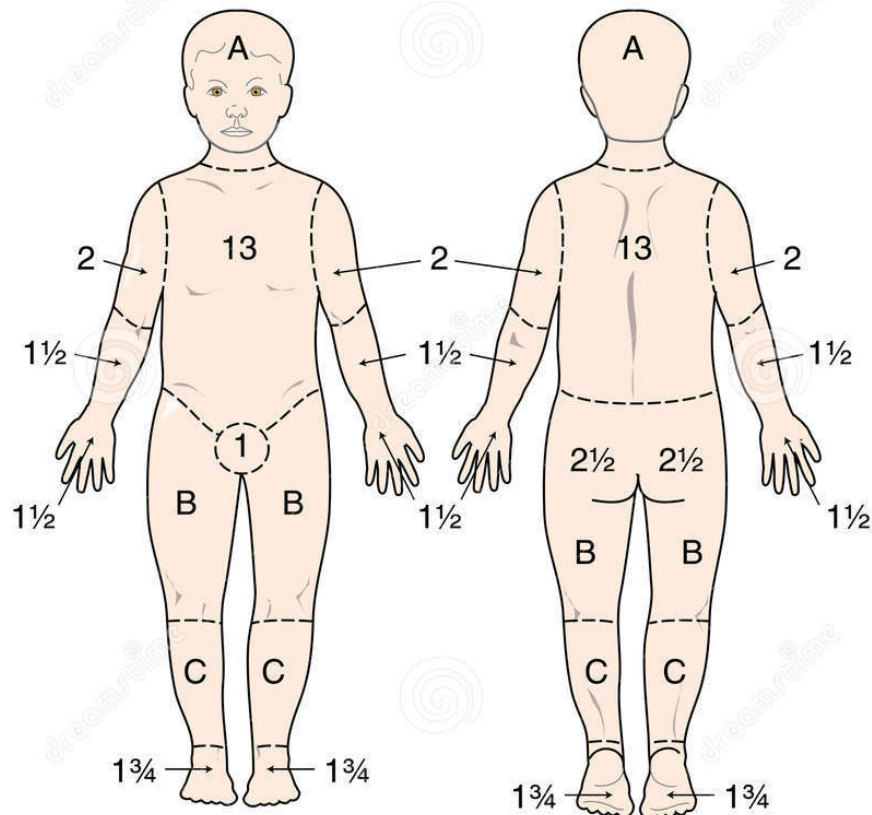
- | | |
|--|--|
| <input type="checkbox"/> >10% TBSA 2°/3° burns | <input type="checkbox"/> Burns that cross joints |
| <input type="checkbox"/> >2% 3° burns | <input type="checkbox"/> Significant electrical burns |
| <input type="checkbox"/> Evidence of respiratory burns | <input type="checkbox"/> Burns involving face, hands, feet, perineum |
| <input type="checkbox"/> Circumferential burns | |

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Lund diagram (estimate percentage of pediatric burn)



Relative percentages affected by growth

Age (years)	Area		
	A	B	C
0	9½	2¾	2½
1	8½	3¼	2½
5	8½	4	2¾
10	5½	4½	3
15	4½	4½	3¼
Adult	3½	4¾	3½

A = ½ of head
B = ½ of one thigh
C = ½ of one leg

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Protocol 700-E4-P: Snake Bite

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Remove any potentially constricting jewelry or clothing.
- ❖ Apply elastic band proximal to bite, tight enough to obstruct lymphatic flow (one should be able to slip an index finger under the band).
 - If the swelling progresses, apply a second band proximal to the first, and remove the first band.
 - **Warning:** Do not apply ice.
- ❖ Keep the bite area below heart level in a dependent position.
 - If the bite is on an extremity, immobilize the extremity.
 - Reduce patient physical activity to a minimum.
- ❖ Get an accurate description of snake.
 - If the snake is dead, bring it in for positive identification in a closed solid container.
 - Avoid the fangs because they are capable of envenomation even when dead.
 - If alive, do not try to capture.
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Transport.
- ❖ To relieve pain, refer to Policy 703 *Pain Management*. Contact Base Station for additional doses
- ❖ Contact Base Station.

Special Considerations

- ❖ Do not incise snake bites.
- ❖ Exotic poisonous snakes such as those in zoos or pet stores have different signs and symptoms than those of the pit vipers. Zoos and legal exotic snake collectors are required to have a starter supply of antivenin on hand for each type of snake. Bring the antivenin with the patient to the hospital.
- ❖ Bites from coral snakes, and snakes related to cobras, usually do not have any early symptoms; thus, all bites are considered envenomated.
- ❖ * Hold **Morphine Sulfate** if patient has or develops respiratory depression, bradycardia or hypotension. **Narcan** should be immediately available to reverse adverse effects.

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Protocol 700-M1-P: Overdose/Poison Ingestion

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Ensure Scene Safety. Wear appropriate PPE
- ❖ Treat for suspected narcotic overdose (Table 1)
- ❖ CPR per current County guidelines. Minimize delays and interruptions
- ❖ Prepare for transport/transfer of care.

Table 1: BLS Treatment

Narcotics / Opioids	<ul style="list-style-type: none"> ◆ Naloxone 4 mg IN. May repeat twice every 2-3 minutes (max dose 10mg) Methadone, Darvon, and Darvocet overdose may require repeated doses
---------------------	---

ALS Treatment

- ❖ Treat according to ingestion. (Table 2)
- ❖ Transport/Contact Base Station.

Table 2: ALS Treatment

Narcotics / Opioids	<ul style="list-style-type: none"> ◆ Naloxone 0.1 mg/kg IVP/IM/IN/IO. May repeat twice every 2-3 minutes (max dose 10mg) Methadone, Darvon, and Darvocet overdose may require repeated doses
Suspected Ecstasy, Rohypnol, GHB	<ul style="list-style-type: none"> ◆ Ensure airway protection and monitor for signs of aspiration. ◆ Monitor the patient's body temperature. Use cooling measures as indicated.
Tri-Cyclic Anti-Depressants	<ul style="list-style-type: none"> ◆ Administer Sodium Bicarbonate 1mEq/kg IVP (max dose 100mEq) for hypotension (SBP 90mmHg or less), seizure, and/or a QRS widening greater than 0.10s. ◆ If hypotension and seizures persist, or if the QRS becomes greater than 0.12s, administer additional Sodium Bicarbonate at 0.50 mEq/kg IVP to a max dose of 100mEq.
Organophosphates/Cholinergics/ Pesticides	<ul style="list-style-type: none"> ◆ Administer Atropine 0.05 mg/kg IVP (may repeat every 5 minutes until asymptomatic) ◆ Normal saline bolus as necessary for hypovolemia.
Major Tranquilizers/ Neuroleptics	<ul style="list-style-type: none"> ◆ Administer Diphenhydramine 1 mg/kg IVP/IM for dystonic reactions.
Channel Blockers (diltiazem, verapamil, nifedipine)	<ul style="list-style-type: none"> ◆ Fluid bolus NS 20ml/kg if hypotensive or sinus arrest ◆ Administer Glucagon <ul style="list-style-type: none"> ○ < 20 kg give 0.5 units or 0.5 mg IV/IO/IM ○ > 20 kg give 1 unit or 1 mg IV/IO/IM ○ Warning: avoid Glucagon if age < 1y/o
Beta Blockers (atenolol, metoprolol, nadolol)	<ul style="list-style-type: none"> ◆ Fluid bolus NS 20ml/kg if hypotensive or sinus arrest ◆ Administer Glucagon <ul style="list-style-type: none"> ○ < 20 kg give 0.5 units or 0.5 mg IV/IO/IM ○ > 20 kg give 1 unit or 1 mg IV/IO/IM ○ Warning: avoid Glucagon if age < 1y/o

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Protocol 700-M2-P: Allergic Reaction/Anaphylaxis

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 Life Threats)
- ❖ Moderate to Severe Reaction
 - Symptoms:
 - swelling of mucous membranes of the mouth or eyes, and/or respiratory distress
 - **Epinephrine** Auto-injector (See Procedure 715 *Epinephrine Auto-Injector*)
 - ◆ For draw and inject **Epinephrine** see Special Considerations below
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Mild Reaction
 - Symptoms
 - urticaria, itching, raised welts
 - Transport/Contact Base Station.
- ❖ Moderate to Severe Reaction
 - Symptoms:
 - swelling of mucous membranes of the mouth or eyes, and/or respiratory distress
 - **Epinephrine** 0.01 mg/kg 1:1,000 IM, repeat q 5 minutes X 2 as needed.
 - **Benadryl** 1mg/kg IM/ IVP/IO up to 50mg
 - If hypotensive give 20ml/kg NS fluid bolus
 - If Bronchospasm or wheezes are present
 - administer **Albuterol** 2.5mg via nebulizer, may repeat as needed. If heart rate > 180 bpm, withhold **Albuterol** and contact Base Station.
 - Transport/Contact Base Station.
 - Profound shock:
 - Push-dose **Epinephrine** 0.1 ml/kg (1 mcg/kg) very slow IV/IO every 3-5 minutes prn SBP < 90. See Procedure 708 *Push-dose Epinephrine Mixing Instructions*
 - ◆ Titrate to maintain SBP > 90mmHg
 - ◆ For patients \geq 5 kg, standard adult doses of 0.5 ml (5 mcg) will apply
 - ◆ Obtain Base Station order whenever possible but do not delay care if any unusual delay.

Special Considerations

- ❖ **Warning** The #1 cause of sudden death from severe anaphylaxis is upper airway obstruction secondary to laryngeal edema. Aggressive treatment and airway management is critical in these instances.
- ❖ EMTs accredited for Optional Scope of Practice per Policy 208 *EMS Responder Scope of Practice* may draw and inject epinephrine in accordance with ALS procedures

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Protocol 700-M3-P: Routine Medical Care

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*).
- ❖ Consider other treatment protocols as appropriate.
- ❖ Transport.
- ❖ Contact Base Station.

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Protocol 700-M4-P: Nausea and Vomiting

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Pay attention to maintaining a patent airway and protecting the patient from aspiration.
- ❖ Consider underlying causes for nausea/vomiting, and treat as appropriate
- ❖ Attempt non-invasive methods of reducing nausea/vomiting, including reducing environmental stimulation, providing fresh air, applying oxygen, reducing unpleasant odors, and using distracting techniques.
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ **Ondansetron**
 - 0.1 mg/kg IV/IO/IM
 - May repeat every 5-10 minutes as needed Max 4 mg
 - 2 mg ODT (2-3 y/o)
 - 4 mg ODT (≥ 4 y/o)
- ❖ Transport/ Contact Base Station as needed.

Special Considerations

- ❖ **Ondansetron** is considered safe for pregnancy (Class B)
- ❖ **Ondansetron** rarely causes sedation and is typically well tolerated by all ages of patients.
- ❖ Nausea/vomiting is a symptom. Be aware of underlying causes*
- ❖ **Ondansetron** is contraindicated in patients with diagnosed Long QT Syndrome, and for those who are currently taking **Amiodarone**, Haldol, Methadone
- ❖ , Procainamide, or Seroquel.

*Causes of Nausea

Narcotics	Toxic Ingestion
Motion Sickness	Gastroenteritis
Head Injury	Acute MI
Abdominal Pain	Stroke
Pregnancy	

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Protocol 700-M6-P: Sepsis

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Prepare for transport/transfer of care. Be sure to notify ALS responders of your suspicion for sepsis

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Check blood sugar. BG >140 mg/dl in a non-diabetic patient may be a sign of sepsis. Less commonly, hypoglycemia can occur with overwhelming sepsis. Treat per Protocol 700-M7 Diabetic Emergencies.
- ❖ Check ETCO₂. ETCO₂ <25mmHg is associated with sepsis.
- ❖ Transport
- ❖ Maintain SAO₂ at 95% or greater
- ❖ Initiate fluid resuscitation in patients who present with signs and symptoms of severe sepsis or septic shock. Administer up to 40 ml/kg NS bolus.
 - Administer fluid cautiously in patients with congenital heart disease. Administer in 10ml/kg boluses, repeating as indicated if the patient shows no signs of fluid overload (bulging fontanel, pulmonary edema, hypertension).
- ❖ If inadequate improvement after 40 ml/kg **Normal saline**
 - Profound shock:
 - Push-dose **Epinephrine** 0.1 ml/kg (1 mcg/kg) very slow IV/IO every 3-5 minutes prn SBP < 90. See Procedure 708 *Push-dose Epinephrine Mixing Instructions*
 - Titrate to maintain SBP > 90mmHg
 - For patients ≥ 5 kg, standard adult doses of 0.5 ml (5 mcg) will apply
- ❖ Obtain Base Station order whenever possible but do not delay care if any unusual delay.
- ❖ Contact hospital as soon as possible to report that you are transporting a patient with “suspected sepsis.”
- ❖ Report and handoff at the receiving hospital should include all history and physical exam information, including that the patient has “suspected sepsis”.

Sepsis Risk Factors

- Less than 10 years.
- * < 3 months of age very high risk
- Hx of diabetes
- Recent hospitalization
- Recent surgery or invasive procedure
- Hx of cancer, kidney disease, malnutrition, other immune compromising diseases

Special Considerations

- ❖ Sepsis Evaluation
 - Gather accurate patient information including risk factors for sepsis:
 - Note: The single most important element of the prehospital management of sepsis is recognizing that a patient might be septic and communicating this information to other responders and the receiving hospital as soon as possible.

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- recognizing that a patient might be septic and communicating this information to other responders and the receiving hospital as soon as possible.

Sepsis Criteria

Vital Signs (Any 2)	<ul style="list-style-type: none">▪ Newborns HR >90▪ Infants HR > 170▪ 3-18 y/o HR >130	<ul style="list-style-type: none">▪ Newborns RR >60▪ Infants RR > 40▪ 3-18 y/o RR >25	<ul style="list-style-type: none">▪ Temp >100.4 or < 96.0
Signs and Symptoms (Any 2)	<ul style="list-style-type: none">▪ SOB, tachypnea, cough▪ Abdominal pain, vomiting, diarrhea	<ul style="list-style-type: none">▪ Skin infection▪ General weakness, lethargy, ALOC	<ul style="list-style-type: none">▪ Current infection diagnosis▪ Urinary pain, urinary frequency, flank pain

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Protocol 700-M7-P: Diabetic Emergencies

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Document history, medications, and any neurologic deficits
- ❖ Suspected Hypoglycemia
 - Provide 1 tube of oral **Glucose Paste** under the following circumstances:
 - Known diabetic
 - Intact Gag Reflex
 - Able to hold head upright
 - Can self-administer the paste
 - If patient doesn't improve in 5-15 minutes with oral glucose
 - Repeat 1 tube of oral **Glucose Paste**
- ❖ Suspected Hyperglycemia
 - Document
 - Progression of symptoms:
 - Several days (HHS)
 - Within a few hours (DKA)
 - Presence of:
 - Rapid, irregular respirations
 - Dehydration (dry mouth, sunken eyes)
 - Fruity breath
- ❖ Suspected Seizure (see Protocol 700-N2-P, *Seizure*)

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Suspected Hypoglycemia
 - Perform Blood Glucose check
 - if less than 60 mg/dl treat as needed. If between 60-80 mg/dl, then use clinical judgement
 - If conscious
 - ◆ Consider giving **Glucose PO**.
 - If unconscious or unable to take oral sugar
 - ◆ **Dextrose 10%** 5ml/kg IV/IO up to 250 ml. Titrate to clinical response. Following initial infusion, check level of consciousness and BG Chem. If BG
 - If BG < 60 and the patient still has altered mentation, consider repeating **Dextrose 10%** 5ml/kg 250 ml.
 - Recheck patency of IV line frequently.
 - If no IV can be established and patient presents with altered mentation, consider **Glucagon**

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- < 20 kg, give 0.5 units (0.5mg) IM
- ≥ 20kg, give 1 unit (1 mg) IM
- ❖ Suspected Hyperglycemia, Diabetic Ketoacidosis (DKA) and Hyperosmolar Hyperglycemic State (HHS)
 - Check blood sugar level. Treat if BSL >400 mg/dl:
 - IV **Normal Saline** Bolus, 20ml/kg ml
 - Check ETCO₂
 - Values less than 25 may indicate DKA
- ❖ Transport/Contact Base Station.
- ❖ Repeat BG check enroute

Special Considerations

- ❖ The beneficial effect of **Glucagon** on raising blood sugar levels is reliant on adequate glycogen stores in the liver. Debilitated or malnourished patients such chronic alcoholics or end stage cancer patients, for example, may not benefit from **Glucagon**. IV/IO access with dextrose administration will be crucial for these patients.

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Protocol 700-M8-P: Non-Traumatic Hypotension (Shock)

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Place patient in recovery position
- ❖ Treat associated signs and symptoms as appropriate

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Symptomatic hypotension/shock with low blood pressure (≤ 90 SBP), poor skin signs, altered mental status, tachycardia, poorly palpable pulses.
 - Consider cause (sepsis, hypovolemia, anaphylaxis, cardiac failure)
 - Establish a second IV/IO TKO
 - Give **Normal saline** 20cc/kg bolus
 - If inadequate improvement
 - NO signs of congestive heart failure (lungs clear to auscultation)
 - Give additional **Normal saline** 20 cc/kg bolus
 - If inadequate improvement after 40 cc/kg **Normal saline**
 - Profound shock:
 - Push-dose **Epinephrine** 0.1 ml/kg (1 mcg/kg) very slow IV/IO every 3-5 minutes prn SBP < 90. See Procedure 708 *Push-dose Epinephrine Mixing Instructions*
 - ◆ Titrate to maintain SBP > 90mmHg
 - ◆ For patients ≥ 5 kg, standard adult doses of 0.5 ml (5 mcg) will apply
 - Obtain Base Station order whenever possible but do not delay care if any unusual delay.

Special Considerations

- ❖ Symptomatic hypotension/shock is manifested by low blood pressure (≤ 90 SBP), poor skin signs, altered mental status, tachycardia, poorly palpable pulses. However, low blood pressure by itself does not merit aggressive treatment if the patient is not exhibiting any signs of shock. Remember to treat the patient, not the numbers.
- ❖ Avoid aggressive attempts to normalize hypotension in the setting of trauma. Consider permissive hypotension (max SBP = 90) to minimize exsanguination (See Protocol 700 T1-P Trauma)
- ❖ Transport of symptomatic hypotension/shock victims should be rapid with treatment enroute when possible.
- ❖ Septic shock is common and is characterized by younger or older age, debilitated and bedridden individuals, or immune system deficiency (such as cancer or HIV disease). (See Protocol 700 M6P Sepsis)

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Protocol 700-N1-P: Altered Mental Status

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Spinal precautions as indicated.
- ❖ Consider causes*
- ❖ If unconscious, place a dime size amount of **Glucose Paste** under the tongue.
- ❖ If pt. can swallow on command, administer **Glucose Paste** or let patient self-administer glucose product.
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*).
- ❖ Check for Hypoglycemia
 - Perform Blood Glucose check
 - if less than 60 mg/dl treat as needed.
 - If conscious
 - ◆ consider giving **Glucose PO**.
 - If unconscious or unable to take oral sugar
 - ◆ **Dextrose 10%** 5ml/kg IV up to 250 ml. Titrate to clinical response. Following initial infusion, check level of consciousness and BG Chem. If BG
 - If BG < 60 and the patient still has altered mentation, consider repeating **Dextrose 10%** 5ml/kg 250 ml.
 - Recheck patency of IV line frequently.
 - If no IV can be established and patient presents with altered mentation, consider **Glucagon**
 - < 20 kg, give 0.5 units (0.5mg) IM
 - ≥ 20kg, give 1 unit (1 mg) IM
- ❖ Transport/Contact Base Station.
 - Repeat BG check end-route

*Causes of Altered Mental Status

- A Alcohol
- E Epilepsy with seizure activity
- I Infection
- O Overdose
- U Uremia (renal failure)
- T Trauma
- I Insulin (high or low BSL)
- P Poisoning
- S Stroke

Special Considerations

- ❖ If the patient’s history of present illness/clinical presentation suggests acute hypoglycemia, give sugar even if the blood sugar reading is in the “low normal “range (60-80mg/dl).
- ❖ Mental status improvement following treatment for hypoglycemia may lag behind improved glucose levels.
- ❖ Oral glucose is the preferred treatment for hypoglycemia when the patient can take medication orally.
- ❖ Insulin pumps administer very small quantities of insulin at any one time. Insulin pumps should not be discontinued when treating hypoglycemia.

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- ❖ **Glucagon** often causes nausea and vomiting. (See Protocol 700-M4-P *Nausea and Vomiting*)
- ❖ **Glucagon** may take 10–15 minutes or longer to increase glucose levels.
- ❖ Wait at least 15 minutes to recheck glucose before considering additional therapy.
- ❖ Acute hypoglycemia can occur with renal failure, starvation, alcohol intoxication, sepsis, **Aspirin** overdoses, sulfa drug ingestion or following bariatric surgery.

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Protocol 700-N2-P: Seizure

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Protect patient from injury. Spinal precautions as indicated
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Do BG Chem and if less than 60 dl/ml proceed with **Dextrose**.
- ❖ If persistent seizures, administer **Midazolam** 0.05 mg/kg IV/IO to a maximum of 2 mg total, or 0.1mg/kg IM/IN to a maximum of 5 mg total.
 - After max dose, contact Base Station for additional doses. In higher doses **Midazolam** may cause respiratory depression.
- ❖ Transport
- ❖ Contact Base Station.

Special Considerations

- ❖ Status epilepticus is a true medical emergency defined as either continuous seizure lasting at least five minutes or two or more discrete seizures between which there is an incomplete recovery of consciousness.
- ❖ Continuous capnography, pulse oximetry, and blood pressure monitoring are mandatory during and after administration of **Midazolam**.

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Protocol 700-R1-P: Respiratory Distress

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Place patient in position of comfort.
- ❖ Observe for signs of severe respiratory distress (Table 1)
 - **Epinephrine** Auto-injector (See Procedure 715 *Epinephrine Auto-Injector*)
 - For draw and inject **Epinephrine** see Special Considerations below
- ❖ Keep patient and family calm.
 - Remember to keep the child in the lap of a caregiver whenever possible on scene. This will keep the child calmer, help to prevent further worsening of symptoms, and allow for better evaluation of the child’s respiratory status.
- ❖ Prepare for transport/transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Cardiac Monitor and determine rhythm
- ❖ Obtain baseline SpO₂ on room air or baseline O₂ usage
 - Titrate O₂ to main SpO₂ above 94%
- ❖ If child presents with symptoms consistent with croup (history of upper respiratory infection, fever, “seal bark” cough, or stridor) consider blow by nebulized NS to cool inflamed subglottic tissues.
- ❖ Consider CPAP if ≥ 8 years old
- ❖ Treat in accordance with suspected condition (Table 2)
- ❖ Transport/Contact Base Station.

Table 1: Signs of Severe Respiratory Distress

• ALOC	• low SpO ₂ ,
• Sig. accessory muscle use	• poor skin signs
• fatigue	• Elevated ETCO ₂
	• inability to speak

Special Considerations

- ❖ An increased work of breathing - typified by retractions, grunting, head bobbing, and nasal flaring is the most specific indicator of respiratory distress.
- ❖ Fatigue is the most specific indicator for impending respiratory failure.
- ❖ Respiratory failure is the number one cause of pediatric cardiac arrest. Bradycardia is almost always caused by hypoxia in children and is an ominous and late finding.
- ❖ EMTs accredited for Optional Scope of Practice per Policy 208 *EMS Responder Scope of Practice* may draw and inject epinephrine in accordance with ALS procedures

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Table 2: Treatment Protocols for Respiratory Distress

Suspected Croup (Stridor)	Bronchospasm (Diffuse Wheezing)
<ul style="list-style-type: none">• Normal saline via nebulizer	<ul style="list-style-type: none">• Albuterol: 2.5 mg via nebulizer• Repeat Albuterol as needed• Obtain base contact if HR >180• If the patient is in severe distress and his/her tidal volume decreased,• administer Albuterol via in-line CPAP or BVM• If, after all other interventions, the patient's condition remains the same or worsens, consider• Epinephrine 0.01 mg/kg (1: 1,000) 1mg/1ml: 0.3 mg IM every 3-5 minutes to a max of 0.6mg.
Allergic Reaction/ Anaphylaxis	
<ul style="list-style-type: none">• See Policy M2 - <i>Allergic Reaction</i>	
Smoke Inhalation	
<ul style="list-style-type: none">• See Policy R2 – <i>Smoke Inhalation</i>	

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Protocol 700-R2-P: Smoke Inhalation

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BLS Treatment

- ❖ Ensure scene safety
- ❖ Remove the victim from the source of exposure
- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Administer high flow oxygen via a NRB
- ❖ Evaluate the patient for facial burns, hoarseness, black sputum, and soot in the nose and/or mouth
- ❖ Completely remove the victim’s clothing prior to transport.
- ❖ Perform spinal immobilization if c-spine precautions are indicated
- ❖ Assess and treat for thermal and/or traumatic injuries (See Policy *E4-P Burns* or Policy *T1-P Trauma*)
- ❖ Manage the patient’s airway early. Use BVM with airway adjuncts as appropriate
- ❖ Treat bronchospasms and airway problems as necessary (See Policy *R1-P Respiratory Distress*)
- ❖ Place patient in position of comfort.
- ❖ Observe for signs of severe respiratory distress (Table 1)
- ❖ Prepare for transport/transfer of care.

Table 1: Signs of Severe Respiratory Distress

• ALOC	• low SpO ₂ ,
• Sig. accessory muscle use	• poor skin signs
• fatigue	• Elevated ETCO ₂
	• inability to speak

ALS Treatment

- ❖ Manage the patient’s airway early. Intubate the patient if necessary (See Procedure 704, *Advanced Airway Management*)
- ❖ Consider a **Normal saline** bolus
- ❖ Transport/Contact Base Station.

Special Considerations

- ❖ **Warning:** Pulse oximetry values may be unreliable in smoke inhalation patients.
- ❖ Cyanide and/or the combination of cyanide and carbon monoxide may be responsible for most smoke inhalation deaths

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Protocol 700-S1-P: Sudden Infant Death Syndrome

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Refer to appropriate protocol/s as needed.
- ❖ Transport.
- ❖ Contact Base Station.

Special Considerations

- ❖ If rigor mortis/dependent lividity is present resuscitation is not appropriate.
- ❖ Treat as a crime scene and limit movement of the infant and disturbance of the scene.
- ❖ Appropriate law enforcement personnel shall be notified, and a Fire/EMS representative shall stay on scene until law enforcement arrives and assumes scene control.
- ❖ In cases where transport occurs law enforcement must be notified.
- ❖ Consult with the Base Hospital for appropriate family referrals as needed.
- ❖ All cases of suspected child abuse must be reported.
- ❖ Save clothing and diapers for possible law enforcement investigation.

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Protocol 700-S2-P: Apparent Life-Threatening Event (ALTE)

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Refer to appropriate protocol/s as needed.
- ❖ Transport/Contact Base Station

Special Considerations

- ❖ An Apparent Life-Threatening Event (ALTE) was formally known as a “near miss-SIDS” episode.
- ❖ An ALTE is an episode that is frightening to the observer (may think infant has died) and involves some combination of:
 - apnea
 - color change
 - marked change in muscle tone (limpness, loss of tone)
 - choking or gagging.
- ❖ Usually occurs in infants <12 months old. However, any child <2 years who exhibits symptoms of apnea may be considered an ALTE.
- ❖ 50% have a possible identifiable etiology (e.g. abuse, SIDS, swallowing dysfunction, infection, bronchitis, seizures, CNS anomalies, tumors, cardiac disease, chronic respiratory disease, upper airway obstruction, metabolic abnormalities, anemia, etc.)
- ❖ Gather accurate history of the episode, including severity, duration, provocation, as well as an accurate patient history.
- ❖ If the parent or guardian refuses medical care/transport, Base Station MD contact is mandatory prior to completing a refusal of medical care.

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Protocol 700-T1-P: Trauma

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Control bleeding using:
 - Direct Pressure.
 - Tourniquets.
 - Pressure Bandages.
 - Hemostatic Gauze.
- ❖ Spinal precautions as indicated.
- ❖ Splint as appropriate in position of comfort.
 - A traction splint is indicated for mid-shaft femur fractures.
- ❖ Cover eviscerations with moist, sterile dressings.
- ❖ Cover open chest wounds with approved chest seal dressings. Evaluate frequently.
- ❖ Prepare for transport/ transfer of care.
- ❖ Refer to PAM Triage Tool (Policy 626 *Trauma Triage*) during assessment and treatment

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Transport.
- ❖ Contact Base Station as indicated.

Special Considerations

- ❖ If a trauma patient is being transported to a local hospital, make early notification.
- ❖ Most fractures on multi-systems trauma patients should be splinted to the backboard.
- ❖ Remember that the top causes of preventable trauma fatality include hypoxia, open chest wounds, and uncontrolled external hemorrhage.
- ❖ Try to adhere to the “time rule” when managing critical trauma:
- ❖ If the intervention is not critical for managing an immediate life threat, then it should not be done on scene as time is always more important.

Documentation

- ❖ Trauma is a System Quality Indicator (See Policy 101 *Quality Improvement Program and System Evaluation* and Policy 502 *Santa Cruz County Patient Care Record (PCR) and Transfer of Care Document*)
- ❖ Minimum documentation elements include:
 - Scene times (TRA-1)
 - PAM scale recorded
 - Appropriate destination (TRA-2)

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Protocol 700-T2-P: Isolated Limb Injuries (Including Hip)

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 Life Threats)
- ❖ Control bleeding.
- ❖ Spinal precautions as indicated.
- ❖ Splint as appropriate. Traction splints are indicated for mid-shaft femur fractures.
- ❖ Manage amputated part.
 - Place in a water tight plastic bag and keep cool
 - Do not allow ice to come in direct contact with the amputated part. Freezing will destroy tissue.
- ❖ Prepare for transport / transfer of care.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 Life Threats)
- ❖ For pain control refer to pain management policy (see Policy 703 Pain Management)
- ❖ Transport.
- ❖ Contact Base Station as indicated.

