SFFD MEDICAL PROTOCOLS

Rev. October 2020

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INTRODUCTION

This document contains general guidelines and specific protocols developed specifically for the Santa Fe Fire Department (SFFD) as an emergency medical services (EMS) agency. Except as noted, it constitutes written medical control for licensed emergency medical technicians (EMTs) employed by SFFD and functioning in their job capacity as EMS providers under the authority of the SFFD medical director.

EMS is an evolving field. Accordingly, this document will be revised from time to time to help ensure that our patients receive the highest quality of care consistent with current accepted medical standards. These revisions will be made by SFFD EMS management with involvement of SFFD field personnel and the local medical community.

Errors in prehospital care are generally errors of omission. The EMS provider will be proactive in the implementation of these protocols, and should not withhold or delay any indicated intervention. Providers should remember, "First do no harm."

SFFD will provide other EMS agencies with a copy of this document when requested in writing by their medical director. Address requests to Medical Officer, Santa Fe Fire Department, P.O. Box 909, Santa Fe, NM 87504. Because this document is specific to SFFD, other agencies may need to modify it to meet the needs of their own communities.

DISCLAIMER

In developing these protocols, every attempt has been made to reflect sound medical practice based on currently accepted standards for out-of-hospital emergency medicine. Despite our best efforts, this document may contain errors or omissions. Except when male or female gender is specifically intended, this document uses masculine pronouns for convenience; such use is not intended to reflect bias. SFFD EMS personnel are encouraged to forward specific questions to the medical officer and medical director through the departmental chain of command. Activities of EMS personnel must be in compliance with all applicable federal, state, county, and local laws and regulations, including 24 NMSA 24.10B Emergency Medical Services System, 7 NMAC 27.2 Licensing of Emergency Medical Services Personnel, 7 NMAC 27.3 Medical Direction for Emergency Medical Services, 7 NMAC 27.11 Supplemental Licensing Provisions, 18 NMAC 3.14 Ambulance Services, and the Federal Controlled Substances Act.

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ABOUT THE EMS SYSTEM

SANTA FE FIRE DEPARTMENT

SFFD is a certificated ambulance service as recognized by the New Mexico Public Regulatory Commission. All SFFD field personnel are New Mexico licensed EMTs, and all SFFD ambulances are ALS-level transport-capable units staffed by at least one EMT-Paramedic and one EMT-Basic or EMT-Intermediate. SFFD is the primary EMS agency for the City of Santa Fe, and cooperates in a mutual-aid agreement with Santa Fe County Fire Department and other agencies in the region. SFFD personnel may attend patients being transported in Santa Fe County Fire Department ambulances, as needed, at their discretion.

SFFD EMS management: Fire Chief,Paul Babcock. Assistant Chief of Operations, Phil Martinez. Assistant Chief of Support Services, Brian Moya. Medical Officer, Michael Suber. EMS Captains Sten Johnson and Faith Applewhite. Training Officer, Eli Frick. Medical Director, Ryan Hodnick, DO.

NONDISCRIMINATION

Every patient will be afforded the best possible care, in accordance with these protocols and the best judgment of SFFD EMS personnel, without regard to age, sex, lifestyle, mental status, national origin, religion, creed, color, race, diagnosis or prognosis, complaint, or ability to pay for services rendered. There is a zero-tolerance policy for discrimination based on any of these factors.

PATIENT ADVOCACY

The patient's concerns and requests must be heard and should be honored. The patient deserves to be fully informed about his condition and care, including potential outcomes and complications. Competent adults have a right to accept or refuse recommended treatment and/or transport.

Immediate family should be considered an extension of the patient. Whenever possible, family members should be informed, included, encouraged to remain with the patient during transport, and supported in their role as patient advocates.

INTERPERSONAL CONFLICTS AT THE SCENE

Any disagreements or conflicts among EMS personnel at a scene should be discussed after the call in a private setting. Try to resolve conflicts at the lowest possible level, preferably via face-to-face discussion. If a conflict cannot be resolved by the involved parties, request assistance through the departmental chain of command. All complaints will be directed to, and resolved by the Medical Officer.

Critiques and debriefings can play a valuable role in solving system issues after a call. These should preferably take place within 72 hours after a call and can be set up through the departmental chain of command.