Special Considerations

- ❖ Hold **Morphine Sulfate** or **Fentanyl** if patient has or develops respiratory depression, bradycardia or hypotension. **Narcan** should be immediately available to reverse adverse effects. Contact the Base Station for additional **Morphine Sulfate** or **Fentanyl**.

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Protocol 700-T4-P: Hemorrhage Control

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BLS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Apply substantial direct pressure using 4x4 gauze pads, abdominal, or trauma dressings.
 - If bleeding saturates the dressing, leave in place the dressing material that is in contact with the wound, and replace outer layers with fresh dressing. Secure with pressure dressing.
- ❖ Hemorrhage to a limb:
 - In cases where substantial bleeding to a limb cannot be controlled with direct pressure and plain gauze, apply a tourniquet 2 – 3 inches above the wound and tighten until bleeding stops.
 - Assess distal circulation for absence of a pulse and bleeding control.
 - Apply a visible tag (using two-inch tape, a triage tag, etc.) and mark it with a large “T” and the time that the tourniquet was applied.
 - Inform all subsequent care providers of the location of the tourniquet, its effectiveness and its time of application.
 - If the initial tourniquet does not control bleeding, a second tourniquet may be applied 2 – 3 inches above the first and marked accordingly.
 - If substantial bleeding persists despite the use of direct pressure, tourniquets, and pressure dressings, consider the patient in extremis and transport to the closest, most appropriate facility.
 - Prepare for transport/transfer of care.
- ❖ Hemorrhage to the head, neck, or trunk
 - Large, gaping wounds to the patient’s head, neck, or trunk should have pooled blood cleared out and then packed with gauze and secured as needed.
 - Avoid bulky dressings that do not allow isolation of the actual location of the bleeding, and merely act as a blood sponge.
 - It is possible for a patient to exsanguinate into bulky dressings applied without regard to hemostasis.
 - If substantial bleeding persists despite the use of direct pressure and gauze, consider the patient in extremis and transport to the closest, most appropriate facility.

ALS Treatment

- ❖ Treat life threats. (See Procedure 701 *Life Threats*)
- ❖ Continue all BLS interventions listed above.
- ❖ If substantial bleeding persists despite the use of direct pressure, place hemostatic gauze directly on the source of the bleeding and apply direct pressure for at least three minutes. Secure with a pressure dressing.
- ❖ P.A.M. the patient and expedite transport to the appropriate facility.
- ❖ Treat other injuries and complaints as needed.
- ❖ Transport.

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- ❖ Contact Base Station as needed

Special Considerations

- ❖ Elevating bleeding extremities or applying pressure to arteries (“pressure points”) has not been found to reduce substantial bleeding. These actions are not recommended in the treatment of significant external bleeding.
- ❖ Life threatening hemorrhage to a limb is better managed if it is splinted to reduce movement.
- ❖ Patients with major arterial bleeding can bleed to death in as little as two or three minutes. It is important to control external bleeding before the patient experiences shock.
- ❖ When a tourniquet is applied to an isolated wound on a patient that does not meet P.A.M. criteria, consult with the base station hospital for direction regarding patient destination.
- ❖ Any patient with a tourniquet applied should be considered to have a time dependent injury and should be transported C/3 to the appropriate hospital.
- ❖ Hemostatic gauze can be used prior to, or after, the use of tourniquets in managing severe limb hemorrhage.
- ❖ Tourniquets can be safely applied for at least 2 hours without causing irreversible, limb-threatening ischemia. In some cases, tourniquets have been applied for as long as four hours without causing irreversible limb ischemia.
- ❖ Most patients who require a tourniquet to manage bleeding should be transported to a trauma center.
- ❖ Tourniquets need to be accounted for on all patient hand-offs, and in all prehospital documentation. It is critical that the time of tourniquet application be accurately communicated to all care providers.
- ❖ Pressure dressings, tourniquets and hemostatic gauze should be reevaluated every time there is a change in the patient’s status, or the patient is moved

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Section 700X: Patient Care Procedures

Procedure 701: Life Threats

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❖ Purpose:

- To outline the steps EMTs & paramedics will take to manage possible life threats in any child or adult patient they encounter. This policy is in effect for all treatment protocols & is to be referred to when "Treat Life Threats" appears in each document.

❖ Scope of Practice

- The interventions listed in this Policy will only be enacted by providers licensed & certified to perform those procedures.

❖ Managing Life Threats (ABCs)

- Airway Management - EMTs & paramedics will use the least invasive airway adjunct to secure a patient's airway. The goal is airway patency. To this end, EMTs & paramedics may perform the following interventions:
 - Position the patient to maintain optimum air exchange.
 - Patients with depressed mentation or decreased gag reflex should be placed in left lateral position.
 - Patients in need of airway procedures or ventilatory support may require Fowler's, semi-Fowler's or supine position.
 - Open the airway-head tilt/chin lift
 - If spinal injury suspected, use modified jaw thrust.
 - Insert an OPA/NPA as indicated. The NPA is contraindicated in patients with possible intracranial head injuries & neonates.
 - Suction as needed utilizing a stiff tip or French tip suction device.
 - Utilize BLS methods (abdominal thrusts/Heimlich maneuver) to relieve choking in conscious adults & children >1year in age. In unconscious adults & children >1 year in age start CPR.
 - Conscious airway obstructed infants <1 year of age use back blows/chest thrust. If unconscious, start CPR. No blind finger sweeps. Only sweep if able to visualize object. Do not use abdominal thrusts to relieve choking in infants.
 - Utilize direct laryngoscopy/Magill forceps to further evaluate airway & remove FBAO (paramedics only).
 - Utilize **Midazolam**, as indicated in Policy #704, *Advanced Airway Management*, to assist with establishing & maintaining an airway (paramedics only).
 - Adults: Insert an ETT or King Laryngeal Tube as indicated.
 - Nasotracheal intubation is prohibited.
 - Pediatric:
 - Less than or equal to 12 years old or < 40kg estimated weight: BLS airway only

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- 13-16 years old or longer than length-based resuscitation tape: BLS airway is first choice, ETI or King allowed if BLS airway ineffective
- Breathing Management - Secure adequate ventilation using the least invasive airway adjunct necessary. EMTs & paramedics may perform the following interventions:
 - Assist patient into position (Fowler's, left lateral, supine, etc.) as needed to support adequate ventilations.
 - Oxygen therapy
 - Administer O2 at rate appropriate to patient's condition. All patients should receive O2 based on overall clinical condition & complaint, regardless of O2 saturation reading.
 - If there is a history of COPD, observe for respiratory fatigue/depression & assist ventilations as needed. Never withhold O2 from a patient in distress because of COPD history. Begin at 2 lpm and increase as needed.
 - Patients presenting with signs & symptoms of pulmonary edema, or other severe respiratory distress should have O2 administered at 15-25 liters/minute via non-rebreather mask.
 - Patients exposed to carbon monoxide should be treated similarly with high flow O2 administered continuously.
 - Continuous Positive Airway Pressure (CPAP) Administration Per Policy 710 *Continuous Positive Airway Management*.
 - Assist Ventilations
 - Assist ventilations with BVM as indicated. Providers may insert an ETT or King Laryngeal Tube to achieve adequate respirations.
 - Ventilatory rates (for patients with pulses):
 - ◆ Neonates (birth to 30 days of age) = 40-60 breaths/minute
 - ◆ Infants & children (1 month to puberty) = 20 breaths/minute
 - ◆ Adults = 10-12 breaths/minute
 - Decompress tension pneumothorax (Policy 702, *Pleural Decompression*) as needed (paramedic only).
- Circulatory Management - The goal of circulatory management is to maintain adequate perfusion to all vital organs.
 - Position
 - If stable, patient should be allowed to maintain position of comfort.
 - Position patients with signs or symptoms of shock in supine or shock position.
 - Patients >20 weeks pregnant, should be placed in left lateral position. If spinal immobilization is required, secure the patient to the backboard first, then tilt the board 20-30 degrees to the left.
 - Fluid Administration (paramedics only). Initiate vascular access via IV/IO route:
 - ADULTS: Titrate IV fluids to adequate perfusion in instances of hypovolemic/distributive shock. If cardiogenic shock suspected, limit bolus to 250cc prior to Base Station contact.
 - PEDIATRICS: Initial bolus 20cc/kg. May repeat as needed to maintain/achieve adequate perfusion (not to exceed 4 boluses total without Base contact).
- Initiate CPR as indicated:

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- **ADULTS:**
 - Push hard, push fast at rate of 100-120 compressions/minute. Allow for complete chest recoil between compressions.
 - Compress the chest at least 2.0 inches.
 - When possible, change compressors every 2 minutes.
 - Limit pauses in compressions to ~ 5-10 seconds when switching compressors or performing other procedures.
 - When utilizing a BLS airway or ALS airway, ventilate the patient every 10th compression on the upstroke of the compression.
- **CHILDREN / INFANTS:**
 - Push hard, push fast at rate of 100-120 compressions/minute. Allow for complete chest recoil between compressions.
 - Compress the chest 2 inches
 - ◆ Infants: 1.5 inches or 1/3 depth of chest
 - When possible, change compressors every 2 minutes.
 - Limit pauses in compressions to ~ 5-10 seconds when switching compressors or performing other procedures.
 - When utilizing a BLS airway, ventilate the patient every 10th compression on the upstroke of the compression.
- **Defibrillation:**
 - Defibrillate all shockable rhythms as soon as possible
 - AED approved for use in children >1 year. Apply pediatric pads if available for children 1-8 years of age.
 - Manual defibrillator may be used for all ages (paramedics only).
 - ◆ **ADULTS:** Apply single defibrillation at highest recommended energy setting (e.g. 360 joules on monophasic defibrillators, 200 joules on biphasic defibrillators) & resume CPR for two minutes immediately following the shock prior to checking for a pulse.
 - ◆ **CHILD/INFANT:** Apply single defibrillation at 2 joules/kg (4 joules/kg thereafter) and resume CPR for two minutes immediately following the shock prior to checking for a pulse.
 - Following any defibrillation, always conduct 2 minutes of CPR prior to checking for a pulse and evaluating the EKG.
 - Treat resulting rhythm per EMS protocol.
 - When responders witness cardiac arrest, precordial thump may be employed to quickly treat confirmed ventricular fibrillation/pulseless ventricular tachycardia, prior to defibrillation. Precordial thump may also be used to treat witnessed cardiac arrest when no defibrillator is available.
- **NOTES:**
 - Use the least invasive adjunct necessary to maintain ABCs.

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- The #1 cause of traumatic death in all patients, as well as cardiovascular collapse in the pediatric population, is hypoxia. Anticipatory airway & ventilatory support is the best way to prevent this.
- Patients with unstable or compromised ABCs require constant re-evaluation.
- Contact the receiving hospital as early as possible when you are transporting a patient with compromised ABCs.
- In-Extremis Patients
 - In-extremis patients are those patients in cardiac arrest or with life-threatening airway, breathing or circulatory compromise, despite pre-hospital basic & advanced life support interventions. These patients will be transported to the closest Emergency Department.

❖ Managing Medical Cardiac Arrest

- The initial emphasis in managing cardiac arrest patients is in establishing circulation via high quality, uninterrupted chest compressions.
- Circulation must be re-established first, followed by adequate ventilation and, when indicated, defibrillation.
- Ventilating patients, placing advanced airways, and establishing vascular access should not interfere with continuous chest compressions.
- All cardiac arrest management should be handled in a sequential and orderly fashion, with all job tasks clearly defined and delegated to resuscitation team members.
- The team leader should be the first on-scene paramedic when possible. The team leader should delegate all BLS tasks when possible and should maintain overall patient care management. Overall scene management should be coordinated and supervised using the precepts of the Incident Command System.
- Patients who develop ventricular fibrillation while being monitored may receive a precordial thump prior to CPR compressions and defibrillation.
- Patients who develop ventricular defibrillation while being monitored may be immediately defibrillated. Chest compressions should be initiated while the defibrillator is being readied.
- High quality bystander CPR (e.g. - performed by a capable, off-duty responder) may suffice for the initial round of CPR prior to a rhythm and pulse check.
- King Tubes are the advanced airway of choice in managing cardiac arrest patients. Endotracheal intubation requires interruptions in chest compression that have been correlated with poorer overall survival rates. Endotracheal intubation may be used if it is deemed necessary to maintain airway patency.
- Vascular access should be established quickly using either intravenous or intraosseous routes. Vascular access and advanced airway access should be established simultaneously when possible, and with no appreciable interruption in chest compressions.
- BVM ventilation may be utilized throughout the resuscitation if adequate ventilation is achieved. In cases where BVM ventilation is used, the two-person method is preferred.
- Patients should be transported from the scene in the following circumstances:
 - ROSC is achieved

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- The scene is deemed unsafe or an inappropriate location for a field determination/pronouncement of death.
- In instances where on-scene survivors insist on transport of the patient.
- The patient is deemed to be severely hypothermic.
- The patient appears to be in the second or third trimester of pregnancy.
- Patients may be determined/pronounced dead on scene after following criteria established in Policy 613, *Determination/Pronouncement of Death in the Field*.

❖ Cardiac Arrest Sequence of Care

1. Scene safety and universal precautions
2. Determine unresponsiveness and check patient's airway, breathing and circulation
3. Begin chest compressions @ 100 compressions/minute for two minutes
4. Begin ventilations via BVM/OPA at one ventilation every 6 seconds, ventilating during every 10th compression upstroke
5. Attach EKG quick patches/combo patches and turn on EKG monitor
6. After delivering 200 compressions, stop CPR for no more than 10 seconds, analyze rhythm
7. Ventricular fibrillation → defibrillate once at highest energy setting (adults) or 2 joules/kg (peds), restarting
8. CPR while EKG monitor is charging.
9. Resume CPR for two minutes immediately following defibrillation.
10. Asystole/PEA → Immediately resume CPR for two minutes.
11. Place a King LTD. King Tube should be placed and inflated during chest compressions. Seat the tube and confirm placement when CPR is stopped to reconfirm pulselessness, EKG rhythm, and necessity for defibrillation after 2 minutes of CPR.
12. Endotracheal intubation should only be used if the patient's airway cannot be managed using a King Tube.
13. Ventilate the patient every six seconds.
14. Establish vascular access. If venous access is not easily established, establish intraosseous access.
15. Administer drug therapy in accordance with the appropriate protocol.
16. Continue CPR; check for pulses, need for defibrillation every two minutes.
17. Alternate compressors, when possible, after delivering 200 compressions.
18. ROSC? Stop CPR and continue to ventilate 10-12/min (adult) or 20/min (peds)

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Procedure 702: Pleural Decompression

Revision 7/9/20
Effective 8/1/20

❖ Indications:

- When clinical findings reveal a tension pneumothorax (severe respiratory distress, diminished breath sounds on the affected side, tracheal deviation) with rapidly deteriorating vital signs.
- Situations that raise suspicion for a tension pneumothorax are penetrating trauma, particularly to the chest or upper abdomen.
- Respiratory and cardiovascular findings may include the following:
 - Respiratory distress (considered a universal finding) or respiratory arrest.
 - Tachypnea (or bradypnea as a preterminal event).
 - Asymmetric lung expansion - A mediastinal and tracheal shift to the contralateral side can occur with a large tension pneumothorax.
 - Distant or absent breath sounds - Unilaterally decreased or absent lung sounds is a common finding, but decreased air entry may be absent even in an advanced state of the disease.
 - Tachycardia - This is the most common finding. If the heart rate is faster than 135 beats/min, tension pneumothorax is likely.
 - Hypotension - This should be considered as an inconsistently present finding; although hypotension is typically considered a key sign of a tension pneumothorax, studies suggest that hypotension can be delayed until its appearance immediately precedes cardiovascular collapse.
 - Jugular venous distention - This is generally seen in tension pneumothorax, although it may be absent if hypotension is severe

❖ Equipment:

- Pleural decompression kit.
- Chlorhexidine swab.
- 3 1/4-inch, 10 -14 gauge angiocath.

❖ Procedure:

- Approved Sites:
 - 2nd to 3rd intercostal space, mid-clavicular line.
- Prep site with chlorhexidine.
- Firmly but carefully insert the needle at a 90-degree angle just over the superior aspect (superior border) of the rib, through the skin and pleura until air escapes or a distinct "give" is felt.
 - The undersurface of the rib should be avoided to limit injury to the neurovascular bundle.
 - Air should be freely aspirated (if not, you are not in the pleural space).
- Remove the needle.
- Attach a one-way valve. Secure with tape.
- Recheck breath sounds and continuously monitor cardio-respiratory status.

❖ Complications:

- lung laceration.
- pneumothorax.

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- hemorrhage secondary to damage to the intercostal artery or vein
- ❖ All patients with needle thoracostomy are considered *in extremis* and will be transported to the time closest receiving hospital.

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Procedure 703: Pain Management

Revision 5/22/18
Effective 8/1/18

❖ Purpose:

- To provide monitored pain reduction to patients having moderate to severe pain. The purpose of this procedure is to provide *pain management*, not to eliminate pain altogether.
- BLS measures should always be used prior to medication to reduce pain. BLS measures include, but are not limited to; cold packs, repositioning, elevation, splinting/immobilizing, psychological coaching, and bandaging.

❖ Guidelines:

- Gather a thorough patient description of the pain.
 - PQRST and 1-10 scale rating or other, age appropriate assessment tools.
 - Gather a thorough physical assessment of the patient including vital signs, oxygen saturation, capnography, and EKG (when appropriate).
- **Morphine**
 - Drug of choice for suspected cardiac chest pain.
- **Fentanyl**
 - Preferred for adults and pediatrics: quicker onset, less nausea than **Morphine**
 - **Fentanyl** is more potent than **Morphine**; **Fentanyl** 200 mcgs \cong **Morphine** 10 mg.
 - **Fentanyl** is not indicated for cardiac chest pain
 - **Midazolam** may cause respiratory depression and hypotension, particularly when used with **Morphine and Fentanyl** and shall not be administered with these medications.
- When administering **Fentanyl**, and **Morphine**, monitor the patient closely. Have **Narcan** readily available to reverse any respiratory depression that may occur. Monitor with continuous pulse oximetry and end tidal capnography.
- Document all medication responses in PCR; this should include any changes in the patient's pain status, as well as reassessments of vital signs.
- The preferred route of administration is IV or IO; however, if an IV or IO cannot be established, administer the medication IM (except for cardiac chest pain patients).
- Measurement of a patient's pain is largely subjective; therefore s/he is the best determinant of the presence and severity of pain. All patients expressing verbal or behavioral indicators of pain shall have an appropriate assessment and management as indicated and allowed by this policy.
- This policy is specifically indicated for patients with moderate to severe pain. Make base station contact if there is any question about whether the patient meets inclusive criteria. Co-morbid factors such as extremes in age and significant medical problems can affect the patient's ability to tolerate pain medication. In these cases, dosing should be adjusted accordingly.

❖ Relative Contraindications:

- Closed head injury
- Decreased respirations
- Inadequate perfusion

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- Evidence of hypoxia or hypercapnia
- Altered mental status
- Sudden onset acute headache

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Table 1: Pain Management

Pain Management Criteria	Base Station Contact	Treatment	
		Adult	Pediatric
<ul style="list-style-type: none"> • Significant extremity injuries • Burn patients • Crush injury patients • Prolonged Extrication • Severe back and spinal pain • Immobilized patients • Abdominal pain • Hip fracture or dislocation • Back Pain • Transcutaneous Pacing • Snake Bites 	No (unless over max doses needed)	<ul style="list-style-type: none"> • Morphine Sulfate <ul style="list-style-type: none"> ○ 2-5 mg IVP/IO up to 15 mg max ○ 10 mg IM up to 15 mg max • Fentanyl Citrate <ul style="list-style-type: none"> ○ 50-100 mcg IVP/IO/IM/IN ○ 200 mcg max 	<ul style="list-style-type: none"> • Morphine Sulfate <ul style="list-style-type: none"> ○ 0.1 mg/kg IV/IM ○ 10 mg max • Fentanyl Citrate <ul style="list-style-type: none"> ○ 1mcg/kg IV/IO, IM or IN; may repeat 1 mcg/kg in 10-15 minutes prn pain for a total of 2 mcg/kg; max of 100 mcg total.
<ul style="list-style-type: none"> • Suspected Cardiac Ischemia 	No (unless over max doses needed)	<ul style="list-style-type: none"> • Morphine Sulfate <ul style="list-style-type: none"> ○ 2-5 mg IVP/IO, up to 5 mg max ○ 10 mg IM up to 10 mg max 	<ul style="list-style-type: none"> • Contact Base Station prior to administering any pain medication
<ul style="list-style-type: none"> • Abdominal Trauma • Thoracic Trauma 	No (unless over max doses needed)	<ul style="list-style-type: none"> • Morphine Sulfate <ul style="list-style-type: none"> ○ 2-5 mg IVP/IO, or 10 mg IM ○ 5 mg max IV, 10 mg max IM • Fentanyl Citrate <ul style="list-style-type: none"> ○ 50-100 mcg IVP/IO/IM/IN ○ 200 mcg max 	<ul style="list-style-type: none"> • Morphine Sulfate <ul style="list-style-type: none"> ○ 0.1 mg/kg IV/IM ○ 5 mg max • Fentanyl Citrate <ul style="list-style-type: none"> ○ 1mcg/kg IV/IO, IM or IN; may repeat 1 mcg/kg in 10-15 minutes prn pain for a total of 2 mcg/kg; ○ 75 mcg max
<ul style="list-style-type: none"> • IO Fluid Administration 	No (unless over max doses needed)	<ul style="list-style-type: none"> • Lidocaine <ul style="list-style-type: none"> ○ 40 mg IO ○ 40 mg max 	<ul style="list-style-type: none"> • Lidocaine <ul style="list-style-type: none"> ○ 0.5 mg/kg IO ○ 40 mg max
<ul style="list-style-type: none"> • Head Trauma • Decreased respirations • Altered mental status • Women in labor • B/P < 90 systolic • Patients with pain not covered above 	Yes	<ul style="list-style-type: none"> • Contact Base Station prior to administering any pain medication 	<ul style="list-style-type: none"> • Contact Base Station prior to administering any pain medication

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Procedure 704: Advanced Airway Management

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- ❖ The following procedures are to be used in the care of patients for whom airway management is indicated. The equipment and procedures listed are provided as a guideline for managing airways in patients. Also listed are documentation standards that are to be utilized when charting these procedures.
- ❖ Endotracheal Intubation (ETI)
 - Authority for this policy is noted in the California Administrative Code, T22, Div. 9, Section 100145 (a) 1 (C). This policy outlines the criteria for use of this selected procedure in Santa Cruz County.
 - Indications for Endotracheal Intubation
 - Cardiac Arrest
 - Respiratory Arrest
 - Severe respiratory failure with impending respiratory arrest
 - Unstable airway or impending airway obstruction
 - Contraindications for Endotracheal Intubation
 - Pediatric patients \leq 12 years old or less than 40 kg
- ❖ Use of Midazolam
 - **Midazolam** may be used as an adjunct to intubation in those patients who need advanced airway management, but are unable to be managed due to combativeness, clenching, trismus, etc.
 - In these cases, **Midazolam** is a STANDING ORDER and may be used without first contacting the Base Hospital.
 - Nevertheless, in ALL CASES where **Midazolam** is used, early notification of the Base Hospital is advised. If unable to manage a patient's airway after initial dose of **Midazolam**, consider Base Hospital contact for subsequent doses. Maximum initial dose 5mg IVP/IO or 10mg IM. Do not exceed 5mg in elderly patients.
- ❖ Notes
 - No more than three (3) intubation attempts per patient.
 - Intubation of cardiac arrest patients should be performed during continuous compression. For patients with pulses, no more than 15 seconds is allowed for an intubation attempt. If endotracheal intubation is unsuccessful after 15 seconds, ventilate before next attempt.
 - If a patient should regain consciousness while intubated, extubate if such treatment is deemed medically safe and appropriate. Contact Base Hospital for chemical restraint if needed.
 - Nasotracheal intubation is not authorized.
 - Placement of a c-spine immobilization collar is required on all patients who have been intubated.
- ❖ Definitions of Intubation Procedure
 - ATTEMPT
 - An ETI attempt is when you place the tip of the endotracheal tube (ETT) past the plane of the patient's teeth. Until the tip of the ETT has passed the plane of the teeth there has been no attempt made. Once an attempt is made, it must be documented in the PCR as SUCCESSFUL ("S")

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or UNSUCCESSFUL ("U"). An examination of the airway is NOT an attempt. In most cases, it is simply an examination, or in some cases, a useful method of assisting with suctioning of the airway.

- SUCCESSFUL- "S": A successful ETI is one in which you witness:
 - The ETT pass through the vocal cords.
 - Upon ventilation, no abdominal or epigastric sounds are heard, and
 - Upon auscultation, bilateral breath sounds are heard.
 - You must document why your ETI is successful. An example of this would be "ETI successful after seeing the ETT pass through the vocal chords, confirmed with good bilateral lung sounds and end-tidal CO₂ device applied." In all cases of ETI, documentation of end-tidal CO₂ use is mandated.
- UNSUCCESSFUL- "U": An unsuccessful ETI attempt is when you are unable to place the ETT. Common reasons for inability to intubate include:
 - Inability to visualize landmarks.
 - Intubation attempt exceeds 15 second time limit.
- You must document why your ETI was unsuccessful. An example of this would be: "unable to visualize cords secondary to: emesis; negative end-tidal CO₂ confirmation; clenched teeth, or esophageal placement."

❖ Principles Regarding Successful Placement and Confirmation of ET Placement

- Continuous waveform capnography is required for initial verification and throughout the duration of any endotracheal intubation.
- Any four of the following airway verification checks will be reviewed prior to and checked after all intubation attempts.
 - Manual checks:
 - Visualizing the tube passing through the patient's vocal cords.
 - Noting tube condensation or fog with ventilation.
 - Noting chest rise and fall with ventilation.
 - Noting the presence of breath sounds bilaterally.
 - Noting the absence of gastric sounds with ventilation.
 - Use of an esophageal detection device.
- Reconfirmation of ETT position should be done in all patients when their clinical status changes, or when there is any concern about proper tube placement.
- Pulse oximetry and esophageal detector devices are not as reliable as end-tidal CO₂ devices in patients who have adequate tissue perfusion.
- Placement of a c-spine immobilization collar on all patients who have been intubated is required in instances where the collar fits correctly.

❖ Skill Maintenance

- Maintaining a high level of ETI skill proficiency is a priority in Santa Cruz County's CQI Program. Periodic reviews of paramedic intubations are ongoing and include documentation of ETI attempts and successes. Annual manikin training may be required to maintain County accreditation.

❖ King Laryngeal Tube (LTD)

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- Indications for an LTD.
 - The LTD is to be used in instances where endotracheal intubation is indicated but cannot be performed successfully in a timely fashion. Placement of an LTD in an adult or pediatric patient is a **STANDING ORDER** for EMTs and medics trained in its use. It may be done prior to establishing contact with the Base Hospital according to the following indications:
 - Cardiac Arrest.
 - Respiratory Arrest.
 - Severe respiratory failure with impending respiratory arrest.
 - Unstable airway or impending airway obstruction.
 - Use of Midazolam (Paramedics only)
 - Midazolam may be used as an adjunct to LTD placement in those patients who need advanced airway management, but are unable to be managed due to combativeness, clenching, trismus, etc. In these cases, Midazolam is a **STANDING ORDER** and may be used without first contacting the Base Hospital. Nevertheless, in **ALL CASES** where Midazolam is used, early notification of the Base Hospital is advised. If unable to manage a patient's airway after initial dose of Midazolam, Base Hospital contact is required for subsequent doses.
 - Adult maximum initial dose 5mg IVP/IO or 10mg IM.
 - Pediatric dosing is 0.05mg/kg IVP/IO or 0.1mg/kg IM with a maximum initial dose of 5mg.
- Principles Regarding Successful Placement and Confirmation of LTD Placement
 - The following four airway verification checks will be reviewed prior to and checked after all LTD placement attempts. These checks will be used in conjunction with waveform capnography, which is mandated on all patients in whom an LTD is placed.
 - Manual checks:
 - Noting tube condensation or fog with ventilation
 - Noting chest rise and fall with ventilation
 - Noting the presence of breath sounds bilaterally
 - Noting the absence of gastric sounds with ventilation
 - Reconfirmation of LTD position should be done in all patients when clinical status changes, or when there is any concern about proper tube placement.
 - Pulse oximetry is not as reliable as end-tidal CO₂ devices in patients who have adequate tissue perfusion.
 - Placement of a c-spine immobilization collar on all patients who have been intubated is required in instances where the collar fits correctly.
- ❖ Notes
 - Use of oxygen powered ventilation devices to ventilate patients is **EXPRESSLY PROHIBITED**.
 - Placement of the LTD shall follow all approved County procedural steps.
 - The LTD may be placed initially, even without an actual endotracheal attempt, if the paramedic deems this is the timeliest way to manage the patient's airway.
- ❖ Skill Maintenance
 - Periodic audits and regular training reviews will insure LTD skill maintenance.

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- ❖ Documentation Requirements for Endotracheal Intubation and LTD Procedure
 - All attempts to intubate (successful or unsuccessful placement) will be reported on the PCR.
 - Required documentations elements are:
 - eAirway.01 - Indications for invasive airway
 - eAirway.02 - Date/Time Airway Device Placement Confirmation
 - eAirway.03 - Airway Device Being Confirmed
 - eAirway.04 - Airway Device Placement Confirmed Method
 - eAirway.05 - Tube Depth
 - eAirway.06 - Type of Individual Confirming Airway Device Placement
 - eAirway.07 - Crew Member ID
 - eAirway.08 - Airway Complications Encountered
 - eAirway.09 - Suspected Reasons for Failed Airway Management
 - Waveform capnography readings through duration of care

Intubation Checklist

Incident Date: _____ Primary Paramedic: _____

Incident Number: _____ Secondary Paramedic: _____

Report Author: _____

Mark all criteria that have been met when intubating patient. At least four bolded criteria checked PLUS end tidal capnography improves chances of successful intubation.

Intubation Checks	checkbox	comments
ET tube observed passing through the vocal cords.	<input type="checkbox"/>	
No gastric sounds auscultated.	<input type="checkbox"/>	
Bilateral lung sounds auscultated.	<input type="checkbox"/>	
Chest rise observed with ventilation.	<input type="checkbox"/>	
Mist noted in the tube with ventilation	<input type="checkbox"/>	
Esophageal tube detector easily re-inflates, indicating ET tube placed in trachea.	<input type="checkbox"/>	
If Visitor used, still photo or video recorded of intubation	<input type="checkbox"/>	
ET tube checked every time patient is moved.	<input type="checkbox"/>	
	+	

Continuous end tidal CO2 monitoring established.

Primary Paramedic
Signature _____ Date _____

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Procedure 705: Transcutaneous Cardiac Pacing

Revision 5/22/18
Effective 8/1/18

❖ Definition

- Transcutaneous pacing (TCP) is a technique of electronic cardiac pacing accomplished by using skin electrodes to pass repetitive electrical impulses through the thorax.

❖ Indications

- TCP should be considered in pediatric and adult patients with symptomatic bradycardia, no matter the etiology. In general, symptomatic bradycardia is defined as a patient with a heart rate of less than 60 bpm with significant hypotension/signs of shock.
- Consider causes and correct if possible, prior to TCP
 - hypoxia (especially in children) trauma
 - drug overdose
 - electrolyte imbalances
 - hypothermia
- Pediatric TCP
 - Indicated for profound symptomatic bradycardia refractory to BLS and ALS interventions
 - Base Station order unless the child is in extremis.
 - Use pediatric pacing electrodes for children less than 15 kg.
 - Contraindications
 - Asystole or brady-asystolic arrest
 - Non-intact skin at the electrode site
 - Patients with signs of serious blunt or penetrating trauma

❖ Procedure

- Explain procedure to patient
- Establish IV/IO access if possible. Do not delay TCP in grossly unstable patients.
- Consider Sedation. Sedation is optional
- Adults:
 - **Midazolam** 1-2.5 mg IV/IO, or 2.5-5 mg IM.
 - May be repeated to a total of 5 mg IV/IO, 10 mg IM.
 - Monitor the patient carefully for worsened hypotension and hypoxia.
- Pediatrics:
 - **Midazolam:** 0.1 mg/kg IV/IO to a maximum of 2 mg total, or 0.2 mg/kg IM to a maximum of 3 mg total.
 - Monitor the patient carefully for worsened hypotension and hypoxia.
 - Place monitoring and pacing electrodes.
 - Anterior/posterior pacing electrode placement is preferred, though anterior/lateral placement is also acceptable.

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- Verify that the pacing and monitoring electrodes are adequately spaced from one another to prevent ECG interference.
- Settings
 - Set heart rate to 80 bpm.
 - Demand pacing mode.
 - Begin output current at 0 milliamps (mA).
 - Increase output in 10 mA increments until electrical capture is noted.
 - Confirm that mechanical capture (pulses) has also been achieved.
 - Assessment of capture should show pacer spikes that are followed by QRS complexes, with corresponding pulses.
 - If capture is maintained but the patient remains symptomatic (BP of less than 90 systolic, poor skin signs, delayed capillary refill, weak pulses, ALOC), consider increasing the rate in 10 bpm increments until 100 bpm is achieved.
- If patient comfort is maintained, continue pacing.
- If the patient is uncomfortable,
 - consider sedation.
 - reduce current output in 5 mA increments to a point just above electrical and mechanical capture.
- If perfusion remains problematic, make base station contact to discuss an order for Push-dose **Epinephrine** with the base station. See Procedure 708 *Push-Dose Epinephrine Mixing Instructions*
- If the patient remains unconscious during pacing, monitor vital signs carefully.
- In cases where electrical capture is achieved with no palpable pulses, consider following Protocols 700-C1 or 700-C1-P, *Cardiac Arrest*.
- ❖ A paper copy of the ECG obtained during this procedure should be delivered to the receiving hospital and should be attached to the patient's PCR.

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Procedure 706: 12 Lead ECG Procedure

Revision 5/22/18
Effective 8/1/18

- ❖ Purpose
 - The application and interpretation of 12 Lead ECGs is a critical skill needed to identify ST Elevation MI (STEMI), cardiac ischemia, cardiac conduction abnormalities, and arrhythmias. This procedure outlines the inclusion criteria for use of the 12 Lead ECG, and the procedure for implementing it.
- ❖ 12 Lead ECG Inclusion Criteria
 - Chest pain/anginal equivalent symptoms
 - Chest pain consistent with Acute Coronary Syndrome (ACS). Suspicion of ACS is primarily based upon patient history: chest discomfort, jaw pain, arm pain, neck pain, etc.
 - Be alert to patients likely to present with atypical symptoms or “silent AMIs”: women, the elderly, and diabetics. Atypical symptoms may include non-pulmonary shortness of breath, syncope, dizziness, diaphoresis, nausea/vomiting, or altered level of consciousness.
 - Patients with chronic SOB such as a COPD may be included if there are additional new symptoms such as dizziness, weakness, diaphoresis, nausea/vomiting or ALOC.
- ❖ Consider 12-lead when the following conditions are present:
 - Arrhythmias
 - Cardiogenic pulmonary edema
 - Cardiogenic shock
 - Post cardiac arrest (ROSC)
- ❖ 12 Lead ECG Transmission Criteria
 - ECGs should be transmitted to the appropriate hospital when a confirmed or suspected STEMI has been identified, or whenever paramedics need consultation regarding the interpretation and treatment of any 12 Lead ECG rhythm.
- ❖ 12 Lead ECG Procedure
 - Expose Chest. Remove excess chest hair, prep skin. May leave bra in place if not interfering with lead placement.
 - Place electrodes on chest and limbs. See section below (12-lead placement).
 - Acquire ECG tracing as per manufacturer’s directions. ECG can be done prior to medication administration if it can be done in a timely fashion. Paramedics may acquire ECG at incident location or in vehicle prior to beginning transport.
 - When indicated, transmit the ECG to the receiving hospital and complete a call-in.
 - Observe patient identification conventions for labeling the ECG prior to transmission.
 - Leave electrodes in place unless defibrillation or cardioversion is required.
 - Make hard copy of ECG and keep with PCR.

Documentation

- ❖ PCR documentation should reflect findings of 12-lead ECG.
- ❖ 12-Lead Electrode Placement

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- ❖ Standard Placement
 - Limb leads should be placed lateral deltoids and mid-thighs if possible. May be moved onto trunk if needed.
 - Chest leads should be placed according (Figure 1)
- ❖ Right sided lead placement
 - If right sided STEMI suspected (ST elevation in inferior leads) then reposition V4R (Figure 2)
 - Mark "V4" as "V4R" on ECG

Figure 1

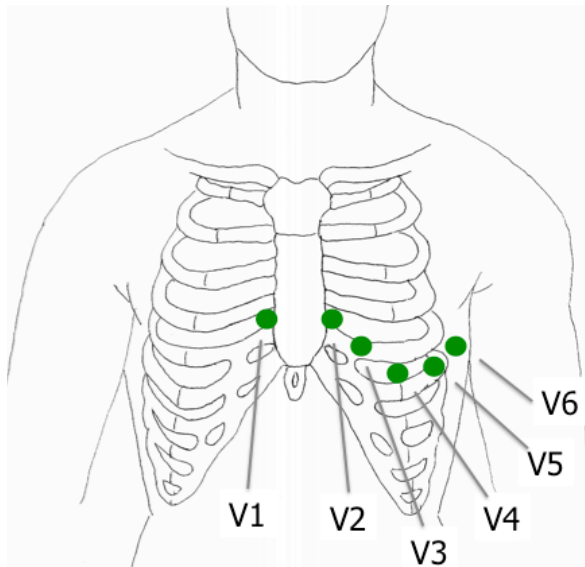
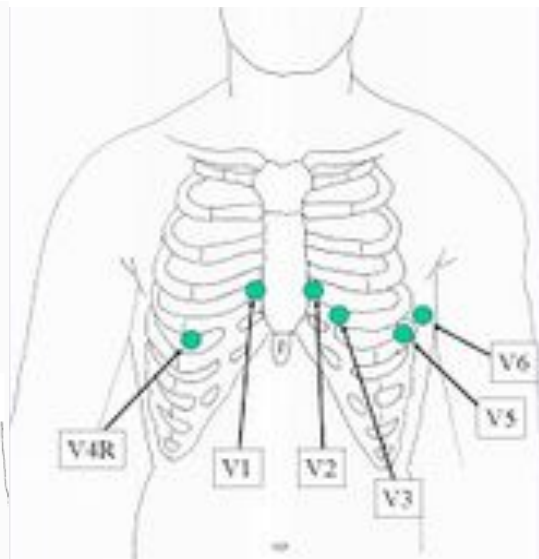


Figure 2



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Procedure 707: Intraosseous Infusion

Revision 5/22/18
Effective 8/1/18

- ❖ Purpose:
 - Gaining vascular access on critical patients of all ages can be very challenging. Difficulties in gaining timely access delay the administration of fluids and medications necessary to appropriately manage these patients. Intraosseous access provides a safe, timely, and effective alternative vascular access route.
- ❖ Indications
 - IO access should be utilized in critical, status 1 and 2 patients (see Policy 621 *Patient Acuity Guidelines*) requiring vascular access for the immediate administration of fluids or medications when venous access attempts have failed or are deemed likely to lead to significant treatment delays. In addition, patients must have at least one of the following:
 - An altered mental status.
 - Respiratory compromise,
 - Hemodynamic instability.
 - Intraosseous access using the EZ-IO Drill is authorized for use on adults weighing >40 kg utilizing the EZ-IO adult needle. Pediatric patients weighing 3 kg to 39 kg the EZ-IO PD needle will be used.
- ❖ Contraindications
 - IO administration is not allowed in patients who do not require immediate fluid or medication therapy, or in whom an intravenous line can be established in a timely fashion. IO insertion will never be performed for prophylaxis.
 - Fracture of the bone selected for IO infusion (consider alternate site)
 - Previous orthopedic procedures (IO within 24 hours, knee or shoulder replacement, etc.)
 - Pre-existing medical condition (tumor at the insertion site, significant peripheral vascular disease, etc.)
 - Infection at the insertion site.
 - Inability to identify landmarks required to perform procedure.
- ❖ Procedure
 - Intraosseous access is approved in the tibial, medial malleolar, or humeral sites. The humeral site is preferred in most cases.
 - Paramedics will follow the approved insertion method as outlined in the County-mandated training curriculum.
 - If conscious, the patient will be administered **Lidocaine** IO, 40mg in adult patients and 0.5mg/kg (max 40mg) in pediatric patients, for local anesthesia prior to fluid administration.
- ❖ Training/QA
 - To perform this skill a paramedic must complete a County-approved IO class and annual mandatory skills evaluation. No paramedic may utilize this skill without course completion and approval by respective provider QI managers and the County Medical Director.
 - All intraosseous insertion cases will be subject to audit as deemed appropriate by the County EMS Quality Improvement Committee. See Policy 101: *Quality Improvement Program*.

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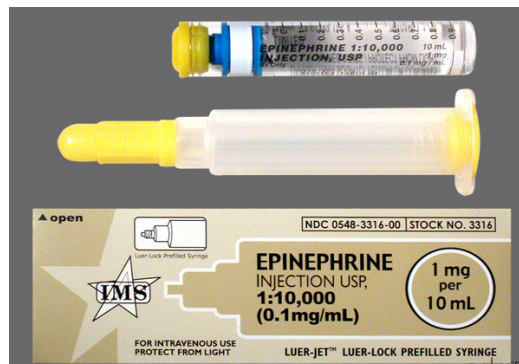
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Procedure 708: Push-Dose Epinephrine Mixing Instructions

Revision 5/22/18
Effective 8/1/18

- ❖ Indications:
 - Suspected Septic Shock unresponsive to fluid resuscitation.
 - Distributive (spinal and anaphylactic) Shock unresponsive to fluid resuscitation.
 - Cardiogenic Shock unresponsive to initial fluid challenge (250 mL **Normal saline**) or presenting with
 - Evidence of pulmonary edema (pulmonary basilar rales).
- ❖ Contraindications:
 - Hypovolemic Shock (hemorrhage or dehydration) prior to fluid resuscitation and volume replacement.
 - Non-shock (perfusing) states
 - Suspected stimulant drug intoxication
- ❖ Procedure:
 - Base Hospital contact and order required.
 - Mixing instructions:
 - Draw Epinephrine 1 ml of 0.1 mg/mL preparation (cardiac Epinephrine) into syringe.
 - Into that syringe, withdraw 9 mL of Normal saline from the patient's IV bag. Shake well.
 - Mixture now provides 10 mL of Epinephrine at a 10 mcg/mL concentration.
 - Push-dose:
 - 0.5 mL (5 mcg) IV/IO, every 3 minutes, titrate to SBP > 90.
 - If persistent hypotension in anaphylactic shock use 1 ml (10mcg) very slow IV/IO every 3-5 min with Base Station order (see Protocol 700-M2 Allergic Reaction/Anaphylaxis)



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Procedure 709: Pediatric Fast Packs

Revision 5/22/18
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- ❖ Purpose:
 - Critically ill and injured pediatric patients occur infrequently in pre-hospital EMS. They constitute a high hazard, low frequency event in the field. These calls require EMS crews to perform rapid assessments and provide timely critical interventions. These tasks are complicated by the varying statures and weights of children which require crews to quickly size equipment, and compute drug dosages and defibrillation settings.
 - The Pediatric Fast Pack (PFP) has been designed to assist EMS crews in providing accurate BLS and ALS care to children utilizing a length-based system that incorporates all Santa Cruz County EMS pediatric policies and protocols.
- ❖ Indications / Requirements
 - The PFP may be used on all relevant pediatric calls. It is a mandated piece of prehospital equipment, and as such, will be carried by all frontline ALS ambulances and fire apparatus in the County. While its use is highly encouraged, crews may also utilize other computation and measurement methods for arriving at correct equipment sizing, drug dosing, and defibrillation/cardioversion settings.
 - The PFP uses accepted numerical rounding techniques for some small volume drug dosages on low weight patients. These have been approved by the Santa Cruz County EMS Medical Director.
- ❖ Contraindications:
 - None.
- ❖ Procedure
 - Size the patient using the Pediatric Fast Pack Tape.
 - Establish the child's weight in kilograms and choose the correct colored divider.
 - Refer to the enclosed protocol-based reference cards and airway adjuncts as appropriate.
 - Utilize other equipment-BVMs, OB Kits, etc.-found in the Pack's side pouches and other sub-compartments as needed.
 - EZ-IO, medications, and other medical supplies will be carried in separate carry-on bags/cases.
- ❖ Documentation
 - Paramedics should document use of the Pediatric Fast Pack in their PCR's when appropriate. (example: "Drug dosing was arrived at using the Pediatric Fast Pack.")
- ❖ Training/QA
 - All paramedics using the Pediatric Fast Pack will complete a County-approved training program and will review its use at the annual mandatory skills review required for continued paramedic accreditation.

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Procedure 710: Continuous Positive Airway Pressure

Revision 5/22/18
Effective 8/1/18

❖ Purpose:

- Patients with respiratory compromise from pulmonary edema, chronic obstructive pulmonary disease, asthma or other pulmonary diseases suffer an increased work of breathing and ineffective gas exchange at the alveolar level.
- CPAP works by increasing flow restriction during exhalation. This “splints” open patients’ airways, reducing the work of breathing and increasing gas exchange at the alveolar level. In CHF patients, CPAP also serves to force excess fluid out of the alveoli and interstitial space and back into the vascular space and reduces venous return and subsequent cardiac workload.

❖ Indications

- CPAP may be utilized in conscious, breathing patients with severe respiratory distress secondary to:
 - Acute pulmonary edema
 - Bronchial constriction caused by chronic obstructive pulmonary disease, asthma, or other etiologies.
 - Other causes not listed above.
- CPAP is authorized for use only in patients that are 8 years or older.

❖ Contraindications

- Absolute: CPAP will not be used when the following conditions are present:
 - Respiratory or cardiac arrest
 - Agonal respirations
 - Severely depressed level of consciousness
 - Hypotension
 - Signs or symptoms of a pneumothorax
 - Inability to maintain airway patency
 - Major trauma
 - Trauma to the head with increased intracranial pressure
 - Trauma to the face such as burns or fractures
 - Vomiting
- Relative: Use CPAP cautiously in patients with:
 - Pulmonary Fibrosis
 - Any decreased level of consciousness
 - Claustrophobia (after first 1-2-minute trial)

❖ Complications

- Hypotension
- Pneumothorax
- Corneal Drying

❖ Goals

- Decreased work of breathing.

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- Decreased respiratory and heart rate.
- Increased SpO₂
- Stabilized blood pressure
- Improved patient comfort and decreased anxiety associated with shortness of breath.
- ❖ Procedure
 - Explain procedure to patient. Stress that this mask will work better if the patient tries to breathe normally after it is applied.
 - Size the patient for a small, medium or large anesthesia mask.
 - Attach the CPAP mask to the O₂ source. Turn the O₂ regulator on to 10 lpm.
 - Attach the CPAP mask to the patient using the elastic mask holder. Obtain a snug fit.
 - If indicated, attach a nebulizer to the CPAP mask, using a supplemental O₂ source set at 6 lpm.
 - Monitor all vital signs, including BP, pulse, respiratory rate, work of breathing, SpO₂, patient's overall level of distress.
 - While on CPAP, a patient should be continuously monitored for signs of improvement, as well as for signs of respiratory failure, vomiting, pneumothorax, or hypotension.
 - Maintain CPAP once it has been initiated with good therapeutic effect. Do not discontinue CPAP at the hospital unless directed to by the receiving ED physician.
- ❖ Training/QA
 - To perform this skill a paramedic must complete a County-approved CPAP class and annual mandatory skills evaluation. No paramedic may utilize this skill without course completion and approval by respective provider QI managers and the County Medical Director.
 - All CPAP cases will be subject to audit as deemed appropriate by the County EMS Quality Improvement Committee.
- ❖ Notes
 - Use of positive pressure ventilation with BVM, ETI, or King Tube should be considered if the patient shows signs of respiratory failure
 - Document patient vital signs and status changes on the PCR. In particular, note changes in SpO₂, work of breathing, respiratory rate, and patient comfort.
 - Watch for hypotension. CPAP decreases venous return and can drop BP relatively quickly.

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Procedure 711: Accessing Pre-Vascular Access Devices

Revision 5/22/18
Effective 8/1/18

- ❖ Purpose:
 - Considerable healthcare previously only done in the hospital is now being provided in the home setting. Therefore, the EMS system is more often encountering patients out of the hospital who have various permanent or semi- permanent venous access devices. This policy attempts to provide guidance when paramedics should consider the use of these devices when contemplating resuscitation.
- ❖ Policy:
 - PVAD should be considered as the vascular access of last choice.
 - In most cases IO access is much preferred and readily available See Procedure 707 *Intraosseous Infusion*
 - In every case, these persons should be acuity levels 1 or 2 only. See Policy 621 Patient Acuity Guidelines
 - In every case, Base Hospital contact must be made in advance.
 - Documentation should clearly note the use of PVAD after base contact. Notation should include at a minimum:
 - Route
 - Complications of procedure
 - Effect of treatment
- ❖ Contraindications
 - Routine vascular access for saline lock or TKO fluids for low acuity patients
 - Ability to obtain peripheral IV or IO
 - Always avoid tourniquets or blood pressure cuffs on extremities with AV fistulas
 - A simple blood pressure reading over an AV fistula can ruin the graft or cause thrombosis that would permanently complicate further care.

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Procedure 712: Spinal Immobilization

Revision 5/22/18
Effective 8/1/18

❖ Purpose:

- To provide guidelines and recommendations for the spinal immobilization of prehospital patients in Santa Cruz County.

❖ Core Principles

- The incidence of true spinal cord injuries from both blunt and penetrating mechanisms is exceedingly low and occurs less than 1-2 % of the time. The incidence of clinically significant spinal cord injuries, without neurologic symptoms, is exceedingly rare. The best candidates for full head-to-toe immobilization are victims of high impact mechanism with multi-systems injuries.
- Most spinal injuries, of any consequence, present with spinal pain and vertebral tenderness on palpation. Alert and oriented patients with true spinal injuries, tend to exhibit pain and tenderness to palpation, and generally vigorously self-splint. Substantial spinal injuries are best recognized through diligent physical exams. In general, ambulatory patients do not have serious thoraco-lumbar injuries. Patients who have an altered level of conscious, are intoxicated, or have painful distracting injuries, such as a long bone fracture, may not reliably report the presence pain or tenderness on the spine.
- Mechanism of injury without subjective complaints or objective findings of spinal injury is generally a poor predictor of injury. Mechanism of injury should be more carefully considered in high-risk patients (elderly and children) and in those patients for whom an accurate history and physical examination cannot be obtained. Elderly patients, and those with preexisting arthritis and other diseases which compromise their skeletal system, are more likely to have spinal injuries after a traumatic mechanism. These patients should be more conservatively managed, and there should be a greater suspicion for occult – hidden – spinal injuries, especially in those patients with chronic confusion/dementia. In discriminate and inappropriate spinal immobilization can cause harm.
- Spinal immobilization should reduce, rather than increase, patient discomfort. Immobilization that increases pain should be avoided. Full spinal immobilization, as traditionally practiced, has often caused more injuries than it has prevented. Spinal immobilization can be painful and can induce pressure sores. Often needless radiologic studies are undertaken only to identify, what is in fact, provider induced pain.
- The goal of immobilization is to prevent further spinal injury during patient extrication, treatment, and transport. Patients with suspected spinal injuries should be maintained in, what is for them, a “neutral”, in-line position. This position will vary from patient to patient depending on the presence of arthritis or other spinal abnormalities. A patient’s cervical spine should never be moved if movement increases pain, neurologic deficits, or neck spasm.
- Immobilization should be accomplished using the most appropriate tools for the specific circumstance. The EMS spinal immobilization tool box may include tape, vacuum splints, pneumatic splints, stiff cervical collars, soft collars, short boards or KEDs, long boards, straps, head immobilization devices (“headbeds”, etc.), as well as soft materials such as pillows and pull sheets.

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- The County endorses equipment, which allows for the comfortable immobilization of patients wherein further harm is not induced. Equipment choices should abide by the “form follows function” axiom.
- Ill-fitting equipment is worse than no equipment at all. For example, more harm may be caused by a cervical collar that hyperextends a patient’s injured cervical spine than by omitting a collar altogether.
- Appropriate spinal immobilization depends on an accurate history and physical exam of the spine.
- Spinal immobilization should not be utilized to simply extricate or move a patient.
- There is no evidence that supine immobilization of the spine is any better than placing a patient in semi-fowler’s position. It is also clearly less comfortable.
- Full spinal immobilization of penetrating thoracic trauma patients increases mortality and morbidity. Alert, neurologically intact victims of penetrating thoracic trauma without spinal pain do not require spinal immobilization.
- If there is any doubt during the evaluation of a patient’s spine, it is always better to immobilize the patient while deferring further spinal evaluation to the ED staff.
- ❖ Immobilization Guidelines
 - Backboards must be appropriately padded to prevent pain and pressure sores. Patients for whom the use of a long board is not necessary include those with ALL the following:
 - Normal level of consciousness (GCS=15)
 - No spine tenderness or anatomic abnormality
 - No neurologic findings or complaints (numbness, weakness)
 - No distracting injury
 - No intoxication
 - Partial immobilization of a patient with isolated neck pain is acceptable and encouraged. This may include a stiff or soft collar, use of cervical and thoracic vacuum splinting, pillows, the KED, etc. Patients with isolated cervical pain may be sat up in a semi- or high fowler’s position. Patients who are laid supine will be substantially more comfortable with their knees elevated.
 - Full spinal immobilization (BB, headbed, collar, straps and tape) should be reserved, primarily for patients who have received a high impact with resulting multiple systems blunt trauma, and/or who are unable to provide accurate information to field responders. This level of immobilization is more comfortable if vacuum splinting is utilized.
 - Pull sheets, other flexible devices, and concave “scoops” should be employed for moving patients whenever possible; backboards should be used only if these other devices are unavailable.
 - Spinal movement and discomfort are reduced by allowing patients to self-extricate, when possible, and to place themselves onto gurneys and spinal immobilization devices. Back-boarding patients from a standing position is discouraged.
 - Patients who truly require immobilization should be placed in equipment, which allows for a relatively comfortable maintenance of a neutral position. This can be accomplished with stiff neck or soft foam collars, partial immobilization only of the cervical spine, use of devices such as the KED or vacuum splint technologies, and positioning to include supine, semi-fowlers, and/or high fowlers positions.
 - Logrolling a patient is very uncomfortable and leads to increased spinal movement. The preferred technique to getting patients onto backboards is to “forklift” the patient onto the backboard.

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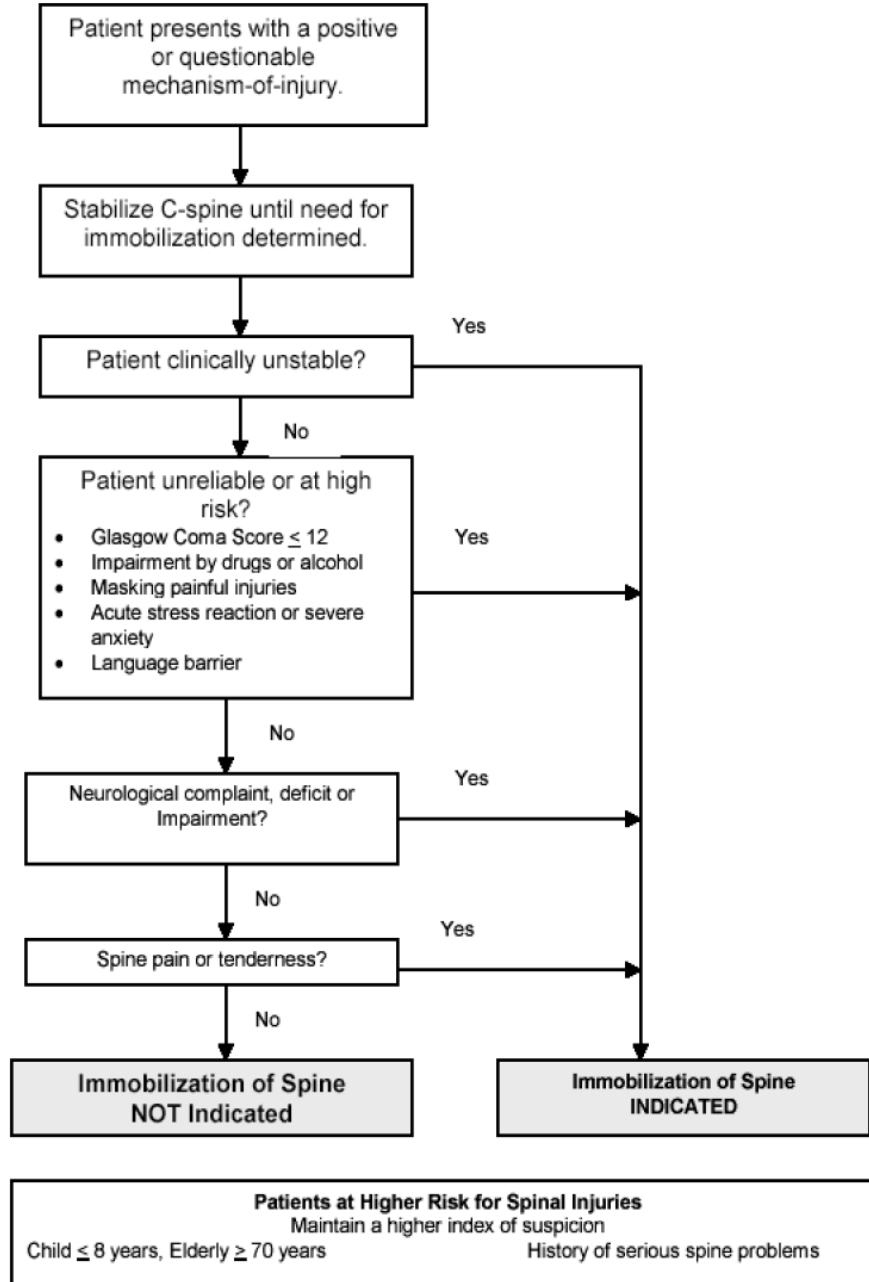
- Responders should document all history and exam findings on the Prehospital Care Report. The patient's neurologic status (pre- and post-immobilization), along with all spinal immobilization interventions, should also be documented.
- Spinal immobilization may be withheld in patients without neck or spinal pain, tenderness, ALOC, intoxication or distracting injury, if the patient can be accurately evaluated. Figure 1 will be utilized when deciding whether to immobilize a patient's spine
- The spinal immobilization of all patients in protective gear (football/lacrosse players, motorcycle riders, law enforcement personnel in ballistic protection/riot gear, etc.) should be completed after all protective gear has been removed on scene.
 - In general, prehospital responders, in conjunction with on-scene trainers, coaches, and law enforcement personnel, are more familiar with removing protective gear than emergency department staff, and have the space, equipment, and personnel resources to perform this safely and expeditiously.
 - Careful, coordinated, manual technique should be employed when removing protective gear and placing the patient in the appropriate immobilization equipment.
 - On-scene removal of protective gear can be deferred if removal on scene would hamper timely transport of the patient to the appropriate receiving facility. In this case, the patient's spine should be protected in a neutral position, with special care taken to compensate for the neck flexion typically caused by helmets. In no instance should a helmet hamper the ability of responders to manage the patient's airway or breathing requirements.

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Spinal Immobilization Decision Algorithm



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Procedure 713: Non-Invasive Gas Monitoring

Revision 5/22/18
Effective 8/1/18

❖ Purpose:

- Outline guidelines for monitoring oxygen saturation (SpO₂), end tidal capnography (ETCO₂), and carbon monoxide (SpCO). Monitoring these gases will allow responders to better evaluate patients in the field and will also help to diagnose specific problems relative to oxygenation, ventilation, and metabolism.
- Monitoring SpO₂ is considered both a BLS and ALS provider skill; while monitoring ETCO₂ is reserved for ALS providers.

❖ Monitoring SpO₂

- Overview/Background
 - SpO₂ measures the percentage of hemoglobin in a patient’s red blood cells that have fixed oxygen. Thus, this tool is a rough measurement of a patient’s oxygenation. This differs from PO₂, which is a measure of the actual amount of oxygen dissolved in blood plasma. PO₂ and SpO₂ normally are very closely aligned, though SPO₂ readings will lag behind falling PO₂ numbers as a patient becomes hypoxic.
 - Factors that decrease SpO₂ include decreased pH (acidosis), increased blood levels of CO₂, and increased physiologic temperature. Factors that increase SpO₂ include increased pH (alkalosis), decreased blood levels of CO₂, and decreased physiologic temperature.
 - Because SpO₂ measures the ratio of saturated to unsaturated hemoglobin in arterioles, its accuracy can be impaired by any factor that influences arteriolar blood flow. Conditions that may cause false low readings include a cold environment, hypotension, and vasoconstriction from smoking or vascular disease. Substantial motion, fingernail polish, bright light, and shivering can also falsely lower readings. Carbon monoxide fixed to hemoglobin can cause falsely elevated readings, though this can be mitigated when a multi-gas sensing system is employed.
- Monitoring Indications
 - All patients in respiratory distress.
 - Patients with altered mentation, or in any circumstance where airway or ventilation is impaired or may become impaired.
 - Use as a “5th vital sign” to monitor the overall status of a patient in significant physiologic distress.
 - May be used to detect blood flow to extremities with compromised blood flow/major injuries by placing the oximeter probe onto tissue distal to a fracture or crush injury.

SpO₂ Measurements, Interpretation, and Interventions

SpO ₂ Reading (%)	Interpretation	Intervention
95-100%	Normal	Maintain saturation
91-94%	Mild Hypoxemia	Increase O ₂ delivery to increase saturation
86-90%	Moderate Hypoxemia	Increase O ₂ to increase saturation. Assess and possibly increase ventilations
< 85%	Severe Hypoxemia	Increase O ₂ to increase saturation. Increase ventilations

❖ Monitoring ETCO₂

- Overview/Background

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- End-tidal CO₂ (ETCO₂) measures of exhaled CO₂ at the end of respiration. It provides excellent real-time information about the effectiveness of a patient’s ventilation. ETCO₂ can be used to estimate PaCO₂ (the partial pressure of carbon dioxide in blood plasma) in patients with normal lungs. Normal PaCO₂ and ETCO₂ values range from 35-45 mmHg.
- ETCO₂ is very effective at identifying hypo- and hyperventilating patients, as well as those patients who develop sudden apnea. ETCO₂ monitoring can help to detect problems with advanced airway adjuncts and positive pressure ventilation. Analysis of a patient’s capnographic wave form and trending of this wave form can help responders to identify bronchospasm, increased respiratory depression, inadvertent esophageal intubation, and a host of other issues.
- While capnography is a direct measurement of ventilation in the lungs, it also indirectly measures metabolism and circulation. For example, an increased metabolism will increase the production of carbon dioxide, increasing the ETCO₂. A decrease in cardiac output will lower the delivery of carbon dioxide to the lungs, decreasing the ETCO₂.

❖ Monitoring Indications

➤ Mandatory:

- Respiratory arrest or respiratory distress requiring positive pressure ventilation via BVM, King Tube, or ETI.
- Cardiac arrest

➤ Recommended:

- Hypoventilation/respiratory insufficiency.
- Respiratory distress of any etiology
- Chest pain with respiratory distress
- Congestive heart failure
- Altered mentation/Overdose
- Patients who have received medications which may alter respirations (narcotics, benzodiazepines)

➤ Note: Colorimetric CO₂ monitoring may be used in those instances that preclude the use of waveform capnography.

➤ ETCO₂ Measurements, and Interventions Interpretation

SPONTANEOUS RESPIRATION ONLY

ETCO ₂ Reading	Interpretation	Intervention
35-45 mmHg	Normal ETCO ₂	Maintain ventilation
> 45 mmHg	Hypoventilation	Increase ventilation
< 35 mmHg	Hyperventilation	Decrease ventilation

➤ ETCO₂ In Cardiac Arrest

- Monitoring ETCO₂ during cardiac arrest measures cardiac output and is a good way to measure the effectiveness of CPR. Reductions in ETCO₂ during CPR are associated with comparable reductions in cardiac output. Note: Patients with extended down times may have ETCO₂ readings so low that the quality of compressions will show little difference in this number.

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- ETCO₂ may be the first sign of return of spontaneous circulation (ROSC). During cardiac arrest, if the CO₂ number increases rapidly, stop CPR and check for pulses. Conversely, rapid drops in ETCO₂ in a patient with ROSC may indicate that pulses have been lost and that CPR needs to be resumed.
- An ETCO₂ level of 10 mmHg or less, measured 20 contiguous minutes after the initiation of advanced cardiac life support accurately predicts death in patients with cardiac arrest associated with electrical activity but no pulse. In patients for whom this is the case, resuscitation may be discontinued per County Guidelines.
- ROSC patients will usually present with an ETCO₂ of 18 or greater and will usually quickly climb to above 30 mm Hg in cases that will ultimately survive to discharge.
- ETCO₂ in Bronchospasm/Asthma
 - Bronchospasm will produce a characteristic “shark fin” capnographic wave form, as the patient must struggle to exhale, creating a sloping “B-C” upstroke. The shape is caused by uneven alveolar emptying.
 - Asthma values change with severity. With mild asthma, the CO₂ will drop (below 35 mm Hg) as the patient hyperventilates to compensate. As the asthma worsens, the CO₂ levels will rise to normal. When the asthma becomes severe, and the patient is tiring and has little air movement, the CO₂ numbers will rise to dangerous levels (above 60 mmHg).

❖ Monitoring SpCO

❖ Overview/Background

- Carbon monoxide (CO) is an odorless, colorless, tasteless heavier-than-air gas that is the most common product of combustion. Its affinity for hemoglobin is 250 times greater than that of oxygen, and when enough carbon monoxide is fixed to hemoglobin, hypoxia can occur. High carbon monoxide levels can cause fatal anoxia.

➤ Monitoring Indications

- SpCO monitoring should be included in the medical monitoring conducted at Emergency Worker Rehab. At present (4/1/2014) paramedics are not allowed to monitor CO readings in patients.

❖ SpCO Measurements and Interpretation

SpCO Level	Interpretation	Signs and Symptoms
< 3%	Normal Levels (nonsmokers)	None
4% - 11%	Minimal Levels	Usually none; possibly mild headache nausea
12% - 20%	Mild exposure	Headache, n/v, dizziness, blurred vision
21% - 40%	Moderate exposure	Confusion, syncope, chest pain, weakness, rapid HR
41% - 59%	Severe exposure	Dysrhythmias, hypotension, MI, respiratory arrest Seizures, coma, pulmonary edema, cardiac arrest
>60%	Fatal	Death 100% of the time

- Cherry red skin color is not always present in carbon monoxide poisoning, and when present, is often a late finding.
- Smokers often will have a chronic SpCO level of 4-10%
- Most non-smokers have a SpCO level less than 2.5%

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- County Emergency Worker Rehab Plan endorsed by County Fire Chiefs, sets green (return to duty) level at <6; yellow level (hold and recheck at 20-minute mark) at 6-12%; and red level (must be evaluated by MD) at >12%.
- Fetal hemoglobin has a much greater affinity for SpCO than adult hemoglobin. Pregnant mothers may exhibit mild to moderate symptoms, yet the fetus may have devastating outcomes.
- Remember, SpCO poisoning is the great imitator. It can “masquerade” as many other etiologies. When in doubt, check for it.
- Missed SpCO exposure often leads to death and disability.
- CO poisoning is a risk for firefighters.
- SpCO Treatment
 - Treatment is based on the severity of symptoms.
 - Treatment generally indicated with SpCO > 12-15% but may begin at any level in which the patient is experiencing symptoms.
 - High-concentration O₂ should be administered to displace CO from hemoglobin.
 - Be prepared to treat complications (e.g., seizures, cardiac ischemia).
- ❖ Patients with severe poisoning may benefit from hyperbaric chamber therapy. The receiving ED will arrange this.

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Procedure 714: STEMI Identification, Transmission and Destination

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- ❖ Criteria for 12-Lead ECG Acquisition
 - A. Chest pain /anginal equivalent symptoms
 - Chest pain consistent with Acute Coronary Syndrome (ACS). Suspicion of ACS is primarily based upon patient history: chest discomfort, jaw pain, arm pain, neck pain, or other anginal equivalent symptoms.
 - Be alert to patients likely to present with atypical symptoms or “silent AMIs”: women, the elderly, and diabetics. Atypical symptoms may include non-pulmonary shortness of breath, syncope, dizziness, diaphoresis, nausea/vomiting, altered level of consciousness, severe fatigue.
 - Patients with chronic SOB such as a COPD may be included if there are additional new symptoms such as dizziness, weakness, diaphoresis, nausea/vomiting or ALOC.
 - Consider 12-lead when the following conditions are present:
 - Arrhythmias
 - Cardiogenic pulmonary edema
 - Cardiogenic shock
 - Post cardiac arrest (ROSC)
 - Age 80 or older with any type of medical complaint.
- ❖ Acquire 12-Lead ECG as Indicated
 - See Procedure 70612-*Lead ECG Procedure*
 - Document 12-Lead ECG acquired on PCR (A-12)
- ❖ Criteria for Identifying a STEMI
 - A STEMI is indicated when 12-Lead ECG interpretation Indicates “***meets ST Elevation MI criteria***”.
- ❖ Criteria for ECG Transmission/STEMI Center Communication
 - When ECG interpretation indicates an acute MI (***meets ST Elevation MI criteria***), transmit ECG to STEMI Receiving Center and make a verbal report to the receiving ED as soon as possible.
 - The verbal report to the STEMI Center will include the following:
 - ETA to the STEMI Receiving Hospital
 - Patient age and gender
 - Chief Complaint, including duration of complaint (PQRST)
 - Vital Signs
 - Significant physical findings
 - ECG interpretation (***meets ST Elevation MI criteria***)
 - Field treatments and response to treatments
 - Patient’s cardiologist (if known)
 - Document transmission of ECG (T12)
- ❖ Hospital Destination

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- All patients for whom the ECG meets ST Elevation MI criteria; the ECG shall be transmitted to the STEMI Receiving Center and the patient shall be transported directly to the STEMI Receiving Center. The STEMI Receiving Center will accept these patients except when experiencing an internal disaster or in the event there are no cardiac catheterization services available, regardless of ICU/CCU or ED status. If the STEMI Receiving Center has no cardiac catheterization services available, transport the patient to the closest ED.
- All patients who have had an ECG that does not indicate acute ST Elevation MI will be transported to the local receiving hospital (Watsonville Community Hospital in South County, Dominican Hospital in North County) and it is not required that the ECG be transmitted.
- When STEMI interpretation is less clear, ECG transmission is optional and will depend upon factors discussed in the Note below
 - Specifically, when paramedics in South County have an ECG that does not indicate STEMI, but still elect to transmit, they should transmit the patient's ECG to WCH and make verbal contact for medical direction regarding the transport destination.
 - ROSC STEMI patients from South County may be too unstable to transport directly to Dominican Hospital. Crews should evaluate the relative stability of the ROSC patient and call Dominican Hospital before transporting to verify Dominican staff agrees to accept the patient. Unstable ROSC patients in South County should be transported to WCH.
- Note:
 - STEMI identification may be complicated by various ECG "imitators" or by various conditions such as left bundle branch block, paced rhythms, the presence of pericarditis, etc. In these instances, paramedics will depend on the clinical evaluation of the patient and proceed with ECG transmission and radio contact with the local receiving hospital (Watsonville Community Hospital in South County, Dominican Hospital in North County) for clarification and guidance.
- ❖ Paramedic Documentation (See Protocol 700-C6 *Suspected Cardiac Ischemia*)
 - When an ECG is acquired in the field, PCR documentation should reflect the findings of the ECG (A-12). When an ECG is transmitted to a hospital, PCR documentation should reflect this (T-12).
 - A copy of the field ECG will be attached to the TOC and delivered with the patient.
 - When an ECG is acquired in the field (whether or not the ECG indicates a STEMI), the verbal communication between the Paramedic Unit and the Base Hospital will be recorded for CQI purposes, even if the Base Hospital is not a STEMI Receiving Hospital.
 - No patient name is to be placed on the field ECG. Instead, use the patient's initials (last name, first name) and the last 4 digits of the run number entered under ID number.

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Procedure 715: Epinephrine Auto Injectors

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❖ Purpose

- As first responders, EMTs may be in a situation that requires immediate epinephrine administration before paramedics arrive.
- This procedure is limited EMTs authorized to administer Epinephrine Auto Injectors

❖ Epinephrine Auto Injector Procedure

- Determine that patient has severe anaphylactic symptoms such and airway compromise and/or severe respiratory distress (see Protocol M2 and M2-P Allergic Reaction/Anaphylaxis)
- Observe Standard Precautions
- Perform primary survey and intervene as necessary to support ABCs (See Procedure 701 Life Threats)
- Determine indications for use of Epinephrine Auto Injector – patient is suffering from acute, severe, generalized allergic reaction
- Confirm the “5 rights” of drug administration.
 - Right patient
 - Right drug
 - Right dose – 0.15 mg less than 60 lbs.; 0.3 mg greater than 60 lbs.
 - Right route
 - Right time
- Explain procedure to the patient
- Remove cap from the auto injector
- Identify site – lateral thigh midway between the hip and the knee.
- Clean site if possible, with alcohol, otherwise do not delay administration. May administer through clothing if necessary.
- Expose thigh.
- Place the device on the lateral thigh between the knee and the hip. Device should be at a 90-degree angle to the leg.
- Push the device firmly against the leg until the injector activates and hold in leg for 10 seconds.
- Remove and discard the device appropriately in sharps container.
- Reassess the patient’s airway, breathing, circulation, and symptoms.
- Prepare the patient for EMS transport. Handoff the EMS with report.
- Document drug administration per County Policy in PCR.

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Section 800: Reference Materials

Reference 801: Core Principles: Appropriate Patient Disposition

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- Rule #1: The goal of our EMS system is to manage life threats, assess and treat medical and trauma emergencies, reduce pain and suffering, and develop a disposition plan that is right for each patient.
- Rule #2: Patients are entitled to an accurate prehospital assessment of their illness or injury. They are entitled to an explanation of their disposition options, as well as the recommendation of EMS regarding these options, so that they can make the most informed decision about their own care.
- Rule #3: Competent adult patients, legal representatives of patients, or parents of minor patients may refuse medical care, or may be released at scene.
- Rule #4: Competency must be established on a patient- and situation-specific basis.
- Competent patients understand the ramifications of their illness or injury, and can apply reasonable, logical thought to determining the correct course of action to manage it.
 - Patients should not be judged incompetent to make medical decisions simply because they have ingested drugs or alcohol. The degree of their impairment from this ingestion must be assessed.
 - Patients have a right to disagree with a responder's medical opinion; even in the face of apparently life-threatening conditions, competent adult patients have the right to refuse medical care and transport, and the right to direct their own medical care.
- Rule #5: Consent is the prerequisite of all patient care and must be obtained before care can be rendered. Competent adult patients have the right to give or withhold consent to any aspect of medical care, including transport. Consent may be expressed, implied, or substituted.
- Rule #6: When responders are faced with a sick or injured dependent patient who requires treatment in the absence of a consenting adult, responders will proceed with treatment, as this is in the best interest of the patient.
- Rule #7: Patient disposition includes the following options:

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- **Ambulance/Air transport to an ED or regional specialty center.** Patients should be transported by ambulance (ground or air) to hospital emergency departments or regional specialty centers (most commonly trauma centers) when they present with acute illnesses or injuries requiring continued prehospital treatment or medical monitoring. Generally, all Status 3 or above patients should be transported by ambulance. Patients who request ambulance transport – no matter their clinical status- should also be transported, though responders may still offer alternate disposition options.
- **Against Medical Advice (AMA):** Patients who are refusing care and/or transport should be AMA'ed when responders believe these patients require continued substantive prehospital treatment or medical monitoring due to the nature or severity of their complaints, comorbidities, or mechanism of injury or illness. In this instance responders disagree with the patient's decision to discontinue prehospital EMS care and monitoring. They believe that the patient has a substantial risk for a poorer medical outcome by refusing this continued EMS care and monitoring.
- **Release at Scene (RAS):** Patients may be released at scene when responders and the patient believe that the patient does not need continued medical monitoring or further prehospital EMS intervention, and, if necessary, has an appropriate alternate plan for timely medical follow-up. This plan for medical follow-up must meet the medical needs of the patient, and must be realistic, considering the availability of other medical services in the County, and the patient's ability to access these services. A sensible alternative medical plan that is clearly documented in the medical record and agreed to by both the patient and responders is the key to reducing the medical and legal liability for all involved in the call.
- **Delayed Disposition:** Delayed disposition may occur when a patient must wait for EMS resources or transportation to an appropriate medical destination. This may occur after the patient's condition has been triaged by NetCom and the patient's low acuity dictates that EMS resources should first handle higher priority calls. This may also occur after EMS first responders arrive at scene, evaluate the patient, and determine that ambulance transport can be delayed for the EMS system to handle higher priority calls. Additionally, patient disposition may be delayed while the patient awaits either EMS or non-EMS transport to an alternate medical care destination.
- **Determination/Pronouncement of Death:** Determination or pronouncement of death as indicated by the patient's clinical presentation as well as by POLST / DNR / DPAHCD documentation are appropriate patient dispositions. Needless or hopeless resuscitation attempts should be avoided, if possible. Responders should attempt to help with sudden death grief counseling and should assist with arrangements for custody of the patient's body as appropriate (by contacting law enforcement, for example).

Rule #8 Any patient disposition decision made by a responder will be judged based on the prevailing standard of care – what a reasonable, prudent practitioner with the same training, and utilizing the same core principles and policies, would have done in the same circumstance.

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Reference 802: Core Principles: Biohazard Emergencies, EBOLA

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- Rule #1: EMS responses to suspected Ebola viral disease (EVD) infected patients need to be treated as hazardous materials (HAZMAT) calls.
- The safety of the public and responders, and prevention of the spread of EVD, are the most important priorities on this call.
 - Suspected Ebola patients will be categorized, and referred to, as a “Person Under Investigation” (PUI).
- Rule #2 The management of a PUI must always be weighed against the risk to responders and the public, and interventions should only be rendered when the safety of responders and the public has been relatively assured.
- Rule #3: The most important initial task of EMS is to screen for PUIs to prevent responder exposures.
- Rule #4: When a PUI is identified the EMS, response will stop until appropriate PPE and other contagion precautions have been fully implemented, no matter the acuity of the patient.
- The normal time parameters for managing patients no longer apply to patient care.
 - The initial action of responders is to deny access to the patient and to prevent any further exposure to this patient.
- Rule #5: Response to a PUI should be a system response.
- This response should include activating personnel with equipment and expertise for handling EVD patients as well as the decontamination of any providers who have been exposed to this patient.
 - Response should also include early notification to possible receiving hospitals, as well as notification to overhead personnel, NetCom, and public health.
- Rule #6: Responders who have unwittingly been exposed to a PUI immediately become patients.
- Their top priority is to limit this exposure as soon as possible by backing away from the patient.
 - Responders who have been exposed must be decontaminated as soon as possible.
- Rule #7: Management of PUIs should utilize the concepts of hot, warm, and cold zones.

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- The hot zone: the area immediately within 3 feet of the patient or when working with fomites that the patient has recently touched, or which contain contaminants (body fluids) from the patient.
- The “warm zone”: area through which the PUI recently passed without directly contaminating any objects.
- The “cold zone”: area that is fully protected from a PUI (safe areas in the hospital, vehicles which have not been used to transport PUIs) or which have been thoroughly decontaminated.

Rule #8: EMS response to PUIs will utilize specifically trained personnel to assist with donning and doffing PPE, and with decontaminating any contaminated or exposed responders or bystanders. Personnel trained in HAZMAT will be utilized for this work.

Rule #9: Medical interventions for PUIs will be limited to reduce infectious exposure risk.

- The more symptomatic the PUI is, the greater the infectious risk. The most infectious patients are those with severe disease symptoms, or those who have recently died.
- PUIs presenting with shock, severe bleeding, or cardiorespiratory failure experience 100% mortality despite resuscitative efforts. In confirmed EVD cases with severe symptoms, active prehospital resuscitation is not warranted.
- In general, BLS care will be the expected standard of care.

Rule #10: Transport destination for PUIs will be determined prior to leaving the scene.

Rule #11: EMS personnel will not transport PUIs into the receiving medical facility.

- Hospital personnel will come out of the hospital and will arrange for transport of the patient into their facility using hospital approved transport devices.

Rule #12: Decontamination of EMS personnel and equipment, and disposal of all hazardous waste, will follow national and local guidelines. Decontamination of EMS personnel will be completed BEFORE doffing PPE to greatly reduce the risk of exposure. This will be supervised and monitored by HAZMAT specialists.

Rule #13: All PUIs will immediately be reported to County Public Health.

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Reference 803: Core Principles: Law Enforcement Incidents

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- Rule #1: Law has ultimate authority at all Law Incidents. Fire/EMS are there to support the Law effort, and to manage EMS and Rescue needs as requested by Law, when conditions are safe enough to allow this to occur.
- Rule #2: Containing and stopping the active threat and preventing additional casualties is the highest priority at an ongoing Law Incident. This takes priority over patient care.
- Rule #3: EMS/Fire responder safety is still the highest priority for incoming EMS crews.
- Responders can't take care of victims if they themselves are injured or killed. Ultimately sacrificing a responder is not a good trade when attempting to provide aid to downed officers or bystanders.
- Rule #4: EMS and Fire must be trained and capable of getting closer to victims in mass shooter and other Law incidents to provide rapid triage, manage critical life threats, and extricate patients for transport to definitive care.
- "Uphill, upwind, cover it up with your thumb" is a strategy that no longer works in today's tactical incident environments. Studies show that preventable deaths occur when responders wait for an incident to be truly "cold" before rendering aid.
- Rule #5: Law Incidents can be divided into three zones, generally geographically delineated:
- Hot zone: active threat to safety (shooter, assailant, IED, etc., present) where no first responders should be present (not even tactical EMS medics, unless they are also regular armed duty officers).
 - Warm Zone: Threat is not imminent. Law has secured the area and is providing protection for responders as they care for victims. Area is not deemed 100% cleared, and EMS and fire responders focus on life threat management and rapid extrication of victims to the more secure cold zone.
 - Cold Zone: Well protected from any threat, considered cleared of any danger, where EMS and fire operations can proceed to manage patients as they would in a non-tactical environment.
- Rule #6: Fire/EMS and Law Enforcement have widely divergent responses to larger scale incidents and day to day operations:

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- Law Enforcement:
 - ◆ Primarily work independently as a single resource.
 - ◆ Deploy independently at the scene of an incident without a command structure initially in place.
 - ◆ Top priority is to eliminate the active threat and to minimize additional casualties, not manage those who have already been injured.
 - ◆ Does not initially set up accountability prior to entering an area that is Immediately Dangerous to Life and Health (IDLH).
 - ◆ Develops command structure later in incidents
- Fire/EMS
 - ◆ Always work in teams of 2s, 3s, and 5s.
 - ◆ Each team has a command officer or senior paramedic
 - ◆ Initial incident response includes establishing command, scene size up, report on conditions, and requesting additional resources.
 - ◆ Entry to an incident is made with the permission of the Incident Commander who also assigns tasks to incoming resources.
 - ◆ Accountability is set up prior to sending crews in to an IDLH
 - ◆ Entry to an IDLH is not made until a Rapid Intervention Crew (RIC) has been established to provide a rescue response if necessary.

Rule #7: Law and Fire/EMS must collaborate and communicate during a Law Incident to ensure responder safety and to optimize outcomes for all those who have been injured.

Rule #8: The primary goal of medical care for patients in a hot or warm tactical zone is to prevent further injury, evaluate and manage immediate life threats, and evacuate them as quickly as possible to a cold zone.

- Hot zone care should only include management of life-threatening hemorrhage.
- Warm zone care can include other life threat interventions.

Rule #9: Control of life threatening bleeding and rapid extrication to the cold zone and awaiting transport resources are the most important interventions for victims of a mass shooting, bombing, or other mass casualty event.

- The following interventions are also acceptable depending on available responder resources:
 - ◆ Obtain hard cover for you and your patients when possible
 - ◆ Establish an airway using an OPA or King Tube; consider left lateral positioning in most instances where an airway needs to be established.
 - ◆ Establish ventilation in an apneic patient using a BVM (no O2!)
 - ◆ Seal a sucking chest wound.

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- ◆ Decompress a tension pneumothorax.
- ◆ Stop life threatening bleeding using tourniquets/Quik Clot, pressure dressings.
- ◆ Rapidly dress(contain) a large evisceration
- ◆ Evacuate rapidly to a cold zone for further evaluation, triage, and transport to definitive care.
- The following interventions generally should not be conducted within a tactical incident:
 - ◆ O2/suctioning
 - ◆ IV fluids
 - ◆ Medications
 - ◆ Intubation
 - ◆ Spinal immobilization
 - ◆ Bandaging of non-life-threatening bleeding and wounds
 - ◆ ECG monitoring
 - ◆ Full set of VS, O2 monitoring, CO2 monitoring, etc.
 - ◆ Splinting

Rule #10: The question to ask and answer when managing patients in a tactical environment: What life threat interventions do I need to employ to keep my patient alive? These should be the only interventions you consider.

Rule #11: Casualty Collection Points (CCPs) are designated places inside a tactical event where casualties are placed for further triage, life threat treatment, and evacuation to a cold zone.

- Should be placed behind hard cover if possible.
- Life threat trauma care only.
- Priority on evacuation to the cold zone.

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Reference 804: Core Principles: Invasive Procedures and Interventions

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Santa Cruz County believes that EMTs and Paramedics should wisely apply treatment procedure and intervention guidelines to most effectively manage their patient's clinical problems. Invasive procedures include all medical interventions: drug administration, airway management, defibrillation, even splinting: which can substantially alter the patient's outcome, and which carry both significant risks and benefits.

- Rule #1 The clinical GOAL should influence the interventions chosen.
- Rule #2 Always attempt to solve the patient's problem with the least invasive tool appropriate for the circumstance.
- Less invasive, simpler procedures often are more successful and carry a lower risk and smaller side effect profile.
 - Graduate to more invasive and risky interventions as needed.
- Rule #3 Always weigh the upside/downside of any intervention being considered.
- If the benefits do not outweigh the risks, the patient care plan should be re- evaluated.
- Rule #4 When administering medications, give as much as necessary, as little as possible.
- Give enough medication to achieve the desired therapeutic effect, but always with the knowledge that a higher dose of a medication, by definition, carries a higher risk of adverse side effects.
- Rule #5 You can always give more medication, but you can't give less.
- Titrating up on a medication dose is always wiser than scrambling to manage the problems created by overmedicating.
 - The goal of medication therapy should also help to guide dosing.
- Rule #6 Anticipate medication side effects.
- Rule #7 When implementing an invasive procedure, always plan a few steps ahead, and always have a backup plan.

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- When planning to intubate have the King Tube handy, a BVM ready to go, suction at the ready. Be ready for the second seizure in patients whose seizure etiologies put them at risk for another convulsion (for example, alcohol withdrawal patients).

Rule #8 When performing an invasive procedure, take a 'time out' to confirm appropriate treatment.

- Is all equipment set up?
- Prepared for all possible patient responses to interventions?
- Plan adequately communicated to all crew members?

Rule #9 In general, vascular access should only be established when medications or fluids need to be administered, or when there is a relatively high likelihood that the patient will require medication or fluid therapy.

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Reference 805: Managing Airway and Ventilation

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- Rule #1 Oxygenation, ventilation, and airway protection are the critical components of correct respiratory management.
- Rule #2 Patients should be oxygenated only according to their need and should not receive supplemental oxygen otherwise.
- Most patients should only be oxygenated to a SpO₂ of 95%. Oxygen administration to patients should be titrated to achieve this SpO₂ level. If this level can be achieved on room air, no supplemental oxygenation is needed if the patient's respiratory distress has been adequately treated.
- Rule #3 Ventilation is the process by which carbon dioxide is removed from the blood by exhalation.
- Ventilation is assessed by the clinical evaluation of respiratory rate and volume, by assessing the patient globally, and by monitoring end tidal capnography.
- Rule #4 End tidal quantitative capnography monitoring is the most accurate measure of respiratory sufficiency as it provides a moment by moment snapshot of ventilation.
- It should be used in all cases of respiratory distress, respiratory failure, and altered mentation.
 - Normal capnography measures should be between 35-45 mmHg. Numbers below this range indicate abnormal hyperventilation; numbers above this indicate abnormal hypoventilation.
 - Capnography should be used to measure the efficacy of CPR, the return of spontaneous circulation, and as an endpoint for resuscitation.
- Rule #5 Patients requiring positive pressure ventilation should be ventilated using the most appropriate adjunct.
- Each adjunct has its strengths and weaknesses; the key is to choose the adjunct that best provides adequate ventilation and airway protection for the situation.
- Rule #6 Airway protection is critical for ensuring adequate oxygenation and ventilation.
- Rule #7 Accurate airway and ventilation evaluation is critical for optimizing patient outcomes.

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- Accurate evaluation of airway patency (a noisy airway is an obstructed airway), breathing rate and depth, lung sounds, and most importantly, the patient's work of breathing, is essential.
- Increased work of breathing - evidenced by the presence of retractions and accessory muscle use is the most sensitive and specific indicator of respiratory distress.

Rule #8 Prevent or remedy hypoxia; avoid hyperventilation and hyperoxia

- Hyperventilation decreases the survival of nearly all patients.
- Over-oxygenation leads to greater CO₂ retention and decreased survival.

Rule #9 CPAP should be used for all severe respiratory distress patients who can tolerate it.

- Caution must be used when managing patients with difficulty exhaling air, as their respiratory distress can potentially be worsened.

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Reference 806: Core Principles: Managing Cardiac Arrest

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- Rule #1 The initial emphasis in managing cardiac arrest patients is in establishing circulation via high quality, uninterrupted chest compressions.
- During the resuscitation attempt no pauses of greater than 5 seconds should ever occur, if possible.
 - 100 compressions/minute with full recoil
 - Switch compressors every 2 minutes when possible
- Rule #2 Defibrillation should be attempted as soon as possible during the resuscitation.
- Patients who develop ventricular defibrillation while being monitored may be immediately defibrillated. "Off the chest" time should only occur during the actual defibrillation of the patient.
- Rule #3 Continuous compressions and defibrillation are more important than ventilation, vascular access, and medications.
- Rule #4 Modest, interpolated ventilation should be administered on every 10th compression upstroke.
- Choice of adjuncts for ventilation should be based on the specific needs of the patient. Endotracheal intubation is still the optimal airway, especially if a ROSC is achieved.
- Rule #5 Vascular access may be established via either IV or IO routes.
- IV routes provide more versatility and ease of use once established.
- Rule #6 Medication administration should proceed per protocol.
- Epinephrine mildly enhances CPR
 - Antiarrhythmics are effective once ROSC is achieved.
- Rule #7 Ventilating patients, placing advanced airways, and establishing vascular access should not interfere with continuous chest compressions or defibrillation.
- Rule #8 End-tidal capnography should be used for evaluating the effectiveness of resuscitation, the return of pulses, and as an endpoint for the resuscitation attempt.

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Rule #9 A team leader should clearly be identified at the beginning of the resuscitation attempt. All cardiac arrest management should be handled in a sequential and orderly fashion, with all job tasks clearly defined and delegated to resuscitation team members.

- Overall scene management should be coordinated and supervised using the precepts of the Incident Command System.

Rule #10 Post-arrest management should focus on stabilizing the patient’s life threats and transport. This management should include the following:

- Maintain O2 saturations (SpO2) above 94% using the lowest concentration of O2 possible. Ventilation on room air is optimal if saturations can be maintained.
- Ventilate the patient 10-12 breaths per minute to achieve an end tidal CO2 of 35 – 45 mmHg. No hyperventilation!
- Maintain a minimum systolic BP of 90 mmHg. Use IV fluids and Push-dose Epinephrine to achieve this. If the patient’s BP is 90 systolic or higher, there is no need for any further circulatory support. See Procedure 708 Push-Dose Epinephrine Mixing Instructions
- Manage post-arrest arrhythmias as needed.
- Obtain a 12 lead ECG. Transmit/transport to Dominican Hospital if a STEMI is identified. If the call occurs in South County, make base station contact with Dominican Hospital prior to transport.

Rule #11 Resuscitation should not be attempted, or continued, in circumstances that are patently futile.

“Pit Crew”

Cardiac Arrest Sequence of Care

Step 1	Scene safety and universal precautions
Step 2	Determine unresponsiveness (no more than 5 seconds)
Step 3	Begin chest compressions @ 100 compressions/minute
Step 4	Attach EKG quick patches, turn on EKG monitor, evaluate rhythm and defibrillate as indicated.
Step 5	BVM/ETI/LTD at 1 every 6 seconds, ventilating during every 10th compression upstroke.
Step 6	Do not stop compressions for more than 2-4 seconds to deploy an airway adjunct.
Step 7	Establish vascular access. If venous access is not easily established, establish IO access.
Step 8	Administer drug therapy in accordance with the appropriate protocol.
Step 9	Switch compressors every 2 minutes, avoiding interruptions > 2-4 seconds. During this pause, check the ECG to determine if defibrillation is indicated. If so, defibrillate.
Step 10	ROSC? Stop CPR and continue to ventilate 10-12/min (adult) or 20/min (peds). Follow post-arrest instructions above

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Reference 807: Core Principles: Managing Sepsis

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Rule #1 Sepsis is a life threatening condition that can occur when a systemic reaction known as Systemic Inflammatory Response Syndrome (SIRS) develops in response to an infection.

- SIRS can occur in response to many insults to the body, including trauma, surgery, inflammatory diseases, and most commonly, infection. Sepsis occurs when this inflammatory response occurs in response to an infection in the body.

Rule #2: Sepsis is a disease that can present on a continuum from a relatively mild to a fatal condition, and is defined based on the following clinical findings:

- Sepsis = presence of two or more of the following with a known or suspected infection:

Adult	Pediatric		
>14 years	Newborn	Infant	Toddler and up
Heart rate >90	Heart rate >200	Heart rate >170	Heart rate >130
Respiratory rate > 20	Respiratory rate > 60	Respiratory rate > 40	Respiratory rate > 25
Temperature >100.4 or <96.0	Temperature >100.4 or <96.0	Temperature >100.4 or <96.0	Temperature >100.4 or <96.0

- Severe Sepsis = known or suspected infectious process + abnormal vital signs as above + organ dysfunction.

Altered level of consciousness

Hypoxia/respiratory distress

Presence of hyperglycemia (BG > 140mg/dl) in a non-diabetic patient

Hypoperfusion—as evidenced by altered skin perfusion, hypotension

End-tidal CO₂ (ETCO₂) < 25 mmHg

- Septic Shock: severe sepsis that does not respond to fluid resuscitation, requiring vasopressor therapy to support perfusion.

Rule #3: Suspect sepsis is the following patients:

- The elderly (age > 70)
- The very young with fever (Infants age < 3 months)
- Diabetics
- Recently hospitalized patients or those living in SNFs
- Patients who have recently had surgery or an invasive procedure
- Patients with:

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- Cancer
- Renal disease
- Malnutrition
- Alcoholism
- Diabetes
- Other immune compromising diseases or conditions

Rule #4: Suspect sepsis in patients with the following symptoms:

- Fever
- Respiratory symptoms such as shortness of breath, tachypnea, cough
- Abdominal symptoms such as vomiting, diarrhea, or abdominal pain
- Urinary symptoms such as urinary frequency, pain with urination, flank pain
- Skin infections
- General weakness, lethargy, ALOC, especially in the elderly.
- Hyperglycemia (BG >140 mg/dl in a patient with no known diabetes)
- End-tidal CO₂ readings that are abnormally low (< 25mmHg)

Rule #5: Field care of the septic patient focuses on early recognition of possible sepsis, initiating therapy to support the patient's airway, breathing, and circulation, and early notification to the receiving hospital.

- Provide airway management as needed
- Oxygenate to maintain SAO₂ of 95%
- NS fluid therapy to maintain adequate perfusion. Initial fluid therapy for severe sepsis/septic shock in adults is 30 ml/kg. Further fluid therapy should be administered by Base Hospital order only.
- Initial fluid therapy for severe sepsis/septic shock in pediatric patients is up to three (3) 20 ml/kg fluid boluses. Reassess response to fluid therapy between boluses. Further fluid therapy should be administered by Base Hospital order only.
- Vasopressors are rarely indicated in the field as they are administered to septic patients only after substantial IV fluid resuscitation.
- Hospital reports should indicate that you are transporting a patient with "suspected sepsis."

Rule #6: Administer IV fluid cautiously to patients with impaired cardiac function.

- Patients with a history of CHF, cardiomyopathy (abnormally enlarged heart), or other major heart defects are at greater risk for fluid overload with large volume IV fluid boluses. Administer

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IV fluid in 10ml/kg increments and reassess respiratory status and lung sounds before administering more fluid.

Rule #7: The elderly and immune compromised patient may not present with a history of fever.

- Septic patients may lose heat through vasodilatation and present with normothermic or even cool skin, and a normal or low temperature.

Rule #8: Hypoglycemia is uncommon in non-diabetic septic patients, but can occur with overwhelming sepsis, and is associated with a high mortality rate.

Rule #9: The most common sites of infection in septic patients include the following:

- Lungs
- Abdomen/Pelvis
- Urinary Tract
- Soft tissue (primarily skin infections)

Rule #10: The single most important element of the prehospital management of sepsis is recognizing that a patient might be septic and communicating this information to the ED as soon as possible.

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Reference 808: Core Principles: Managing Trauma

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- Rule #1 Major trauma patients with substantial life threats are not stabilized in the field.
- Life threatened trauma patients should receive critical prehospital interventions necessary to preserve life, and then be transported expeditiously to the closest, most appropriate, receiving facility, by any transport means necessary.
- Rule #2 If the field intervention is not critical for managing an immediate life threat, then it should not be done on scene.
- Rule #3 Uncontrolled post-traumatic bleeding is the leading cause of potentially preventable death among trauma patients. This is followed by loss of airway patency and unrecognized/untreated chest wall injuries.
- Rule #4 Provide adequate airway control and ventilation; avoid hyperventilation.
- Normoventilation of trauma patients should be the rule in most instances for those trauma patients receiving ventilation. Low CO₂ levels reduce survival rates in most trauma patients.
 - Critical trauma patients should, when possible, receive both capnographic and oxygen saturation monitoring, particularly when they are being ventilated.
 - Patients with signs of brain herniation (decorticate or decerebrate posturing and/or an asymmetric or non-reactive (blown) pupil) may be modestly hyperventilated (20 breaths/minute in adults) with end-tidal CO₂ levels maintained between 30-35 mmHg.
- Rule #5 Open chest wall injuries should be sealed, symptomatic tension pneumothoracies decompressed.
- Rule #6 Major external hemorrhage should be aggressively controlled using any combination of direct pressure, pressure bandages, and hemostatic gauze.
- The severity of bleeding will dictate the bleeding control intervention.
 - Elevating extremities or pinching arterial pressure points to reduce extremity hemorrhage is not effective.
 - Large, gaping wounds should be cleared of pooled blood and packed with dressings, and tightly secured. Direct pressure should also be applied.
- Rule #7 Tourniquets should be used to treat life threatening extremity hemorrhage.

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- Patients with injuries requiring tourniquets often have time dependent, complex vascular injuries and may benefit from the level of care only available at a trauma center.
- Tourniquets may also cause permanent nerve and other soft tissue damage. The risk of incurring this permanent damage must be weighed against the benefits of tourniquet application before a tourniquet is applied.

Rule #8 In most cases, fluid resuscitation should be titrated to maintain a systolic blood pressure of 90 mmHg – 100mmHg.

- The concept of low-volume fluid resuscitation avoids the adverse effects of early aggressive resuscitation while maintaining a level of tissue perfusion that, although likely lower than normal, is adequate for short periods.
- Hypotension in the presence of TBI is a very ominous sign. Trauma patients with TBI should be treated with IV fluids to maintain a blood pressure of at least 100 mmHg systolic.

Rule #9 Reduce heat loss as much as possible and maintain normothermia.

- Hypothermia, defined as a core body temperature below 95°F, is associated with poor outcomes in critical trauma patients.

Rule #10 Be vigilant about ruling out medical causes for traumatic events.

- Trauma patients can have coexistent hypoglycemia, drug overdose, medical cardiac arrest, seizures with a medical etiology. It is critical that altered vital signs and mentation be explored to rule out medical causes for traumatic events.

Rule #11 Caring for the patient's heart and soul can be as important as managing his or her injuries.

- Numerous studies suggest that trauma patients activate their will to live and their intrinsic resilience when they emotionally connect, however briefly, with their care providers.
- Responders should encourage patients, should communicate their care plan with patients, and should maintain close contact with them throughout evaluation, extrication, treatment, and transport.

Rule #12 Accurate communication and documentation are critical when managing trauma patients.

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Reference 809: Core Principles: Medical ICS

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Rule #1: The utilization of the Incident Command System (ICS) provides the foundation for clear communication, personnel accountability, span of control, unity of command, and efficient resource management for Incident Commanders on the scene of medical emergencies.

- Adherence to this system will encourage a cohesive teamwork approach to patient care with an identified Incident Commander who has the responsibility for overall incident management. Adherence to this system also complies with EMS Policy 611, On-scene Medical Control, and EMS Policy 612, EMS Resource Response and Management.

Rule #2: All medical incidents will have an IC established.

- The first arriving, highest-ranking official of the jurisdictional agency at the scene of the incident initially establishes Command (formal or informal) and assumes all the rights and responsibilities of the Incident Commander.
- The Incident Commander is responsible for the overall management of the incident and assumes responsibility for developing the incident objectives which will be the basis for subsequent incident action planning, resource deployment, and the overall safety of the public and responders.

Rule #3: Rules of ICS will be followed on medical calls.

- The incident commander has responsibility for all tasks on a medical call until these tasks have been delegated to other responders.
- Requests for additional resources or personnel on a medical call will follow the chain of command and will occur through single point ordering.
- When responders have been delegated a task on a medical call, they will continue with this task until it is complete or has been delegated to another responder.
- When responders have completed a task on a medical call they will check in with the position to which they are accountable for reassignment.
- The number of ICS positions on a medical call will be dictated by the number of patients and the complexity of the call.

Rule #4: A Primary patient paramedic/EMT will be identified on all medical calls.

- The term "Primary" will be utilized to identify the responder who assumes, or is assigned, the responsibility for the overall patient care of an individual patient. The Primary will direct and

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delegate patient care tasks to other responders comprising the patient care team. The Primary will generally be responsible for the evaluation of the patient, and for monitoring the patient's overall status. In general, the Primary should be a paramedic when ALS agencies are responding to the call. However, an EMT may be Primary on a patient prior to ALS responders arriving on scene.

- The Primary will communicate resource requests and patient status to the ICS position directly above him/her (Division/Group Supervisor, Medical Branch Director, IC) and will communicate patient handoffs to other responders and hospital staff. The Primary will also be responsible for communicating with the Base Station to determine trauma patient destination or to obtain specific medical orders.
- The Primary is ultimately responsible for all aspects of patient care - delegated or delivered directly – and assumes responsibility for the patient until this patient is handed off to another responder or receiving medical facility.

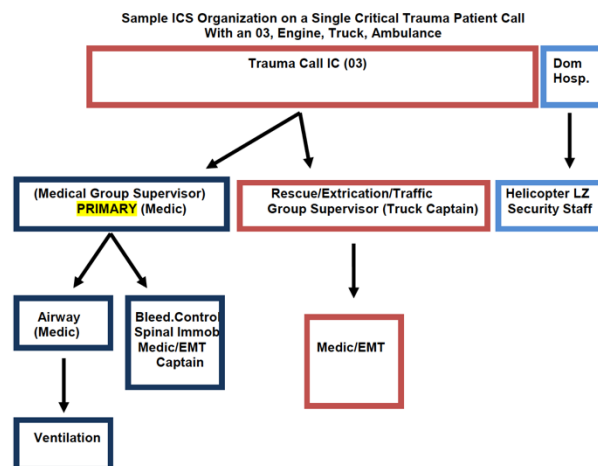
Rule #5: On multiple patient incidents, a Primary paramedic/EMT will be assigned to each patient when possible.

- There may be certain circumstances that necessitate the Primary paramedic / EMT assume patient care responsibility for multiple patients. In the event of a declared Multiple Casualty Incident the Primary paramedic / EMT identifier will not be utilized and all positional terminology will be consistent with the ICS Field Operations Guide (ICS 420-1) and the Santa Cruz County Multiple Casualty Incident Response Plan.

Rule #6: All responders are accountable for the overall success of the medical call, and for ensuring that an appropriate standard of care is delivered to the patient.

- While the Primary will oversee all aspects of patient care, she/he is part of a team of responders who collectively work to provide optimal patient care. To this end, the Primary should encourage alternate plans for and should look to among all the medical call.

suggestions and managing the patient achieve consensus responders involved in



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Reference 810: Core Principles: Spinal Immobilization

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- Rule #1 True spinal injuries are extremely rare, and even more rarely occur in the absence of spinal line pain and/or neurologic deficits.
- Rule #2 Mechanism of injury without subjective complaints or objective findings of spinal injury is generally a poor predictor of spinal injury.
- Substantial spinal injuries are best recognized with diligent patient histories and physical exams.
 - Alert and oriented patients with true spinal injuries tend to exhibit pain and tenderness to palpation, and generally vigorously self-splint.
 - Mechanism of injury should be more carefully considered in high risk patients (the elderly and the young) and in those patients for whom an accurate history and physical examination cannot be obtained.
- Rule #3 Elderly patients are more likely to have spinal injuries after a traumatic event.
- These patients should be more conservatively managed, and there should be a greater suspicion for occult – hidden – spinal injuries, especially in those patients with chronic confusion/dementia.
- Rule #4 Spinal immobilization should not increase patient discomfort. Immobilization that increases pain should be avoided.
- Backboards must be appropriately padded to prevent pain and pressure sores.
- Rule #5 The goal of immobilization is to prevent further spinal injury during patient extrication, treatment, and transport.
- Patients with suspected spinal injuries should be maintained in what is for them a “neutral”, in-line position.
 - This position will vary from patient to patient depending on the presence of arthritis or other spinal abnormalities.
 - A patient’s cervical spine should never be moved if movement increases pain, neurologic deficits, or neck spasms.

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- Rule #6** A range of immobilization strategies - from partial to complete immobilization of the spine – may be utilized depending on the mechanism of injury, complaints, physical findings, and comorbidities of the patient.
- The best candidates for full head-to-toe immobilization are victims of a high impact mechanism with multi-systems injuries.
 - Immobilization of only the cervical spine is acceptable in patients who have an isolated cervical pain complaint, normal mentation, and no neurologic deficits.
 - Patients may be partially or completely immobilized in a semi-fowler’s position.
 - Patients who are laid supine will be substantially more comfortable with knees elevated.
- Rule #7** Immobilization should be accomplished using the most appropriate equipment for the specific circumstance.
- Acceptable equipment includes long backboards, vacuum splints, pneumatic splints, stiff cervical collars, soft collars, short boards or KEDs, straps, head immobilization devices (“headbeds”, etc.), tape as well as soft materials such as pillows and pull sheets.
 - Ill-fitting equipment is worse than no equipment at all.
 - Pull sheets, other flexible devices, and concave “scoops” should be employed for moving patients whenever possible; backboards should be used only if these other devices are unavailable.
- Rule #8** Spinal movement and discomfort are reduced by allowing patients to self- extricate when possible, and to place themselves onto gurneys and spinal immobilization devices.
- Back-boarding patients from a standing position is discouraged.
 - Logrolling patients is very uncomfortable and leads to increased spinal movement. The preferred technique to getting patients onto boards is to “forklift” the patient onto the backboard.
- Rule #9** Full spinal immobilization of penetrating thoracic trauma patients increases mortality and morbidity. Alert, neurologically intact victims of penetrating thoracic trauma without spinal pain do not need spinal immobilization.
- Rule #10** Football players who have suffered a potential spine injury should have all protective equipment removed on the field and should then be immobilized as indicated.
- Rule #11** Responders should document all history and exam findings on the Prehospital Care Report. The patient’s neurologic status pre- and post-immobilization, along with all spinal immobilization interventions, should also be documented.

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Rule #12: In patients without neck or spinal line back pain or tenderness, ALOC, or distracting injury, spinal immobilization may be withheld if the patient can be accurately evaluated.

Rule #13: If there is any doubt about the evaluation of a patient's spine, it is always better to immobilize the patient and defer further spinal evaluation to the ED staff

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Reference 811: Multiple Casualty Incident Plan

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MULTIPLE CASUALTY INCIDENT PLAN:
Santa Cruz County Emergency Plan
Medical and Health Annex, Attachment No. 8

Forward

The Santa Cruz County Multiple Casualty Incident Plan is Attachment No. 8 to the Health Services Agency's Annex to the Santa Cruz County Emergency Plan. This Multiple Casualty Incident Plan is written in two parts: part one is the Administrative Plan, and part two is the Field Operations Plan.

Part One, the Administrative Plan, follows the accepted format of all the 1984 revised County Emergency Plans and is the general information document for multiple casualty incidents.

Part Two, the Field Operations Plan, conforms to the Incident Command System model and is designed to be both the field responders' operations information document and working check sheet.

The Incident Command System has been adopted by all emergency responders and support services serving Santa Cruz County. It is only through the cooperation and coordination of all emergency responders and support services that this plan can be effective.

Special thanks go to Chief Jason Hajduk and the Santa Cruz County Fire Chiefs Association for the development of this plan

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Part One

Administrative Plan

- ❖ Purpose
 - The purpose of this Multiple Casualty Incident Plan is to define the authority, responsibility and function of the various emergency responders who will be called upon to coordinate their emergency response activities at the scene of a major accident.
- ❖ General
 - Authority
 - Santa Cruz County Emergency Plan, dates January 1984.
- ❖ References
 - FIRESCOPE Field Operations Guide ICS 420-1; Current Edition.
 - Applicability
 - This Multiple Casualty Incident Plan is applicable to ALL emergency responders and to ALL governmental and non-governmental medical support services in Santa Cruz County.
- ❖ Scope
 - This Multiple Casualty Incident Plan is intended to coordinate multi-agency response to the single site disaster which could overwhelm the day-to-day emergency medical response system. The Multiple Casualty Incident Plan is NOT designed to accommodate a County-wide ongoing disaster.
- ❖ Objectives
 - The objectives of this Multiple Casualty Incident Plan are to ensure adequate and coordinated efforts to minimize loss of life, disabling injuries and human suffering by providing effective emergency medical assistance through efficient utilization of medical and other resources in the event of an incident which results in many injured persons.
 - Furthermore, the objectives of this plan are to identify and provide the resources necessary for mobilizing teams to effectively deal with the victims resulting from an accident or incident while simultaneously providing teams to deal with the other emergency(s) associated with the accident or incident

Organization

- ❖ Command Authority
 - Each agency shall retain full command authority within its jurisdiction always. Agencies that are assisting in support of a single jurisdiction will function under the direction of that jurisdiction's designated incident commander.
 - In multi-jurisdictional incidents, Incident Commanders may establish unified command, planning and coordinated strategies for controlling the overall incident at a single location command post.
- ❖ Incident Command System
 - The incident scene is organized using the Incident Command System (ICS) which provides a common organizational structure to accomplish set incident objectives and provides a means to interface all

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agencies at any type of major emergency. The Incident Commander only needs to designate persons to fill positions needed for the size of the incident.

- ❖ General Duty Statements
 - The general duty statements of the Command Staff and the specialized multiple casualty positions are contained below:
- ❖ Incident Commander (IC)
 - The Incident Commander is responsible for overall management of the incident. The IC may be a law enforcement, fire or health person. The ultimate IC may be a senior law enforcement, fire or health person based upon the rules, policies or regulations established by the jurisdiction in which the incident has occurred.
- ❖ Liaison Officer (Liaison)
 - The Liaison Officer's function is to be a point of contact for representatives from other agencies which are directed to send their respective Liaison Officers to the Incident Command Post. The Liaison Officers reports directly to the Incident Commander.
- ❖ Public Information Officer (PIO)
 - The Public Information Officer is responsible for developing and releasing information about the incident to the media, incident personnel and other governmental agencies which desire information directly from the incident. The Public Information Officer reports directly to the Incident Commander.
- ❖ Safety Officer (Safety)
 - The Safety Officer's function is to develop and recommend measures for assuring personnel safety, and to assess and/or anticipate hazardous and unsafe situations. The Safety Officer reports directly to the Incident Commander.
- ❖ Planning Section Chief (Plans)
 - The Planning Section Chief is responsible for the collection, evaluation, dissemination and use of information about the development of the incident and status of resources. The Plans Section Chief reports directly to the Incident Commander.
- ❖ Logistics Section Chief (Logistics)
 - The Logistics Section Chief is responsible for providing facilities, services and material in support of the incident. Reports directly to the Incident Commander and supervises Support and Services Branches or units as assigned. Responsibilities include: ordering all resources from off-incident locations, providing facilities, transportation, supplies, equipment maintenance and fueling, feeding, communications and medical services for emergency responders.
- ❖ Operations Section Chief (Operations)
 - The Operations Section Chief is responsible for the direct management of all operation's directly applicable to the primary mission. Reports directly to the Incident Commander and supervises organization elements in accordance with the Incident Action Plan.
- ❖ Staging Area Manager (Staging Manager)
 - The Staging Manager answers directly to the Operations Chief and is responsible for the temporary location of resources (except ambulances) which are available for immediate assignment. All resources within the designated staging area are under the direct control of the Operations Chief.

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- ❖ Medical Branch Director (Medical)
 - The Medical Branch Director is responsible for the implementation of the Incident Action Plan within the Medical Branch. The Branch Director reports to the Operations Section Chief and supervises the Medical Group(s) and patient transportation function.
- ❖ Medical Group Supervisor
 - Reports to the Medical Branch Director and supervises the Triage Unit Leader, Treatment Unit Leader, Patient Transport Unit Leader and Medical Supply Coordinator. Establishes and maintains liaison with other participating medical service providers
- ❖ Triage Unit Leader (Triage)
 - The Triage Unit Leader reports to the Medical Group Supervisor and is responsible for initial point triage and movement of victims/patients to the treatment area. When triage is completed, the Triage Unit Leader may be reassigned as needed.
- ❖ Treatment Unit Leader (Treatment)
 - The Treatment Unit Leader reports to the Medical Group Supervisor and supervises Treatment Managers and the Patient Loading Coordinator. The Treatment Unit Leader is responsible for treatment, preparation for transport and the movement of patients to loading location(s).
- ❖ Patient Transportation Unit Leader (Transportation)
 - The Patient Transportation Unit Leader reports to the Medical Group Supervisor and is responsible for providing and coordinating patient transportation and maintenance of records relating to patient's identification, condition and destination. The Transportation Group Supervisor equipped with two radio frequencies (fire tactical channel and medical channel) must have in-depth field medical knowledge (Advanced Life Support Provider) and be familiar with local hospital capabilities. Consider Medic-100 for filling.
- ❖ Ambulance Coordinator (Ambulance Coordinator)
 - The Ambulance Coordinator reports to Patient Transportation Unit Leader must maintain close contact, visually or by radio, with the Patient Transportation unit leader. Manages the ambulance staging area(s) and dispatches ambulances as requested.
- ❖ Morgue Manager (Morgue)
 - The Morgue Manager reports to the Triage Unit Leader. A Law Enforcement Officer should be assigned if possible to establish and maintain a morgue area. Coordinates the handling of decedents with law enforcement and Coroner.
- ❖ Extrication/Rescue Branch Director (Extrication)
 - The Extrication/Rescue Branch Director is a firefighter who is responsible for site safety, initial patient care and disentanglement of and is responsible for the overall tactical management of patient extrication.
- ❖ Extrication/Rescue Group Supervisor
 - The Extrication Group Supervisor coordinates patient extrication activities.
- ❖ Suppression Branch Director (Suppression)
 - The Suppression Branch Director is responsible for the overall tactical management of fire suppression.
- ❖ Suppression Group

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- The Suppression Group Supervisor coordinates fire suppression activities.
- ❖ Law Enforcement Branch Director (Law)
 - Law Enforcement Branch Director works closely with the Incident Commander or Incident Liaison Officer (#2 Liaison) and directs the overall tactical management of the Law Enforcement Groups.
- ❖ Perimeter Enforcement Group Supervisor (Perimeter Enforcement)
 - The Internal Enforcement Group Supervisor is responsible for security of persons, property, evidence preservation and general enforcement/exclusion of nonessential personnel in the internal perimeter of the incident site.
- ❖ Traffic Enforcement Group Supervisor (Traffic)
 - At the site of those incidents which occur in any unincorporated area of the County (California Highway Patrol traffic jurisdiction) a California Highway Patrol person will assume duties of the Traffic Enforcement Group Supervisor. The Traffic Enforcement Group Supervisor will report to the Incident Commander and be responsible for the direction of all non-essential traffic away from the incident site.
- ❖ Air Operations Branch Director (Air Branch)
 - The Air Operations Branch Director is primarily responsible preparing and implementing air operation strategic objectives in accordance with the Incident Action Plan.
- ❖ Helispot Manager (Helispot)
 - The Helispot Manager is responsible for arranging a helicopter landing area and for coordination of activities with the Medical Group, for off-loading of supplies and material and for loading of evacuees.

Operations

- ❖ This Multiple Casualty Incident Plan will address specific problem areas representative emergency responders identified in preplanning agreement. The specific areas to be addressed are those where cooperative effort, mutual understanding and a coordination of activities are the essential ingredients for success.
- ❖ All aspects of on-scene operation at a Multiple Casualty Incident Plan will not be addressed because:
 - Emergency responder's standard operating procedures for situations vary.
 - Variety and complexity of the varied tasks would produce an unwieldy document.
- ❖ This plan is not intended to be a review of the Incident Command System, but rather an explanation of how the various emergency responders in Santa Cruz County will coordinate their respective responses and cooperate at the site of a multiple casualty incident.
- ❖ It should be noted, particularly by would-be Incident Commanders, that not all the positions outlined in this plan and organizational chart need to be filled on any given incident. However, the Span-of-Control recommended by the Incident Command System should be observed.

Plan Activation

- ❖ When to Activate This Plan:
 - A single site incident which overwhelms the initial responder's human and/or equipment resources.
- ❖ Who May Activate This Plan?
 - Any fire, law enforcement or Medical-Health Services personnel.

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- ❖ How to Activate This Plan:
 - Report to the appropriate Santa Cruz County dispatch center that the Multiple Casualty Incident Plan should be activated.
- ❖ Provide the Following Information at Time of Activation:
 - Declare Level of MCI 1, 2 or 3
 - Type of Incident
 - Location of Incident
 - Best Access Route to Incident Site
 - Number of Injured (Approximate)
- ❖ Request Special Resources (such as):
 - Special Rescue Equipment
 - Additional Law Enforcement (perimeter control/traffic enforcement)
 - Cal Trans/Public Works
 - Coroner
- ❖ Incident Commander
 - The Incident Commander shall direct, order and/or control resources by their explicit legal, agency or delegated authority. The initial Incident Commander may be the first supervisory fire, law enforcement, emergency medical care provider or health officer at an incident site.
 - The Incident Commander will identify themselves by using the name of the facility, street or road where the incident has occurred. For example, the Incident Commander may identify themselves as “Rodeo Gulch Command”, “Riverside Road Command”, or by some such other common landmark or area. In any case, once the Incident Commander chooses a name and identifies him or herself by that name, that name will be used throughout that incident.
- ❖ Unified Command
 - Unified Command is a team effort which allows all agencies with jurisdictional responsibilities for an incident, either geographical or functional, to participate in the management of an incident by establishing a common set of incident objectives and strategies. This is accomplished without losing or abdicating agency authority, responsibility or accountability.
- ❖ Command Post
 - A single site command post shall be established and made immediately identifiable by the Incident Commander, pursuant to Incident Command System directions.
- ❖ Command Post Location
 - The Command Post shall be established keeping in mind:
 - Ease of access
 - Perspective of operation which does not conflict with emergency operations and provides an adequate margin of safety of all command and liaison personnel.
- ❖ Command Post Functions
 - The Command Post is the location from which all incident operations are directed. Law enforcement, Liaison, Public Information and Safety will co-locate at the Command Post. All other agencies or responders will report to the Staging Area when a staging area is set up.

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❖ Staging

- This plan assumes incidents may dictate establishing two staging areas, a General Staging Area and an Ambulance Stand-by Area.
- General Staging Area
 - A General Staging Area may be established for temporary location of all arriving resources. For this plan, all medical supplies will be immediately relocated to the Treatment Area.
- Ambulance Staging Area
 - The Ambulance Staging Area will be established for the location of all ground medical transportation units. Ambulances will be directed to off-load certain supplies for the Treatment Area. Ambulance Stand-by will be located so that move-up for loading can be signaled visually or by radio.

❖ Ambulance Procedure

- Communications
 - Radio Frequency:
 - Ambulances are directed to use the usual Medical Network Radio Channel.
 - Additional Ambulances/Mutual Aid:
 - Requests for additional ambulances or mutual aid must be initiated by the Incident Commander and will be dispatched by Net Com.
- Ambulance Procedure on Site
 - Ambulances dispatched to the incident site will report to the Ambulance Staging Area. The Ambulance Coordinator will be signaled visually or by radio to direct incoming ambulances to the Ambulance Stand-by Area, and will ask the ambulance crew(s) to off-load the following types of equipment for the Treatment Area as indicate and as appropriate:
 - Backboards
 - Scoop stretchers
 - Portable oxygen tanks, masks and cannulas
 - Portable suction
 - Appropriate basic and advanced life support supplies
 - Under no circumstances should any ambulance surrender their gurney or folding stretchers (flats). This equipment must stay with the ambulance always, including after unloading patients at a designated hospital, since ambulance transportation is impossible without this equipment.
- On-Site Ambulance Dispatch
 - Ambulance Staging Area:
 - The Ambulance Coordinator will direct ambulances from the ambulance staging area to the loading area.
 - Ambulance Destination:
 - The Transportation Group Supervisor will direct the loaded, departing ambulances to a receiving hospital. The ambulance(s) so directed will be committed to the facility designated by the Transportation Group Supervisor.
- Reassignment of Ambulances/Completion of Incident

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- Ambulances dispatched to an incident site under declaration of a MCI are assigned to that incident until released by the Incident Commander. After unloading patients at a receiving hospital, ambulances will contact the Ambulance Coordinator and advise ETA back to Ambulance Staging.
- The Ambulance Coordinator will advise if the inquiring ambulance should return to the incident site or be released from the incident.
 - When the ambulance is released from the incident, they are to contact Net Com and go in-service.

❖ Law Enforcement Branch

- Law Enforcement Branch Director
 - The Law Enforcement Branch Director's responsibility is managing both the internal and perimeter components of the law enforcement function at the scene of a multi-casualty incident. This person is ideally the ranking officer in the law enforcement agency with jurisdiction who can make the decisions necessary to manage all the law enforcement tactical elements.
 - The Law Enforcement Branch Director shall, upon request of the Information Officer, mobilize the law enforcement members of the Survivor Data Teams for receiving hospitals. Refer to Survivor Data, a responsibility of the Information Officer.
- First Officer on Scene
 - Absent those occasions where law enforcement will assume Incident Command, the first law enforcement officer from the agency having jurisdiction at the incident site will report to the Incident Commander at the Command Post. This first officer will remain at the Command Post until relieved by a supervisor or tactical manager. (Rank will vary with the agency).
 - The First Officer, a supervisor, tactical manager or Watch Commander will act as the Law Enforcement Branch Director.
- Perimeter Enforcement Group Supervisor
 - A uniformed law enforcement supervisor or officer directly responsible to the Law Enforcement Branch Director, will call for barricades or other appropriate material to assist in perimeter control.
- Controlled Zone Entry Point(s)
 - The Perimeter Enforcement Group Supervisor shall, at his discretion, designate the incident site a "controlled zone" and set up controlled zone entry points from which only authorized personnel and vehicles may enter that incident site.
- Controlled Zone Entry Pass
 - A Controlled Zone Entry Pass will be issued to all authorized non-uniform non-emergency responders by an officer or officers at the zone entry point(s). If the agency or the jurisdiction does not have a controlled zone entry pass system set up, the Sheriff-Coroner has forms and directions available through the Sheriff's Watch Commander.
 - The Controlled Zone Entry Pass is an NCR form with space for the entrant's name, vehicle identification, a zone number designation, the date and the name and identification number of the issuing officer. The Internal Enforcement Group Supervisor and Members will then know that the entrant is authorized. Complete details appear in Sheriff's Office Policy No. 13.
- Internal Enforcement Group Supervisor

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- The Internal Enforcement Group Supervisor, directly responsible to the Law Enforcement Branch Director, will manage the jurisdiction's investigative and internal security element within the inner perimeter of the incident site.
 - Duties will range from supervising the investigation of the accident or incident to security of the site; emergency responder's equipment; victim's property not immediately retrieved; and crash debris which may be evidence.
- Traffic Enforcement Group Supervisor
 - The Traffic Enforcement Group Supervisor, responsible to the Law Enforcement/Traffic Control Branch Director, will maintain traffic flow around the incident site. Although the extent of traffic restriction and/or diversion will depend on many factors, the primary consideration shall be protection of the public and emergency responders and equipment responding to the incident.
- Coroner's Investigation
 - A Deputy Coroner will oversee the recovery of the dead at the scene of a multiple casualty incident and during his investigation will:
 - Note the position of each body, or part thereof, at or near the incident site and photograph and mark that body or part.
 - Each body or part thereof will be numbered at the scene and a secure and waterproof label will be attached. The label will be attached directly to the body, or part. One Sheriff-Coroner's case number will be utilized, and each body or part thereof will be numbered consecutively. (Example: 84-6400-306).
 - Each body, together with all its clothing and personal possessions, must be placed in a body bag. This includes identifying items found near that body.
 - Emergency ambulances shall not be used for the removal of bodies from the incident site.
 - Only Deputy Sheriff-Coroner's will mark bodies and collect clothing and personal possession.
- Remains "Left Where Found"
 - Authority:
 - It is essential that all human remains be left "where found" at any accident or incident site. The ONLY exception will be upon order of the Extrication Group Supervisor who will determine if existing hazards preclude leaving the remains "where found" for the coroner's investigation. If indeed the remains are likely to be destroyed, the Safety Officer will order their removal.
- Removal Procedure/Tagging of Dead:
 - If in the Safety Officers judgment, a body or bodies should be moved from "where found", that body or bodies shall be triage tagged and all possible data concerning "where found" shall be noted on the triage tag. An example could be "row 18, aisle seat, not belted" or "face up under left wing". In any case, where removal is ordered, the Extrication Group member making the removal and marking the triage tag shall put the Extrication Group members name on the tag, to assist the coroner's investigation.
- Investigation Task Force
 - It is the policy of the Sheriff-Coroner's Office to investigate all death cases which are classified as coroner cases, and in multiple death cases and an Investigation Task Force may be initiated to:

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- Identify the dead
- Determine the cause of death
- Discover the cause of death to prevent a recurrence of the event(s) which resulted in the death(s)
- Reception and Processing Remains
 - The investigation, recovery, reception and processing of human remains is fully addressed in the Sheriff's Investigation Bureaus policy and procedure manual. All questions concerning this policy are to be directed to the Sheriff-Coroner's Investigation Bureau – Coroners Section.
- ❖ Information Officer
 - Identification/Responsibilities
 - The Information Officer is appointed by the Incident Commander, and the Information Officer's responsibility is to formulate and release information about the incident to the news media and other appropriate agencies.
 - Coordination of Activities
 - The designated Information Officer will coordinate activities with the Incident Commander to check restrictions to be set upon release of data, and application of 409.5 P.C. at this incident site. The Information Officer will establish liaison with the incident jurisdictions Public Information Officer and with other responding agencies representatives (State and Federal) to provide uniformity of new releases.
 - Survivor Data
 - If in the Incident Commanders Opinion, the incident warrants, the Information Officer will be responsible for activating a survivor coordinating point and for the mobilization of pre-designated Survivor Data Teams. If the Survivor Data Teams are mobilized, it is the Information Officer's responsibility, through amateur radio, to maintain liaison with these teams.
 - The mechanics are for the Incident Commander to advise his radio dispatch point (Net Com, CalFire Command Center) to notify the Sheriff-Coroner's office for officer coverage at Dominican, and the Watsonville Police Department for coverage at Watsonville Community Hospital. Coverage of course may be requested for one or both acute care hospitals in the county. In any case, amateur radio personnel must be notified at the same time, to provide for coverage at the hospital(s) and to provide a liaison officer at the incident site.
 - Survivor Data Coordinating Point
 - In any multi-casualty incident where there are large number of injured survivors who will be dispersed to local area hospitals, a localized all survivor coordinating point must be established. Such a point will be established by the American Red Cross Central Coast Chapter.
 - The Red Cross Chapter will staff telephones at their headquarters. The Red Cross Chapter headquarters will answer relative's inquiries and can, in most cases, direct relatives to the hospital where a specific victim has been taken.
 - Survivor Data Teams
 - Three Survivor Data Teams consisting of a Law Enforcement Officer, a Red Cross volunteer and an Amateur Radio person will obtain the names and victims received at the respective hospitals from

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hospital personnel and will relay that data to the designated Red Cross Chapter headquarters for dissemination to relatives.

- The information can either be relayed by Amateur Radio or by telephone. In any case, the teams can maintain liaison with the Information Officer at the incident site through Amateur Radio and the Amateur Radio person at local hospitals may also relay ancillary non-emergency communications from the hospital to the incident site, when necessary.

❖ War Caused Disaster Operations

- The Multiple Casualty Incident Plan does not apply to war caused disaster operations.

❖ Natural Disaster Operations

❖ General Response

- While this Multiple Casualty Incident Plan is NOT designed to accommodate a County-wide disaster but to coordinate multi-agency response to the single-site disaster which could overcome the day-to-day emergency medical response system, it is not inconceivable that because of this magnitude and impact of the incident that an affected entity may proclaim a local emergency. In such a case, the entity could activate their emergency operating center to coordinate support for field operations.

❖ Operational Concepts

➤ Command Authority

- Operational requirements of the Multiple Casualty Incident Plan dictate that Command Authority is vested in the Incident Commander, and all Emergency Operating Center personnel shall be considered staff support for the respective appointees at the incident site.

➤ Carrier Support

- A commercial passenger carrier will send investigators to the incident site and will provide both victim identification and public information support. Freight carriers will provide salvage information and provide security for freight, damaged and undamaged.

➤ Federal/State Support

- The Federal Aviation Administration and any other Federal service immediately affected by the incident will be called upon to respond, and if the entity proclaims a local emergency State agencies can then assist, if local resources are called upon first.

➤ Fiscal Operations Support

- The entity's Chief Executive Officer or Director of Emergency Services to support on-site operations.

➤ Social Services Support

- The county's Human Resources Agency can be called upon to assist in coordinating the response of volunteer social services organizations who may be called upon to provide coordinated support.
- Medical and Health, Flood, Landslide Hazard Mitigation and Private Property Damage Assessment, Operational Information, Public Works/Engineering, Transportation, Supply, and Public Information and Education may be called upon to assist, if necessary.

Resources and Support Systems

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- ❖ An entity's Emergency Operating Center and operations support services may be activated should the situation warrant. All available support of both regular and volunteer agencies shall, upon order of the Chief Administrative Officer, be made available to the Incident Commander.

Authentication

- ❖ This Multiple Casualty Incident Plan is hereby adopted and will be supported by:

Brenda Brenner
Director, Emergency Medical Services

David Ghilarducci, MD, FACEP, FAEMS
Medical Director, Emergency Medical Services

Part Two

Field Operations Plan

- ❖ Purpose
 - The purpose of this MULTIPLE CASUALTY INCIDENT PLAN is to define the authority, responsibility and function of the various emergency responders who will be called upon to coordinate their emergency response activities at the scene of a major accident.
 - This Part Two of the MULTIPLE CASUALTY INCIDENT PLAN is the Field Operations Plan. The plan should be utilized in conjunction with the current issue of Firescope's Field Operations Guide to provide position checklists for each position identified on the Multiple Casualty Incident Plan organizational chart.
- ❖ Function
 - It is intended that prospective Incident Commanders have a copy of Part Two of the MULTIPLE CASUALTY INCIDENT PLAN available to them when this plan is initiated. Further, when the positions designated on the organizational chart are assigned, that each assignee has a copy of the Position Checklist from the current FOG manual outlines that assignment.
- ❖ Level One MCI
 - Incident involving 10 patients with 5 or more requiring transportation.
 - Additional Resources assigned will include 2 Engines, a Duty Chief, Medic 100, 2 ALS Ambulances, 1 BLS ambulance and 2 Air Ambulances.
 - Local hospitals to accept 1 Immediate and 2 Delayed patients regardless of status.
- ❖ Level Two MCI
 - Incidents involving 10 to 40 patients with 15 or more requiring transportation.
 - Additional resources assigned will include 4 Engines, 2 Duty Chiefs, 2 ALS Ambulances, 2 BLS Ambulance and 2 Air Ambulances.
 - Local hospitals to accept 2 Immediate and 4 Delayed patients regardless of status.
- ❖ Level Three MCI
 - Incidents involving 40 to 100 patients with 25 or more requiring transportation.

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Santa Cruz County EMS Agency Reference Materials

Section 800

- Additional resources assigned will include 6 Engines, 2 Duty Chiefs, 2 ALS Ambulances and 1 Air Ambulance.
- Local hospitals to accept 2 Immediate and 4 Delayed patients regardless of status.

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APPENDIX A: Overall Roles

MCI Level	Level One MCI	Level Two MCI	Level Three MCI	Typical Resource Assignments by Call Type
Description	Operational Focus is on incident management using resources to mitigate the problem on scene. Use of additional resources can be used for scene safety, security, patient evaluation, patient treatment, specialty resource response, etc.	Operational Focus is on incident management using resources to mitigate the problem on scene. Use of additional resources can be used for scene safety, security, patient evaluation, patient treatment, specialty resource response, etc. Additionally, actions will be taken to maintain the integrity of the entire EMS system. This will transition the system from focused patient care to population based patient care.	Operational and Strategic Focus is on scene management, resources necessary to mitigate the incident and maintain the County's EMS System. This includes a transition from focused patient care to population based care. It is necessary to make modifications to the daily 911-EMS system to support the incident and stability of the system. This includes the use of out-of-county mutual aid resources requested from Region II and adjoining Counties.	Medical 1-Engine 1 ALS Ambulance
Example	Multiple vehicle accident involving 10 patients with 5 requiring transport.	Multiple vehicle accident, active shooter incident, aircraft collision, skilled nursing facility requiring evacuation, or an incident involving 10-40 patients with 16 requiring transport.	Large aircraft collision, hospital facility evacuation, isolated natural incident, involving 40-100 patients. More than 25 requiring transport	Vehicle Accident 1-BC Varies by agency generally 2 units 1-Engine & 1-Truck or 2-Engines) 1 ALS Ambulance
LEMSA / MHOAC/County	County may make modifications to daily 911 EMS dispatch to support incident *See MCI standing orders	County will make modifications to daily 911 EMS dispatch to support incident. *See MCI standing orders *LEMSA/MHOAC will notify RDMHS to request assistance with notifications to adjacent counties and with requesting out of county ambulance resources as needed.	County will make modifications to daily 911 EMS dispatch to support incident. *See MCI standing orders County will request out of County resources through region 2 OES County will activate emergency operations plan	Structure Fire 1-BC Varies by agency, generally 5 units. 4-Engines & 1-Truck or 5-Engines 1-M100

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APPENDIX A, Cont.

MCI Level	Level One MCI	Level Two MCI	Level Three MCI	Typical Resource Assignments by Call Type
Fire	<p>Orders local resources Incident management and mitigation Triage of the ill and/or injured On-scene treatment of the ill and/or injured</p>	<p>Orders local resources Incident management and mitigation Triage of the ill and/or injured On-scene treatment of the ill and/or injured</p>	<p>Orders local resources & requests additional resources as needed Coordinates use of mutual aid resources Incident management and mitigation Triage of the ill and/or injured On-scene treatment of the ill and/or injured</p>	
Law	<p>Scene security Investigation Overall incident management depending on jurisdiction Consider agency representative to Command Post</p>	<p>Scene security Investigation Overall incident management depending on jurisdiction Representative to Command Post for Unified Command</p>	<p>Scene security Investigation Overall incident management depending on jurisdiction</p>	
Ambulance Provider	<p>Triage of the ill and/or injured On scene treatment of the ill and/or injured Transportation coordination Transport of the ill and/or injured</p>	<p>Triage of the ill and/or injured On scene treatment of the ill and/or injured Transportation coordination Transport of the ill and/or injured Agency representative will respond as liaison to SCR911 and to assist with County EMS response.</p>	<p>Triage of the ill and/or injured On scene treatment of the ill and/or injured Transportation coordination Transport of the ill and/or injured</p>	
Dispatch	<p>SCR911 or Felton ECC will notify other dispatch centers of MCI event occurring. Dispatch center will notify local Hospitals of MCI Dispatch center will notify zone coordinators *Consider IDT *Consider emergency response team *Notify County EOC</p>	<p>SCR911 or Felton ECC will notify other dispatch centers of MCI event occurring. Dispatch center will notify local Hospitals of MCI Dispatch center will notify OAC Dispatch center will activate zone coordinators IDT response to scene Implement emergency response team Notify County EOC</p>	<p>SCR911 or Felton ECC will notify other dispatch centers of MCI event occurring. Dispatch center will notify local Hospitals of MCI Dispatch center will notify OAC Dispatch center will activate zone coordinators IDT response to scene Implement emergency response team Activate County EOC</p>	

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APPENDIX B: FIELD RESPONSE

MCI Level	Level One MCI	Level Two MCI	Level Three MCI	Typical Resource Assignments by Call Type
Example	Multiple vehicle accident involving 10 patients with 5 requiring transport.	Multiple vehicle accident, active shooter incident, aircraft collision, skilled nursing facility requiring evacuation, or an incident involving 10-40 patients with 16 requiring transport.	Large aircraft collision, hospital facility evacuation, isolated natural incident, involving 40-100 patients. More than 25 requiring transport.	Medical 1-Engine 1 ALS Ambulance
Hospital	1 immediate/ 2 delayed regardless of status. Hospital will implement surge disaster plan.	2 immediate/ 4 delayed regardless of status. Hospital will implement surge disaster plan.	2 immediate/ 4 delayed regardless of status Hospital will implement surge disaster plan Priority will be on out of County transportation and distribution of patients to appropriate facilities. Goal is to not overwhelm any one destination treatment center. Region 2 disaster medical health specialist will be activated and used for coordination of patient transport to regional Hospitals	Vehicle Accident 1-BC Varies by agency generally 2 units 1-Engine & 1-Truck or 2-Engines) 1 ALS Ambulance
Resources Assigned	2-Engines, 1-BC, 1-M100 2 ALS Ambulance 1 BLS Ambulance 2 Air Ambulance *Specialized equipment ordered as needed *Designated PIO	4-Engines, 2-BC 2 ALS Ambulance 2 BLS transport 2 Air Ambulance Consider alternate transport modalities: metro bus, etc. *Specialized equipment ordered as needed *Out of County ambulance strike team *Designated PIO	6-Engines, 2-BC 2 ALS Ambulance 1 Air Ambulance Consider alternate transport modalities: metro bus, etc. *Specialized equipment ordered as needed *Multiple out of County ambulance strike team *Designated PIO	Structure Fire 1-BC Varies by agency, generally 5 units. 4-Engines & 1-Truck or 5-Engines 1-M100
Cumulative Total of Resources Assigned	2-Engines, 1-BC, 1-M100 2 ALS Ambulance 1 BLS Ambulance 2 Air Ambulance (Plus initial resources dispatched)	6-Engines, 3-BC 4 ALS Ambulance 3 BLS transport 4 Air Ambulance (Plus initial resources dispatched) Consider alternate transport modalities: metro bus, etc. *Specialized equipment ordered as needed *Out of County ambulance strike team *Designated PIO	12-Engines, 5-BC 6 ALS Ambulance 5 Air Ambulance (Plus initial resources dispatched) Consider alternate transport modalities: metro bus, etc. *Mutual aid from out of County *Specialized equipment ordered as needed *Multiple out of County ambulance strike team *Designated PIO	

* MCI Levels are sequential with cumulative totals of resources.

* Any responding resource can report the potential of a MCI activation. However only an IC can declare and activate a MCI.

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APPENDIX C: SC County MCI Orders

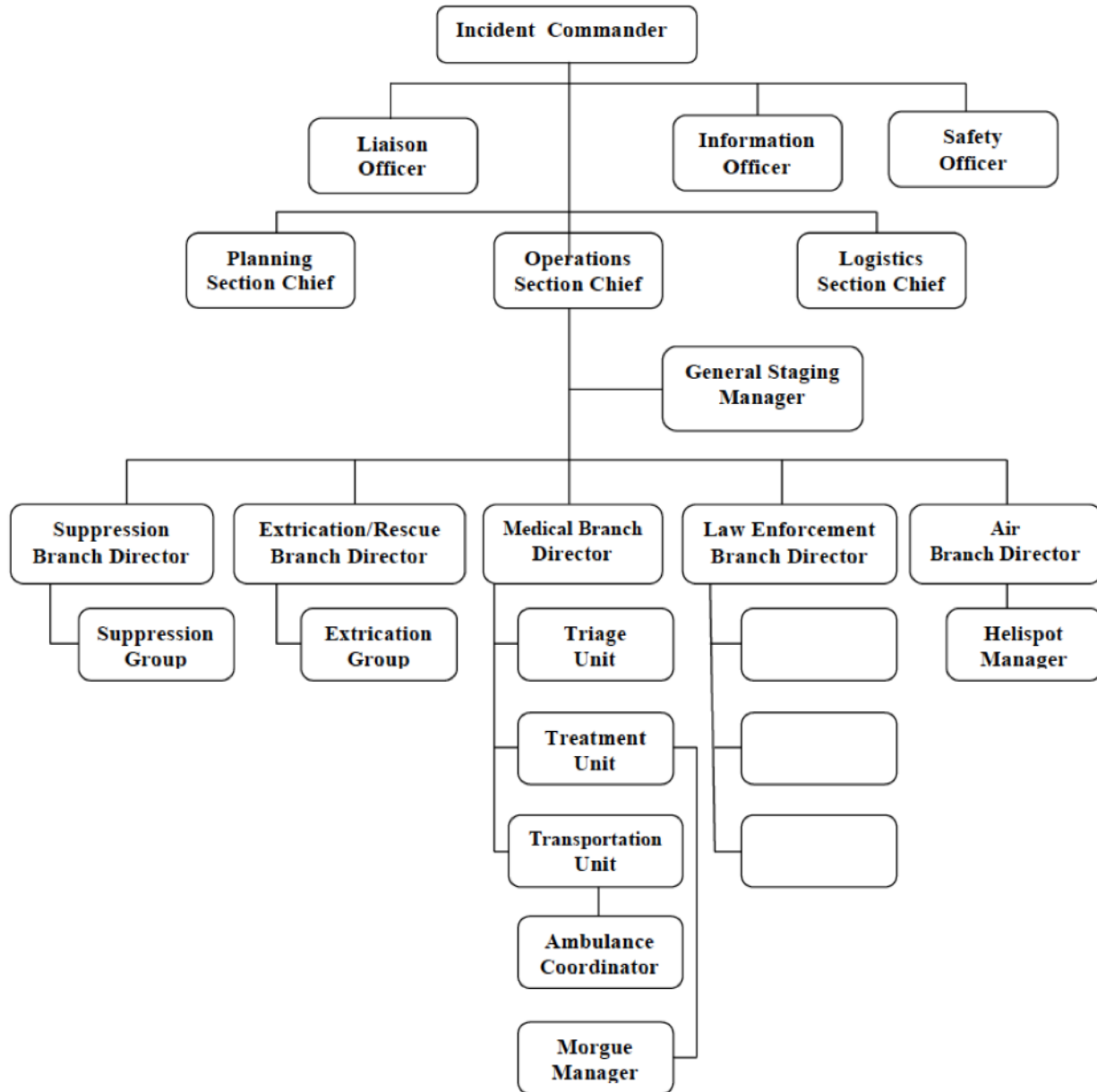
Order #	Description of Orders	*Who Determines & Enacts.
1	All Hospitals Ordered Open <u>Field Crew Response:</u> Hospital diversion statuses are suspended.	*Automatic with any level MCI
2	Discontinue all Patient Care Reports (PCRs) and Replace with Triage Tags. <u>Field Crew Response:</u> Discontinue all Patient Care Reports (PCRs) and Replace with Triage Tags. Only basic patient information and criticality are collected.	*Automatic with any level MCI
3	Dispatch BLS Ambulances to "Alpha", "Bravo" and/or "Code 2" EMS responses. <u>Field Crew Response:</u> Once attached to a response, the BLS ambulance shall remain on the response even if the call is upgraded. If ALS is required, the first responder agency shall provide this service (if available) and accompany the patient to the hospital if needed.	*Automatic above Level One MCI *Enacted by Zone Coordinator or M100
4	All Ambulance Responses are Handled "Code 3". <u>Field Crew Response:</u> To increase ambulance availability, all ambulance responses are handled Code 3, regardless of patient severity.	*Automatic above Level One MCI *Enacted by Zone Coordinator or M100
5	Automatic Ambulance Dispatches are Suspended Until a First Response Unit Arrives on-the-scene and Verifies that a Patient Needing Emergency Transport Exists. <u>Field Crew Response:</u> Ambulances shall only be sent to calls for when a patient has been identified in need of EMERGENCY transportation by ambulance. Patients not in immediate need will not be transported.	*Automatic above Level Two MCI *Enacted by Zone Coordinator or M100
6	Ambulance Dispatches to "Alpha", "Bravo" and/or "Code 2" EMS Calls are Suspended. <u>Field Crew Response:</u> This may follow Order # 3, Order # 4 and/or Order # 5 , if adequate ambulance resources are not available.	*Automatic above Level Two MCI *Enacted by Zone Coordinator or M100

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APPENDIX D: Organizational and Functional Chart

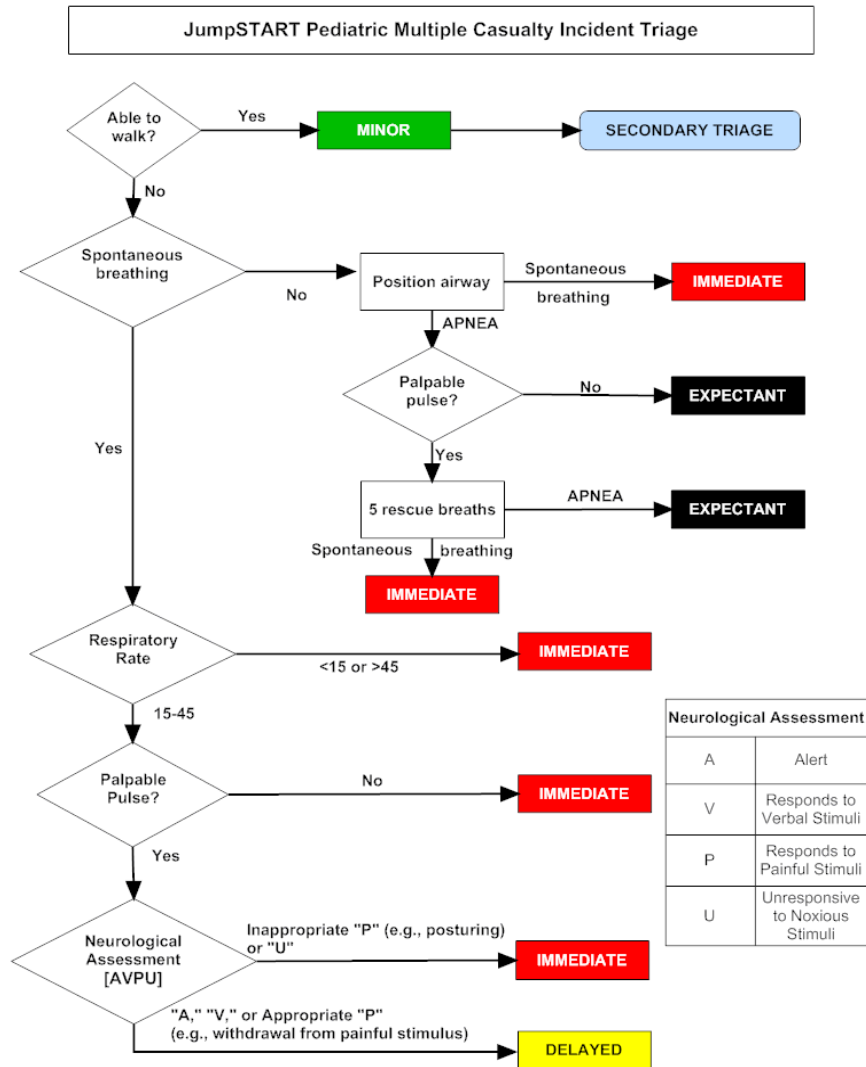


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APPENDIX E: Jump Start Triage



Use JumpSTART if the Patient appears to be a child.

Use an adult system, such as START, if the patient appears to be a young adult.

Triage Categories

<p>EXPECTANT Black Triage Tag Color</p> <ul style="list-style-type: none"> Victim unlikely to survive given severity of injuries, level of available care, or both Palliative care and pain relief should be provided 	<p>DELAYED Yellow Triage Tag Color</p> <ul style="list-style-type: none"> Victim's transport can be delayed Includes serious and potentially life-threatening injuries, but status not expected to deteriorate significantly over several hours
<p>IMMEDIATE Red Triage Tag Color</p> <ul style="list-style-type: none"> Victim can be helped by immediate intervention and transport Requires medical attention within minutes for survival (up to 60) Includes compromises to patient's Airway, Breathing, Circulation 	<p>MINOR Green Triage Tag Color</p> <ul style="list-style-type: none"> Victim with relatively minor injuries Status unlikely to deteriorate over days May be able to assist in own care: "Walking Wounded"

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TRIAGE TAG (Part 2)

TRIAGE TAG
PART II

MEDICAL COMPLAINTS/HISTORY

ALLERGIES:

PATIENT Rx:

TIME	DRUG SOLUTION			DOSE
	D ₅ W	R/L	NS	

NOTES:

PERSONAL INFORMATION

NAME:

ADDRESS:

CITY: TEL. NO.:

MALE FEMALE AGE: WEIGHT:

DECEASED

IMMEDIATE

DELAYED

MINOR

Part II of the Triage Tag can be used by the Treatment Units for documentation, as time allows.

Additional areas for symptoms and medical history, medications given, treatment notes and personal information.

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APPENDIX H: MCI Transportation Worksheet

Transport	Triage Tag	Status	Chief Complaint	Treatment	Off Scene Time
		IDM			
		IDM			
		IDM			
		IDM			
		IDM			
		IDM			
		IDM			
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		IDM			

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APPENDIX I: MCI Treatment Facility Worksheet

Treatment Facility	Critical Beds	Non-Critical Beds
Available:		
Used:		
Available:		
Used:		
Available:		
Used:		
Available:		
Used:		
Available:		
Used:		
Available:		
Used:		
Available:		
Used:		

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Reference 812: Tactical Medicine

Revision 5/22/18
Effective 8/1/18

- IV. Purpose:
- A. To provide medical oversight and continuous quality improvement for tactical medicine teams.
 - B. To coordinate tactical medicine activities with the EMS agency.
 - C. To establish policies and procedures for EMS personnel assigned to Tactical Medicine teams.
- V. Authority
- A. California Health and Safety Code 1797.218, 1797.220, 221 & 1798.
 - B. California Code of Regulations, Title 22, Div. 9, Sec. 100145 & 100169
 - C. California POST/EMSA Tactical Medicine Operational Programs and Standardized Training Recommendations- July 2009.
- VI. Definitions
- A. *Tactical Medicine*- The delivery of medical services for law enforcement special operation teams. The primary goal of tactical medicine is to support and assist a SWAT team in accomplishing its mission during a deployment or response to a critical incident. (what about buddy/self-aid for all officers???)
 - B. Special Weapons and Tactics (SWAT) team- A group of law enforcement officers especially skilled and trained to respond to unusually dangerous and/or violent situations. A designated unit of law enforcement officers that is specifically trained and equipped to work as a coordinated team to resolve critical incidents whose degree of complexity and hazardousness exceed the capabilities of first responders and other basic police officers. This may include hostage taking, barricaded suspects, snipers, terrorist acts and other high-risk incidents.
 - C. Peace Officers Standards and Training (POST)- The California Commission on Peace Officers Standards and Training develops training standards and evaluates and approves curriculum for basic police officer training programs in California.
 - D. Tactical Medicine Training Program- A POST certified and EMSA approved specific operational training for tactical medicine providers and operators that train EMS personnel to safely deliver medical care during SWAT response.
 - E. Tactical Paramedic: An Emergency Medical Technician-Paramedic trained in the specialized use of tactics and care in austere tactical environments.
 - F. Tactical Physician: A physician, licensed in the State of California, trained in the specialized use of tactical medicine and care in austere environments.
 - G. Zones of Care- Areas of operation classified by the level of threat to the safety and security of persons within the area.

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1. *Hot Zone*: Area with a direct and immediate threat to safety to all personnel; rendering care in this zone poses an immediate risk to patient and provider.
2. *Warm Zone*: area with threats to safety though not immediate nor direct. Determination of warm zone boundaries can be dynamic and rendering care may pose a risk to patient and provider due the possibility of becoming a hot zone.
3. *Cold Zone*: Area without any reasonable threat either due to distance, barriers or substantial interposed security presence; care can be delivered without risk.

VII. Policy

- A. Tactical Medicine Programs shall be developed and utilized in accordance with the “California POST/EMSA Tactical Medicine Operational Programs and Standardized Training Recommendations” document which can be located at the EMSA website at http://emsa.ca.gov/Tactical_Casualty_Care_and_Tactical_Medicine_For_Special_Operations . Tactical Medicine personnel shall adhere to the Santa Cruz County EMS scope of practice and function under medical control as established by the EMS Medical Director while functioning as part of a SWAT team.
- B. Tactical Medicine programs and their medical personnel shall coordinate with other Santa Cruz County SWAT personnel as well as be integrated into the local EMS system in coordination with the local Emergency Medical Services Agency (POST, 2010).
- C. Designated Tactical Emergency Medical Support (TEMS) personnel shall successfully complete all initial and ongoing recommended training provided by an approved tactical medicine training program as listed in the “California POST/EMSA Tactical Medicine Operational Programs and Standardized Training” document. A paramedic must have satisfactorily completed training and be in good standing with local, state and national standards before being assigned to a TEMS unit.
- D. Tactical Medicine Operational Programs should have components pertaining to planning, medical oversight, quality improvement and training as defined in “Tactical Medicine Operations Programs and Standardized Training Recommendations (POST, 2010; Section 2.2.1-7).
- E. Tactical Medicine Programs should include tactical medical personnel in mission planning and risk assessment to ensure appropriate assets are available for the mission as defined in “Tactical Medicine Operational Programs and Standardized Training recommendations (POST, 2010; Section 2.2.2).
- F. Tactical Medicine Programs should designate a physician as a Tactical Medicine Medical Director to “provide medical direction, continuous quality improvement, medical oversight and act as a resource for medical contingency planning” (POST, 2010). This physician should be

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experienced in EMS and have successfully completed a tactical medicine training program as listed in the “California POST/EMSA Tactical Medicine Operational Programs and Standardized Training” document.

VIII. Patient Care

- A. All TEMS providers must operate with an awareness of the tactical environment. First priority is maintaining the safety and security of TEMS providers, law enforcement officers, other team members and patients, the second priority is to support the successful completion of the mission.
1. Area of Operations:
 - a) Operational tactics in the tactical environment are under the control of the law enforcement incident commander or designee.
 - b) No TEMS provider shall enter the designated “hot zone” nor engage in direct tactical operations.
 - c) TEMS providers will operate in the “warm zones” as allowed by the law enforcement agency to which they (TEMS) are assigned.
 - d) TEMS providers may operate in the “cold zone” as needed.
 2. Security:
 - a) Primary responsibility for scene security belongs to law enforcement.
 - b) TEMS providers will follow the tactical instructions of law enforcement officers.
 - c) When not involved with patient care, TEMS providers may assist by observing the area for potential threats and communicating with law enforcement officers.
 3. Weapons:
 - a) All TEMS providers will remain alert to detect any weapons carried by a patient.
 - b) If weapons are detected, the TEMS provider will contact a law enforcement officer to remove/secure them.
 - c) If handling of a weapon is unavoidable, the provider will use universal precautions in handling weapons, will adhere to the Santa Cruz County EMS policy on “Crime Scene” management (? official policy title?) and will contact a law enforcement officer immediately to take possession of the weapon.
 4. Patient Care
 - a) TEMS providers must pay primary attention to the safety of team members.
 - b) TEMS providers must not deliver care if doing so will jeopardize the safety of themselves or other team members.
 - c) All patients are to be disarmed by law enforcement before delivery of care by the TEMS provider except in extreme circumstances.

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- d) TEMS providers will adhere to Santa Cruz County EMS policies, protocols and procedures when caring for patients.
- e) Suspects and bystanders as patients:
 - (1) All suspects and bystanders must be disarmed by law enforcement before care is rendered.
 - (2) TEMS providers will contact a law enforcement officer when needed to secure a patient and/or weapon.
- f) Team Members as patient:
 - (1) Except in extreme circumstances, all team members are to be disarmed by law enforcement before delivery of care by TEMS providers.
 - (2) An armed team member must be disarmed if any of the following occur in the patient:
 - (a) Confusion, disorientation or loss of consciousness.
 - (b) Systolic blood pressure < 100.
 - (c) Loss of radial pulse.
 - (3) TEMS providers will contact a law enforcement officer when needed to restrain a team member and/or secure weapons.

IX. Policy: Documentation of Patient Care

- A. All patient encounters by a Santa Cruz County TEMS provider will be documented using the Standard Santa Cruz County EMS Patient Care Record.
- B. Patient privacy and confidentiality of all medical records will be maintained always
- C. Notes: Before initiating CPR in traumatic arrests, providers should weigh the risks to team safety vs low survival rates from traumatic arrests in the tactical setting. CPR should be administered in situations where the cause of arrest is thought to be cardiac, poisoning, drug overdose, hypothermia or electrical injury.

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Reference 813: System Performance Data Dictionary

Revision 5/22/18
Effective 8/1/18

- I. Purpose:
 - A. Total quality management of our EMS is essential to ensure that patient outcomes are optimized, and resources are used as efficiently as possible. This System Performance Data Dictionary establishes reliable, uniform and reproducible criteria for measuring performance.
- II. Santa Cruz County System Report Cards
 - A. First responder (Table 1) and transport (Table 2) report cards have been initially established during the 2017 RFP process by the Medical Director under advisement from a diverse set of system stakeholders.
 - B. Each of the report cards outlines key performance targets for select clinical conditions where critical EMS interventions are believed to have the most beneficial impact on patient outcomes with additional focus on other service delivery imperatives such as a complete clinical documentation and patient satisfaction.
 - C. Each of the clinical measures are designed to meet 3 criteria: 1) they must be measurable in our data system, 2) they must be improvable through standard quality improvement processes and 3) they must reflect value in term of clinical benefit or satisfaction to the patient.
 - D. The report cards measures have substantial overlap with the California EMSA Core Measures and the Cardiac Arrest Registry to Enhance Survival (CARES) programs, however the report cards are designed to provide more detailed performance information specific to Santa Cruz County. Nevertheless, high performance on local measures are designed to achieve high performance on the Core Measures and CARES as well.
 - E. Add data fields specified in this reference refer to current NEMSIS data fields
 - F. System performance and quality assurance processes are dynamic and report cards may be modified as deemed necessary.
- III. First Responder Report Card
 - A. Cardiac Arrest
 1. End tidal CO₂ monitored
 - a) Rationale: End tidal CO₂ monitoring during cardiac arrest provides is an essential information about the quality of resuscitation efforts, the status of any advanced airways and the achievement of ROSC during the resuscitation. Includes all cardiac arrests initiated by first arriving ALS first responder (Fire) units with a recorded ETCO₂
 - b) Numerator:

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- (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"
 - (b) Any numeric value recorded (eVitals.16 – End Tidal Carbon Dioxide)
 - (2) Exclusion Criteria
 - (a) Resuscitation attempted by EMS (eArrest.03) contains "not attempted"
 - (b) Cardiac Arrest etiology (eArrest.02) = "Trauma"
 - c) Denominator: All cardiac arrests initiated by first arriving ALS Fire first responder
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"
 - (2) Exclusion Criteria
 - (a) Resuscitation attempted by EMS (eArrest.03) contains "not attempted"
 - (b) Cardiac Arrest etiology (eArrest.02) = "Trauma"
 - d) Goal: 90% (N/D *100)
2. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
- a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"
 - (b) Resuscitation attempted (eArrest.03) is not empty
 - (c) Bystander CPR (eArrest.05) is not empty
 - (d) AED prior to arrival (eArrest.07) is not empty
 - (e) Date/Time of Initial CPR (eArrest.19) is not empty
 - (f) Initial rhythm (eArrest.11) is not empty

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- (g) Defibrillation (eDevice.11) is not empty
 - (h) ROSC (eArrest.12) is not empty
 - (i) EtCO2 readings (eVitals.16) is not empty
 - (2) Exclusion Criteria
 - (a) Cardiac Arrest etiology (eArrest.02) = "Trauma"
 - c) Denominator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"
 - (2) Exclusion Criteria
 - (a) Resuscitation attempted by EMS (eArrest.03) contains "not attempted"
 - (b) Cardiac Arrest etiology (eArrest.02) = "Trauma"
 - d) Goal: 90% (N/D *100)
- B. Respiratory Distress
 - 1. Mental Status assessed/documentated
 - a) Rationale: Mental status is a sensitive clinical sign for hypoxia and/or hypercapnia.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Respiratory Distress"
 - (b) Mental Status Assessment (eExam.19) is not empty
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Respiratory Distress"
 - (b) Goal: 90% (N/D *100)

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2. Bronchodilator for Wheezing
 - a) Rationale: Wheezing is an early physical finding that can precede respiratory arrest and early bronchodilator therapy is very beneficial.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Chest/Lungs Assessment (eExam.08) contains "Wheezing"
 - (b) Medication given (eMedications.03) contains "**Albuterol**"
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Chest/Lungs Assessment (eExam.08) contains "Wheezing"
 - d) Goal: 85% (N/D *100)
- C. Airway Management
 1. ETCO2 performed on any successful intubation
 - a) Rationale: ETCO2 is an essential indicator of intubation procedural success and an early indicator of dislodgement.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "intubation"
 - (b) Procedure successful (eProcedures.06) = "Yes"
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "intubation"
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
 2. Other Intubation Confirmation Techniques

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- a) Rationale: Confirmation of intubation success often relies on more than one technique.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (b) Procedure successful (eProcedures.06) = “Yes”
 - (c) Airway Device Placement (eAirway.04) is not empty
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
3. Complete Documentation (see Policy 101: Quality Improvement Program and System Evaluation)
- a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (b) Procedure successful (eProcedures.06) = “Yes”
 - (c) Indications for invasive airway
 - (d) Date/Time Airway Device Placement Confirmation
 - (e) Airway Device Being Confirmed
 - (f) Airway Device Placement Confirmed Method
 - (g) Tube Depth
 - (h) Type of Individual Confirming Airway Device Placement
 - (i) Crew Member ID

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- (j) Airway Complications Encountered
 - (k) Suspected Reasons for Failed Airway Management
 - (l) Waveform capnography readings through duration of care
 - (m) EtCO₂ initial (SKL-2)
 - (n) EtCO₂ continuous (SKL-2)
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
- D. STEMI
- 1. ASA Administration **within 5 minutes**
 - a) Rationale: Early ASA administration is beneficial to prevent or minimized platelet aggregation and worsening thrombus.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “STEMI”
 - (b) Medication Given (eMedications.03) contains “Aspirin”
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “STEMI”
 - (2) Exclusion Criteria
 - (a) none

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- d) Goal: 90% (N/D *100)
- 2. SpPO2 Recorded
 - a) Rationale: Hypoxia can lead to additional poor perfusion of myocardial tissue.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (b) Pulse Oximetry (eVitals 12) is not blank
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
- 3. 12 Lead EKG acquired within 5 12 minutes of first ALS arrival
 - a) Rationale: Early STEMI identification leads to earlier door to balloon times saving myocardial tissue.
 - b) Data Elements:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria
 - (a) Transport Unit Arrived at Patient Date/Time (eTimes.07) < First Responder Unit Arrived at Patient Date/Time (eTimes.07)
 - (b) Level of Service (dAgency.11) does not contain "Paramedic"
 - (3) Calculation
 - (a) Date/Time (eProcedure.01) - First Responder Unit Arrived at Patient Date/Time (eTimes.07)
 - (b) Goal: 80% of all Arrival to EKG times are < 12 minutes

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4. Complete Documentation (see Policy 101: Quality Improvement Program and System Evaluation)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All STEMIs initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (b) Arrival to EKG Documented
 - (c) ASA Documented
 - (d) Scene time documented
 - (e) STEMI alert documented
 - (f) Appropriate destination documented
 - (2) Exclusion Criteria
 - (a) Level of Service (dAgency.11) does not contain "Paramedic"
 - c) Denominator: All STEMIs initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria
 - (a) Level of Service (dAgency.11) does not contain "Paramedic"
 - d) Goal: 90% (N/D *100)
- E. Stroke
 1. Time Last Seen Normal Documented
 - a) Rationale: Last Seen Normal is a critical time element necessary for appropriate triage and hospital treatment decisions. Often EMS is in the best position to interview witnesses to determine this time.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (b) Last Known Well (eSituation.18) is not blank

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- (2) Exclusion Criteria
 - (a) none
- c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (2) Exclusion Criteria
 - (a) none
- d) Goal: 90% (N/D *100)
- 2. Use of Prehospital Stroke Scale
 - a) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (b) Stroke Scale Score (eVitals.29) is not blank
 - (2) Exclusion Criteria
 - (a) none
 - b) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (2) Exclusion Criteria
 - (a) none
 - c) Goal: 90% (N/D *100)
- 3. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.

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- b) Numerator: All Strokes initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (b) Last Known Well (eSituation.18) is not blank
 - (c) Stroke Scale Score (eVitals.29) is not blank
 - (d) Blood Glucose (eVitals.18) recorded
 - (e) Scene time recorded
 - (f) Stroke alert (eDisposition.24) is not blank
 - c) Denominator: All Strokes initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - d) Goal: 90% (N/D *100)

F. Trauma

1. PAM Scale Recorded

- a) Rationale: Consistent use of field trauma triage criteria leads to appropriate destination which in turns directly affects morbidity and mortality for trauma patients
- b) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Traumatic" or "Burn"
 - (b) Trauma Center Criteria (eInjury.03) is not blank OR
 - (c) Vehicular, Pedestrian, or Other (eInjury.04) is not blank
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains "Not Applicable" or "Not Recorded", or "Not Reporting"
- c) Denominator:
 - (1) Inclusion criteria

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- (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Traumatic” or “Burn”
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains “Not Applicable” or “Not Recorded”, or "Not Reporting”
 - d) Goal: 90% (N/D *100)
 - 2. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All Strokes initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Traumatic” or “Burn”
 - (b) Scene Times are recorded
 - (c) Trauma Center Criteria (eInjury.03) is recorded
 - (d) Vehicular, Pedestrian, or Other (eInjury.04) is recorded
 - (e) Hospital Capability (eDisposition.23) contains “Trauma Center
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains “Not Applicable” or “Not Recorded”, or "Not Reporting”
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Traumatic” or “Burn”
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains “Not Applicable” or “Not Recorded”, or "Not Reporting”
 - d) Goal: 90% (N/D *100)
- G. Safety

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1. Protocol Compliance per Chart Review
 - a) Rationale: Chart review of high risk cases and random selection can reveal deficiencies in protocol compliance. Identifying deficiencies can provide an opportunity to improve protocols, training and documentation prompts.
 - b) Protocol compliance shall be measured on a 5-point scale that considers the following
 - (1) Appropriate BLS interventions
 - (2) Appropriate ALS procedures, medications and dosages
 - (3) Appropriate response to abnormal vital signs
 - (4) Descriptive narrative that accurately represents the case, including thought processes and treatment plan.
 - (5) Appropriate Destination
 - c) Data:
 - (1) Inclusion criteria
 - (a) Protocol compliance with high acuity (Status 1 and 2) patients (see Policy 621 *Patient Acuity Guidelines*)
 - (b) Protocol compliance with AMA and RAS patients
 - (c) Protocol compliance with random selection of other cases
 - (2) Exclusion Criteria
 - (a) none
 - (3) Analysis: Each element on the 5-point scale is worth 20%
 - d) Goal: Overall average score of 90%
- H. Patient Satisfaction
 1. Data derived from a third party administered patient satisfaction survey
 2. Data elements
 - a) Degree to which the firefighters took your problem seriously
 - b) How well the firefighters explained things in a way you could understand
 - c) Skill of the firefighters
 - d) Extent to which the firefighters cared for you as a person
 - e) Professionalism of the firefighters
- I. ePCR Submission Compliance
 1. Transfer of Care (TOC) critical ePCR elements completed within 10 minutes of patient

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departure from the scene

a) Goal = 90%

2. Full ePCR completed within 24 hours of dispatch time

a) Goal = 100%

IV. Transport Report Card

A. Cardiac Arrest

1. End tidal CO₂ monitored

a) Rationale: End tidal CO₂ monitoring during cardiac arrest is essential information about the quality of resuscitation efforts, the status of any advanced airways and the achievement of ROSC during the resuscitation. Includes all cardiac arrests initiated by ALS units with a recorded ETCO₂

b) Numerator:

(1) Inclusion criteria

(a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"

(b) Any numeric value recorded (eVitals.16 – End Tidal Carbon Dioxide)

(2) Exclusion Criteria

(a) Resuscitation attempted by EMS (eArrest.03) contains "not attempted"

(b) Cardiac Arrest etiology (eArrest.02) = "Trauma"

c) Denominator: All cardiac arrests initiated by first arriving ALS Fire first responder

(1) Inclusion criteria

(a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"

(2) Exclusion Criteria

(a) Resuscitation attempted by EMS (eArrest.03) contains "not attempted"

(b) Cardiac Arrest etiology (eArrest.02) = "Trauma"

d) Goal: 90% (N/D *100)

2. Complete Documentation (see Policy 101: *Quality Improvement Program and System*)

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Evaluation)

- a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All cardiac arrests
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"
 - (b) Resuscitation attempted (eArrest.03) is not empty
 - (c) Bystander CPR (eArrest.05) is not empty
 - (d) AED prior to arrival (eArrest.07) is not empty
 - (e) Date/Time of Initial CPR (eArrest.19) is not empty
 - (f) Initial rhythm (eArrest.11) is not empty
 - (g) Defibrillation (eDevice.11) is not empty
 - (h) ROSC (eArrest.12) is not empty
 - (i) EtCO2 readings (eVitals.16) is not empty
 - (2) Exclusion Criteria
 - (a) Cardiac Arrest etiology (eArrest.02) = "Trauma"
 - c) Denominator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) = "Cardiac Arrest"
 - (2) Exclusion Criteria
 - (a) Resuscitation attempted by EMS (eArrest.03) contains "not attempted"
 - (b) Cardiac Arrest etiology (eArrest.02) = "Trauma"
 - d) Goal: 90% (N/D *100)
- B. Respiratory Distress
- 1. Mental Status assessed/documentated
 - a) Rationale: Mental status is a sensitive clinical sign for hypoxia and/or hypercapnia.

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- b) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Respiratory Distress"
 - (b) Mental Status Assessment (eExam.19) is not empty
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Respiratory Distress"
 - d) Goal: 90% (N/D *100)
2. Bronchodilator for Wheezing
- a) Rationale: Wheezing is an early physical finding that can precede respiratory arrest and early bronchodilator therapy is very beneficial.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Chest/Lungs Assessment (eExam.08) contains "Wheezing"
 - (b) Medication given (eMedications.03) contains "**Albuterol**"
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Chest/Lungs Assessment (eExam.08) contains "Wheezing"
 - d) Goal: 85% (N/D *100)
- C. Airway Management
- 1. ETCO₂ performed on any successful intubation
 - a) Rationale: ETCO₂ is an essential indicator of intubation procedural success and an early indicator of dislodgement.

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- b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (b) Procedure successful (eProcedures.06) = “Yes”
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
2. Other Intubation Confirmation Techniques
- a) Rationale: Confirmation of intubation success often relies on more than one technique.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (b) Procedure successful (eProcedures.06) = “Yes”
 - (c) Airway Device Placement (eAirway.04) is not empty
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains “intubation”
 - (2) Exclusion Criteria
 - (a) none

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- d) Goal: 90% (N/D *100)
- 3. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "intubation"
 - (b) Procedure successful (eProcedures.06) = "Yes"
 - (c) Indications for invasive airway
 - (d) Date/Time Airway Device Placement Confirmation
 - (e) Airway Device Being Confirmed
 - (f) Airway Device Placement Confirmed Method
 - (g) Tube Depth
 - (h) Type of Individual Confirming Airway Device Placement
 - (i) Crew Member ID
 - (j) Airway Complications Encountered
 - (k) Suspected Reasons for Failed Airway Management
 - (l) Waveform capnography readings through duration of care
 - (m) EtCO₂ initial (SKL-2)
 - (n) EtCO₂ continuous (SKL-2) Exclusion Criteria
 - (o) Cardiac Arrest etiology (eArrest.02) = "Trauma"
 - c) Denominator: All cardiac arrests initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "intubation"
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
 - D. STEMI
 - 1. ASA Administration within 5 minutes

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- a) Rationale: Early ASA administration is beneficial to prevent or minimized platelet aggregation and worsening thrombus.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (b) Medication Given (eMedications.03) contains "Aspirin"
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
2. SpPO2 Recorded
- a) Rationale: Hypoxia can lead to additional poor perfusion of myocardial tissue.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (b) Pulse Oximetry (eVitals 12) is not blank
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)

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3. 12 Lead EKG acquired within 5 minutes of first ALS arrival
 - a) Rationale: Early STEMI identification leads to earlier door to balloon times saving myocardial tissue.
 - b) Data Elements:
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria
 - (a) none
 - (3) Calculation
 - (a) Date/Time (eProcedure.01) - Transport Unit Arrived at Patient
Date/Time (eTimes.07)
 - (b) Goal: 80% of all Arrival to EKG times are < 5 minutes
4. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All STEMIs initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (b) Arrival to EKG Documented
 - (c) ASA Documented
 - (d) Scene time documented
 - (e) STEMI alert documented
 - (f) Appropriate destination documented
 - (2) Exclusion Criteria
 - (a) Level of Service (dAgency.11) does not contain "Paramedic"
 - c) Denominator: All STEMIs initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Procedure performed (eProcedures.03) contains "STEMI"
 - (2) Exclusion Criteria

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- (a) none
 - d) Goal: 90% (N/D *100)
- E. Stroke
- 1. Time Last Seen Normal Documented
 - a) Rationale: Last Seen Normal is a critical time element necessary for appropriate triage and hospital treatment decisions. Often EMS is in the best position to interview witnesses to determine this time.
 - b) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (b) Last Known Well (eSituation.18) is not blank
 - (2) Exclusion Criteria
 - (a) none
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (2) Exclusion Criteria
 - (a) none
 - d) Goal: 90% (N/D *100)
 - 2. Use of Prehospital Stroke Scale
 - a) Numerator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (b) Stroke Scale Score (eVitals.29) is not blank
 - (2) Exclusion Criteria
 - (a) none

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- b) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (2) Exclusion Criteria
 - (a) none
- c) Goal: 90% (N/D *100)
- 3. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
 - a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All Strokes initiated by transport units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - (b) Last Known Well (eSituation.18) is not blank
 - (c) Stroke Scale Score (eVitals.29) is not blank
 - (d) Blood Glucose (eVitals.18) recorded
 - (e) Scene time recorded
 - (f) Stroke alert (eDisposition.24) is not blank
 - c) Denominator: All Strokes initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains "Stroke"
 - d) Goal: 90% (N/D *100)
- F. Trauma
 - 1. PAM Scale Recorded
 - a) Rationale: Consistent use of field trauma triage criteria leads to appropriate destination which in turns directly affects morbidity and mortality for trauma patients
 - b) Numerator:

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- (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Traumatic” or “Burn”
 - (b) Trauma Center Criteria (eInjury.03) is not blank OR
 - (c) Vehicular, Pedestrian, or Other (eInjury.04) is not blank
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains “Not Applicable” or “Not Recorded”, or "Not Reporting”
 - c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Traumatic” or “Burn”
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains “Not Applicable” or “Not Recorded”, or "Not Reporting”
 - d) Goal: 90% (N/D *100)
2. Complete Documentation (see Policy 101: *Quality Improvement Program and System Evaluation*)
- a) Rationale: Documentation of critical data elements is essential to measuring performance and identifying opportunities for improvement.
 - b) Numerator: All Strokes initiated by first arriving ALS first responder (Fire) units
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Traumatic” or “Burn”
 - (b) Scene Times are recorded
 - (c) Trauma Center Criteria (eInjury.03) is recoded
 - (d) Vehicular, Pedestrian, or Other (eInjury.04) is recorded
 - (e) Hospital Capability (eDisposition.23) contains “Trauma Center
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains “Not

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Applicable” or “Not Recorded”, or "Not Reporting”

- c) Denominator:
 - (1) Inclusion criteria
 - (a) Primary (eSituation 11) and/or Secondary impression (eSituation 12) contains “Traumatic” or “Burn”
 - (2) Exclusion Criteria
 - (a) Mechanism of Injury (eInjury.02) is blank, or contains “Not Applicable” or “Not Recorded”, or "Not Reporting”

- d) Goal: 90% (N/D *100)

G. Safety

1. Protocol Compliance per Chart Review

- a) Rationale: Chart review of high risk cases and random selection can reveal deficiencies in protocol compliance. Identifying deficiencies can provide an opportunity to improve protocols, training and documentation prompts.
- b) Protocol compliance shall be measured on a 5-point scale that considers the following
 - (1) Appropriate BLS interventions
 - (2) Appropriate ALS procedures, medications and dosages
 - (3) Appropriate response to abnormal vital signs
 - (4) Descriptive narrative that accurately represents the case, including thought processes and treatment plan.
 - (5) Appropriate Destination
- c) Data:
 - (1) Inclusion criteria
 - (a) Protocol compliance with high acuity (Status 1 and 2) patients (see Policy 621 Patient Acuity Guidelines)
 - (b) Protocol compliance with AMA and RAS patients
 - (c) Protocol compliance with random selection of other cases
 - (2) Exclusion Criteria
 - (a) none

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- (3) Analysis: Each element on the 5-point scale is worth 20%
- d) Goal: Overall average score of 90%
- H. Patient Satisfaction
 - 1. Data derived from a third party administered patient satisfaction survey
 - 2. Data elements
 - a) Communication by medics (patient and family)
 - b) Care shown by the ambulance crew
 - c) Skill and professionalism of our ambulance crew
 - d) Cleanliness of the ambulance
 - e) Ride of the Ambulance
- I. ePCR Submission Compliance
 - 1. Transfer of Care (TOC) critical ePCR elements completed within 10 minutes of patient arrival at the hospital
 - a) Goal = 90%
 - 2. Full ePCR completed within 24 hours of dispatch time
 - a) Goal = 100%

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Santa Cruz County First Responder Report Card			
Criterion	Goal	Weighted Value	Score
Cardiac Arrest			
End-tidal CO2 monitored	90.0%	4.0%	
Complete documentation (see System QJ P&P)	90.0%	4.0%	
Respiratory Distress			
Mental Status assessed/documented	90.0%	4.0%	
bronchodilator administration for wheezing within 10 minutes	85.0%	4.0%	
Airway Management			
End-tidal CO2 performed on any successful ET intubation	90.0%	4.0%	
Other confirmation techniques (e.g., visualize chords, chest rise, auscultation)	90.0%	4.0%	
Complete documentation (see System QJ P&P)	90.0%	4.0%	
STEMI			
ASA administration within 5 minutes	90.0%	4.0%	
SpO2 recorded	95.0%	4.0%	
12 LEAD EKG acquired within 5 minutes	80.0%	4.0%	
Complete documentation (see System QJ P&P)	90.0%	4.0%	
Stroke			
Time last seen normal	90.0%	4.0%	
Use of a prehospital BEFAST stroke scale	90.0%	4.0%	
Complete documentation (see System QJ P&P)	90.0%	4.0%	
Trauma			
PAM scale recorded	90.0%	4.0%	
Complete documentation (see System QJ P&P)	90.0%	4.0%	
Safety			
Protocol compliance rate per chart review (high acuity, AMA/RAS, & random)	90.0%	10.0%	
Patient Satisfaction (use standardized questions to allow inter-agency comparison)			
Degree to which the firefighters took your problem seriously	94.0%	4.0%	
How well the firefighters explained things in a way you could understand	95.4%	4.0%	
Skill of the firefighters	94.1%	4.0%	
Extent to which the firefighters cared for you as a person	94.1%	4.0%	
Professionalism of the firefighters	94.1%	4.0%	
ePCR Submission Compliance			
Transfer of Care (TOC) critical ePCR elements completed within 10 minutes of patient departure from scene	90.0%	3.0%	
Full ePCR completed within 24 hours	100.0%	3.0%	
Total Standards		100.0%	

Green: Meet/Exceed Goal

Orange: 0-20% Below Goal

Red: >20% Below Goal

Criteria

- 1) Measurable
- 2) Must be improvable
- 3) Reflect value to the patient

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Santa Cruz County EMS Agency
Reference Materials

Santa Cruz County Transport Report Card			
Criterion	Goal	Weighted Value	Score
Cardiac Arrest			
End-tidal CO2 monitored	90.0%	3.0%	
Complete documentation (see System QI P&P)	90.0%	3.0%	
Respiratory Distress			
Mental Status assessed/documented	90.0%	3.0%	
bronchodilator administration for wheezing	85.0%	3.0%	
Airway Management			
End-tidal CO2 performed on any successful ET intubation	90.0%	3.0%	
Other confirmation techniques (e.g., visualize chords, chest rise, auscultation)	90.0%	3.0%	
Complete documentation (see System QI P&P)	90.0%	3.0%	
STEMI			
ASA administration	90.0%	3.0%	
SpO2 recorded	95.0%	3.0%	
12 LEAD EKG acquired within 5 minutes	80.0%	3.0%	
Scene time less than 15 minutes	80.0%	3.0%	
Transport to STEMI center rate (with notification)	95.0%	3.0%	
Complete documentation (see System QI P&P)	90.0%	3.0%	
Stroke			
Time last seen normal	90.0%	3.0%	
Use of a prehospital BEFAST stroke scale	90.0%	3.0%	
Scene time less than 15 minutes	80.0%	3.0%	
Complete documentation (see System QI P&P)	90.0%	3.0%	
Trauma			
PAM scale recorded	90.0%	3.0%	
Scene time less than 15 minutes	50.0%	3.0%	
Trauma center destination	90.0%	3.0%	
Complete documentation (see System QI P&P)	90.0%	3.0%	
Safety			
Employee injuries per 10,000 hours worked	1.00	2.0%	
Employee turnover rate	25.0%	8.0%	
Protocol compliance rate per chart review (high acuity, AMA/RAS, & random)	90.0%	10.0%	
Patient Satisfaction (use standardized questions to allow inter-agency comparison)			
Communication by medics (patient and family)	97.2%	3.0%	
Care shown by the ambulance crew	94.4%	2.0%	
Skill and professionalism of our ambulance crew	93.8%	2.0%	
Cleanliness of ambulance	94.1%	2.0%	
Ride of the ambulance	92.3%	2.0%	
ePCR Submission Compliance			
At time of patient drop off (over 90 days)	90.0%	2.0%	
High acuity (ROSC, STEMI, Stroke, Trauma) cases at time of drop off	95.0%	2.0%	
Completed within 24 hours	100.0%	2.0%	
Total Standards		100.0%	

Green: Meet/Exceed Goal	Criteria 1) Measurable 2) Must be improvable 3) Reflect value to the patient
Orange: 0-20% Below Goal	
Red: >20% Below Goal	

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Reference 814: Provider Service Permit Application Requirements

Revision: New
Effective 8/9/19

- I. Pursuant to Santa Cruz County Code, Chapter 5.35, the application for a provider permit shall provide the following information:
 - A. The name(s) and address(es) of the applicant(s) and owner(s) of the ambulance or non-transport organization and the organization's or business entity's name.
 - B. The name(s) under which the applicant has engaged, does and proposes to engage in ambulance or non-transport service.
 - C. A description of each ambulance or vehicle, including:
 1. The make
 2. The model
 3. Year of manufacture
 4. Vehicle identification (serial) number
 5. For ambulances and ground vehicles: State ambulance license number and motor vehicle registration number and expiration date
 6. For Air ambulances: Current Federal Aviation Administration (FAA) registration number of each aircraft, airworthiness certificate number and expiration date.
 - D. Length of time each vehicle has been in use, the miles shown on the odometer.
 - E. Vehicle appearance: The color scheme, insignia, name(s), monogram and any other distinguishing characteristics of each vehicle. A photo clearly showing all items is acceptable.
 - F. A description of each vehicle's communications equipment, including radio frequencies.
 - G. The location and description of places from which the services are provided, including address and contact information.
 - H. A statement that the applicant has obtained and has all necessary licenses and permits required by federal and state laws and regulations for the type of service proposed.
 - I. The names and qualifications of each attendant and driver or pilot employed or to be employed in providing service. The applicant shall provide an up-to-date list of attendants, drivers, and pilots quarterly to the LEMSA.
 - J. Evidence of a currently valid California Highway Patrol inspection report for each ground ambulance vehicle listed in the application.
 - K. A description of the applicant's training and orientation programs for ambulance attendants, drivers, and for dispatchers.
 - L. A description of the applicant's quality management program.
 - M. Evidence of insurance coverage meeting the requirements of the County Risk Dept. A current

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Certificate of Insurance shall be submitted.

- N. The ability of the applicant to provide service twenty-four (24) hours per day, seven (7) days per week, year-round.
- O. Facts relied on by the applicant in asserting that the public health, safety, welfare, convenience and necessity warrant the granting of the provider permit.

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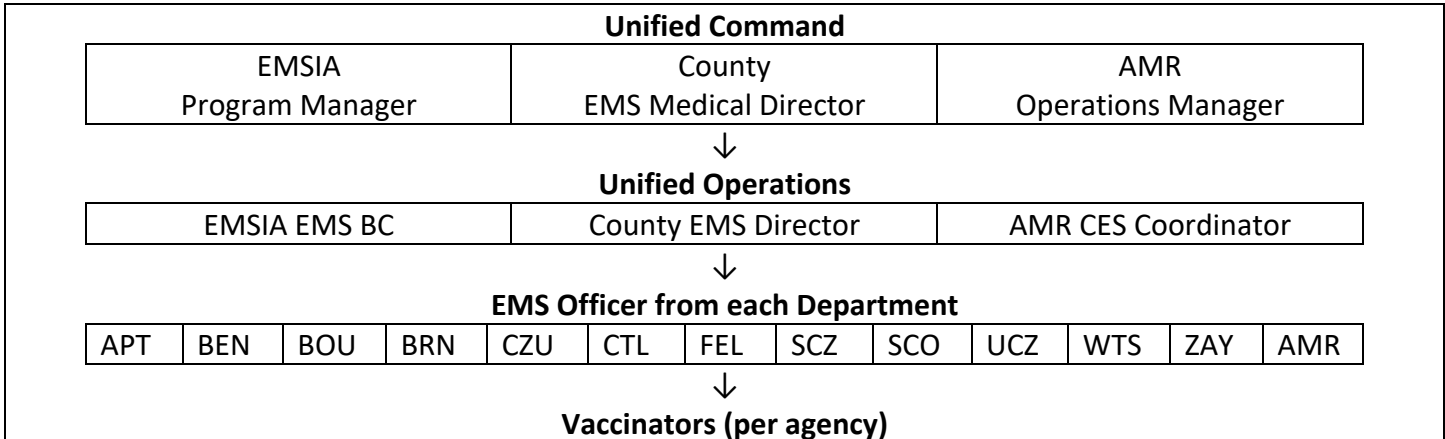
Reference 815: Paramedic Administered Vaccinations

Revision: New
Effective X/X/XX

- II. Scope
 - A. This standard operating procedure (SOP) establishes guidelines by which paramedics in Santa Cruz County will administer specific vaccinations in Santa Cruz County, as approved by EMSA.
- III. Purpose
 - A. The County of Santa Cruz has experienced occasional disease outbreaks. When this occurs, Santa Cruz Public Health officials are concerned about the increased risk to some of our county's most vulnerable members as well as the general public.
 - B. The State of California EMS Authority has authorized an expanded the scope of practice for paramedics to provide immunizations to colleagues and any other group identified in local Public Health Departments' Community Immunization Plans.
 - C. This SOP identifies the procedure by which Santa Cruz County paramedics will be allowed to administer approved vaccine. Once certified as vaccinators, paramedics, for the duration allowed by the State EMSA and the local EMS agency, will be certified to provide vaccinations to those groups identified by the local EMS agency.
- IV. Authorization
 - A. Paramedics are authorized to vaccinate colleagues and other identified populations once the Santa Cruz County EMS Agency has been approved by the State EMSA to allow vaccine administration as an Optional Scope of Practice. This approval remains in place as long as it is allowed by the State EMSA and the Santa Cruz County EMS Agency.
 - B. Paramedics currently working for approved ALS agencies in Santa Cruz County, as permitted by their home agency, may be trained to administer vaccinations. In addition, BLS agencies - volunteer and paid – that employ currently State-licensed paramedics who are accredited and working in other counties may also be trained to provide vaccinations. These paramedics will be sponsored by their Santa Cruz County EMS provider.
 - C. Any agency intent on training paramedics to provide vaccinations must formally communicate this to County EMS in writing, along with a copied notification to the EMSIA EMS Battalion Chief and AMR.
- V. Responsibilities/Command Structure
 - A. The following command structure will guide the planning and implementation of a vaccination program:

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Command will be unified, though the County EMS Medical Director will have the final decision on all medical policies. Operations will also be unified, though the County EMS Manager retains the right to approve or disapprove any policy or procedure that carries County EMS sponsorship. Each EMS provider will elect an EMS officer to communicate directly with the Operations Section; this officer will coordinate the vaccination effort internal to his /her respective department/agency.

VI. Vaccination Training

Paramedic certification to administer vaccinations will be granted after paramedics have successfully completed County EMS-approved training. This training will include the following elements:

- View “Paramedic Vaccination Training” Power Point (found in the “vaccination” folder on the EMSIA page of the County Fire Chief’s website)
- Review the document, “Procedure for Vaccine Storage, Distribution and Administration.” (see attachment #1)
- Review Vaccine Information Statements (see attachments #2 and #3)
- Review Vaccination Declination Statements (see attachments #4 -#5)
- Review Vaccination Consent and Tracking Form (see attachment #6)
- Review “Vaccine Refrigeration and Storage Tracking Form” (see attachment #7)
- Review “Vaccine Log” (see attachment #8)
- Review “Vaccine Administration Count” form (see attachment #9)
- Review this SOP
- Complete the Vaccination Post Test (see attachment #10)
- Attend a joint provider/County EMS training to review all steps to this program, including vaccine storage, transportation, administration, and record keeping.

When these training steps have been completed, each agency/department will notify County EMS of those individuals who have been approved to administer Vaccinations.

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VII. Vaccination Storage and Transport

- A. Vaccine vials, once distributed by County EMS, will be stored in a centrally located, locked refrigerator. A dedicated refrigerator will be maintained for this purpose and will be equipped with a thermometer for temperature monitoring. The temperature will be kept between 35° and 46° F, with temperature checks every 24 hours recorded on a log sheet (see attachment #7). These stores will be subject to EMS Agency inspection at any time.
- B. Vaccines removed for transport to mass vaccination clinics will be transported in a hard plastic or Styrofoam container that is at least 2 inches thick and equipped with frozen cooling packs. These cooling packs will also contain a thermometer and a barrier to prevent the vaccine from freezing. Vaccine tracking into and out of this refrigerator will be conducted using the “Vaccine Log” (see attachment #8).
- C. Refer to the form, “Procedure for Vaccine Storage, Distribution and Administration” (attachment #1) for the procedural steps for this element of the program.

VIII. Vaccine Administration and Record-Keeping

- A. Injectable vaccine will be administered using accepted standards for the IM administration of medications, with OSHA required PPE/sharps disposal as currently practiced.
- B. Personnel identified to receive the vaccine will review the Vaccine Information Statement (see attachments #2 and #3). They will then fill out either the vaccination consent or declination form. The consent form will be evaluated prior to vaccination to verify that there are no contraindications to vaccination.
- C. The vaccination team will then administer the vaccine and fill out the bottom of the consent form for tracking purposes. Copies of all forms will be submitted to the clinic manager. The form titled, “Vaccine Administration Count” (see attachment #9) will be maintained by each provider and then turned in to County EMS at the end of the program.
- D. Refer to the form, “Procedure for Vaccine Storage, Distribution and Administration” (attachment #1) for the procedural steps for this element of the program.

IX. Rescinding Vaccination Scope

- A. County EMS, in conjunction with the State EMSA, may, at any time, rescind a particular provider’s vaccination scope, or this County Optional Scope of Practice in total.

X. Attachments

- A. The following attachments are included/referred to:
 - 1. Procedure for Vaccine Storage, Distribution, and Administration.
 - 2. Vaccine Information Statement
 - 3. Vaccination Declination Statement
 - 4. Refusal to Sign Declination Statement

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Santa Cruz County EMS Agency
Reference Materials

Section 800

5. Consent for Virus Vaccine
6. Vaccine Refrigeration and Storage Tracking Form
7. Vaccine Log
8. Vaccine Administration Count
9. Vaccination Training Post Test

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Reference 816: CoVID-19 Pandemic Response Plan, Protocols and Procedures

Revision: New
Effective 3/15/20

- I. The following modifications to existing policy and procedure are in effect upon Administrative Order from the EMS Agency (see Policy 633)
- II. Definitions
 - A. Alternate Destination: a clinic, physician’s office or urgent care that has been designated as an appropriate destination for EMS patients that would otherwise have been taken to an Emergency Department
 - B. Alternate Care Site: A mobile field hospital or other facility temporarily designated as an inpatient facility that is best equipped to care for lower acuity hospitalized patients for which there is no longer capacity in the acute care hospitals
 - C. Assess and Refer: Process of ALS field evaluation of respiratory illness that refers lowest acuity patients to home management or other non-emergency sources of care.
 - D. Unreliable Patients: Patients who do not appear to express understanding of your instructions, who have no reliable way to recontact 911, or have other complicated medical or social conditions that may place them at higher risk may require transportation to an alternate destination, alternate care site, or hospital for further evaluation.
- III. Response Matrix and Interventions
 - A. The Response Matrix table will determine the level of response and modification as the event progresses
 - B. The EMS Agency will, through Administrative Order, communicate the current level

Santa Cruz County Medical Response Matrix for COVID 19				
	No Outbreak	Mild impact	Moderate Impact	Severe Impact
Description	No cases have been identified in Santa Cruz County and there is little appreciable impact on call volume or patient visits or sick calls of medical and public safety personnel	Some cases have been identified in Santa Cruz County and there is some measurable impact on call volume or patient visits and sick calls of medical and public safety personnel but ability to respond or provide care is not significantly affected	Widespread cases have been identified in Santa Cruz County and there is a significant impact on call volume or patient visits as well as increased sick calls of medical and public safety personnel. The ability to respond is strained with moderate delays in providing care	Widespread cases have been identified in Santa Cruz County and there is a severe increase in call volume and or patient visits and numerous sick calls of medical and public safety personnel that make it likely that some patients will not receive any evaluation or care.
Indicators	<ul style="list-style-type: none"> • Normal occasional negative system levels • Normal offload times • Normal hospital diversion • Baseline sick calls 	<ul style="list-style-type: none"> • Occasional negative system levels • Normal offload times • Normal hospital diversion • Increased sick calls covered by callbacks and overtime 	<ul style="list-style-type: none"> • Frequent negative system levels • Increased offload times • Increased hospital diversion • Increased sick calls difficult to cover by callbacks and overtime 	<ul style="list-style-type: none"> • Continual negative system levels • Prolonged offload times • Continual hospital diversion • Increased sick calls unable to cover by callbacks and overtime

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IV. No Outbreak

- A. Planning and preparation recommended
- B. No modification to established EMS Policies and Procedures

V. Mild Impact

- A. SCR911 Dispatch
 - 1. Modified Dispatch for Dispatch Codes Codes 6 (Alpha/Bravo) and 26 (Alpha and Bravo)
 - a) Fire or QRV response only
 - 2. All other Alphas and Bravos
 - a) When available in the system, BLS ambulances will be the first recommended unit for dispatch.
- B. Fire (EMSIA)
 - 1. QRV (Quick Response Vehicle)
 - a) A QRV is authorized to respond in place of the usual engine and ambulance response for Cards 6AB, 26AB and other low acuity patients as needed.
 - b) Staffed with a minimum of one Paramedic
 - c) Number of units, type of vehicles, number and level of personnel and hours of operation will be determined by the Fire IC in accordance with their Incident Action plan (IAP)
 - d) QRV will be equipped at a minimum with BLS equipment consistent with a BLS engine company.
 - e) A QRV may respond to other incidents as determined by the Fire IC provided it can still accomplish the primary mission
 - 2. Patient Assessment and Disposition
 - a) ALS providers shall institute the Respiratory Illness Assessment and Transportation Algorithm (Figure 1) for patients showing respiratory symptoms
 - b) ALS fire resources are encouraged to clear the scene if the ambulance response is delayed and the patient is stable.
 - (1) See *Reference 801: Core Principles: Appropriate Patient Disposition*
 - (2) For patients with Respiratory Illness, utilize the *Respiratory Illness Assessment and Transportation Algorithm* (figure 1)
- C. Ambulance (AMR/EMSIA)
 - 1. All ambulances will be staffed at the ALS level when possible.
 - a) Ambulance deployment and configuration will be determined by AMR management in accordance with their continuity plans.
 - (1) BLS fire ambulances are exempted
 - b) Any significant deployment changes shall be communicated to the Fire IC, SCR911 and the EMS Agency
 - 2. BLS ambulances
 - a) BLS ambulances, when deployed, will be preferentially dispatched to Alpha and Bravo level calls not otherwise handled by the QRV

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- b) BLS fire ambulances may be deployed into the system as determined by their respective agency leadership.
- 3. Alternative Transportation
 - a) Other types of vehicles (cars, vans, pickups) may be used for low acuity transportation
 - b) Deployment shall be authorized directly by the EMS Agency

VI. Moderate Impact

- A. All Agencies
 - 1. All Mild Impact interventions as above
- B. SCR911 Dispatch
 - 1. Nurse triage for all alpha/bravo cases, if available
 - 2. No initial ambulance response for alpha/bravo cases
 - a) Exception: Code 33A/B will continue to have only an ambulance response in accordance with current protocol
- C. Fire (EMSIA)
 - 1. Deploy additional QRVs as determined by the Fire IC
 - a) QRV may be staffed with a minimum one EMT
 - 2. Modify fire unit configuration as determined by the Fire IC
 - 3. ALS engines may be converted to BLS engines as deemed necessary by the Fire IC
 - a) BLS engines will require a backup ALS response for all Charlie level codes and above.
- D. Ambulance (AMR/EMSIA)
 - 1. Transportation to alternate care sites or alternate care destinations in accordance with Figure 1
 - 2. Patient requests for ambulance transportation will be denied for reliable Category 1 patients (Figure 1 and Policy 608: *Patient Refusal of Care, Against Medical Advice or Release at Scene*)

VII. Severe Impact

- A. All Agencies
 - 1. All Mild and Moderate Impact interventions as above
- B. SCR911 Dispatch
 - 1. No fire or ambulance dispatch to alpha and bravo level cases
 - 2. Instruct callers to seek their own transportation
- C. Fire (EMSIA)
 - 1. Utilize mutual aid if available
 - 2. Close fire stations or brown out units as deemed necessary by the Fire IC
- D. Ambulance (AMR/EMSIA)
 - 1. Utilize mutual aid if available

VIII. Modified Clinical Procedures

- A. All clinical policies and protocols remain in place with the following modifications

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1. When possible, have patient step outside before evaluation. Avoid entering the residence or building.
2. The patient should be immediately masked with a simple procedure mask.
3. Full PPE is required for close contact with all patients with fever or cough or shortness of breath.
4. Limit the number of providers, as situation dictates, who come in close contact with the patient
 - a) Whenever possible, evaluate the patient while maintaining social distancing. Typically, a visual assessment, history and vital signs is sufficient to determine a course of treatment or disposition. Pulse rate and pulse oximetry can be obtained by handing the sensor to the patient. Respiratory rate can be determined from a distance.
 - b) Medical condition permitting, if you determine that the patient qualifies for transportation, then consider limiting contact to the transportation crew.
5. Modified clinical procedure
 - a) Medical condition permitting, avoid nebulization or CPAP. If unavoidable, utilize full PPE.

IX. Procedure for Respiratory Illness Field Assessment and Transportation

- A. Policy 608: *Patient Refusal of Care, Against Medical Advice or Release at Scene* will continue to apply for non-respiratory illness patients.
- B. The Respiratory Illness Assessment and Transportation Algorithm (figure 1) is intended for Respiratory illness only
 1. Patient Acuity Categories
 - a) Category 1: Patients who are clearly in distress, have abnormal vital signs and are in need of field interventions or management. These patients are most likely to require hospitalization in an acute care hospital
 - (1) These patients will require an ambulance response
 - (2) Destination will be either an Emergency Department or an Alternate Care Site (if established)
 - b) Category 2: Patients who are relatively well but would benefit from a more detailed evaluation at a clinic or alternate care destination. These patients may be mildly ill but normal vital signs. Preexisting conditions may place them at higher risk for developing worsening illness but are unlikely to require hospitalization at this time.
 - c) Category 3: Lowest acuity patients that can be safely referred to alternate sources of non-emergency care or remain at home.
 2. Assess and Refer
 - a) Category 3 patients are candidates for Assess and Referral.
 - (1) No EMS transport is recommended
 - (a) Exceptions

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- (i) Unreliable patients
 - (ii) Patients who insist on transportation
- (b) For these exceptions, lower level transportation should be accessed first. This may include extended delay BLS transport.
- (2) Provide patient instructions (Figure 2)
- (3) Do not require patients assessed and referred, to sign the release (AMA) section of the Patient Care Record, as this implies that the patient is at significant risk by not utilizing the EMS system for treatment and/or transportation.

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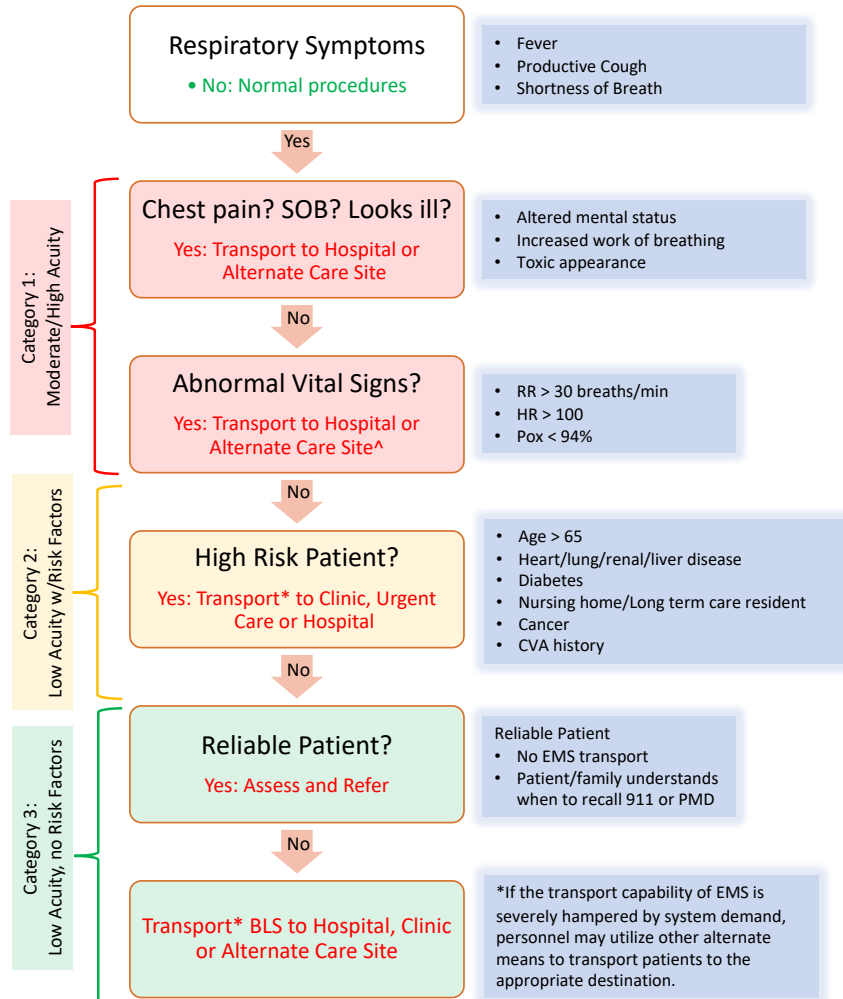
David Ghilarducci MD
EMS Medical Director



Figure 1



**Santa Cruz County EMS Agency
Respiratory Illness Assessment & Transportation
Algorithm**



Acuity/Risk Categories:
 Combination of presentation and risk factors that determine appropriate disposition
 Category 1: Mod to high acuity
 Category 2: Low acuity with risk factors
 Category 3: Low acuity w/o risk factors

^Alternate Care Site:
 A non-hospital facility for patients that would otherwise be admitted to a hospital. This may be a SNF, Gym, Mobile Field Hospital and others.

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 David Ghilarducci MD
 EMS Medical Director



Figure 2



Public Health Division
Emergency Medical Services

County of Santa Cruz

HEALTH SERVICES AGENCY

POST OFFICE BOX 962, 1080 EMELINE AVE., SANTA CRUZ, CA 95061
TELEPHONE: (831) 454-4751 FAX: (831) 454-4488 TDD: Call 711

You have been evaluated by an EMS provider using guidelines developed in response to the COVID Pandemic

It appears that you do not require immediate care in the emergency department. Usually home care is the best plan. If symptoms worsen, you should seek care with your regular healthcare provider, healthcare organization, doctor's office, or clinic.

If you develop shortness of breath or other severe symptoms, recontact 9-1-1 or seek care in the emergency department.

Otherwise we recommend that you:

- Stay at home and seek follow-up treatment as needed with your physician if their symptoms worsen.
- Isolate yourself at home, maintain social distancing, avoid contact with high-risk persons, and self-monitor your condition for worsening symptoms.
- You can find more information by calling 2-1-1 or at <http://www.santacruzhealth.org>

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