PATIENT CARE RESPONSIBILITY

The dispatched EMS provider with the highest level of licensure on scene will be in charge of patient care. In the event that more than one person works at that level of licensure, the one first making patient contact will be in charge of patient care. Once the patient is in an ambulance, the most highly trained provider assigned to that unit will take charge of patient care. In no case should a duly dispatched or requested EMS provider at a higher level of licensure be prevented from making patient contact, regardless of patient condition. The presence on scene of other health care providers does not release an EMS service from the staffing requirements outlined by the New Mexico Public Regulatory Commission.

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SFFD's rank structure for EMS personnel is as follows: (1) medical director, (2) medical officer, (3) licensed EMT-paramedic, (4) licensed EMT-Intermediate, (5) licensed EMT-Basic.

A law enforcement officer has no authority in patient care or transport decisions unless he elects to take a patient into custody. The officer is then responsible for all actions occurring as a result of his direct orders. Potential liability consequences should be clearly relayed to the officer. If a conflict arises, contact medical control.

DELEGATION OF RESPONSIBILITY

An EMT-Paramedic may delegate a patient's care to an EMT-Intermediate or EMT-Basic, if there is no reasonable expectation that the patient will require a higher level of care. The paramedic will be held responsible for the appropriateness of the decision. The assessment and delegation should be properly documented.

TRANSFER OF PATIENT CARE

SFFD EMS personnel will stay with the patient and remain responsible for patient care until (1) another EMS provider of equal or higher licensure receives an oral report and assumes responsibility for patient care; (2) patient care is properly transferred to appropriate personnel at the receiving facility, with an oral report; (3) the patient is returned to the originating facility after a round-trip for an outpatient procedure; or (4) the patient is transported on physician order to his residence.

SFFD EMS personnel are solely responsible for unloading the patient from the ambulance. Hospital personnel should stay outside the ambulance unless assistance is requested.

The written EMS patient care report will be transmitted to the receiving facility before the crew departs. If pending calls make this impossible, it must be transmitted within 24 hours.

TRANSPORT DESTINATION, PATIENT STATUS, AND TRANSPORT MODE

The Santa Fe Fire Department, when operating on a 9-1-1 scene response, is authorized to transport patients to Christus St. Vincent Regional Medical Center, 455 St. Michaels Dr., Santa Fe. Such patients should not be transported to the Indian Health Service Santa Fe Service Unit, 1700 Cerrillos Rd., regardless of Native American status. Patient destinations for interfacility transfers are arranged by the sending and receiving physicians.

Patient status should be classified according to the following criteria and included in the radio report to the receiving facility. Transport mode should be decided based on patient status.

Stable: The patient is at no apparent risk of developing a life-threatening or disabling condition. Non-emergency transport is appropriate.

Serious: The patient is at moderate risk of developing a life-threatening or disabling condition. Most circumstances will merit non-emergency transport.

Critical: The patient has an acute life-threatening or disabling condition requiring immediate intervention. Emergency or non-emergency transport may be made at the EMS provider's discretion.

MEDICAL CONTROL EMERGENCY PHYSICIAN CONSULT

EMS personnel should consult by radio or telephone with a medical control emergency physician (MCEP) for patients that they feel might merit the immediate physician attention at the receiving facility. When such a consult is requested, the EMS provider should make a direct report to the physician as soon as possible after the patient arrives in the emergency department. Also, MCEP consultation is recommended when EMS providers have questions regarding care of a specific patient.

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MEDICAL DIRECTOR NOTIFICATION

SFFD's medical director shall be notified via the departmental chain of command for the events listed below. Written documentation i.e. e-mail to medical officer, shall be submitted within 24 hours of the event, preferably before completion of the shift.

- Failed airway attempts
- Surgical cricothyrotomy attempts
- Medication errors or omissions
- Disputes with physician(s) that remain unresolved after one-on-one meeting
- Patient deterioration or death believed to be secondary to EMS care
- Interventions performed without required medical control
- Deviations from protocol

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ABOUT THE PROTOCOLS

STANDING ORDERS AND MEDICAL CONTROL

SFFD EMTs function under medical control, either direct (voice communication with a medical control emergency physician [MCEP]) or indirect (standing orders established by the service medical director).

Throughout these protocols, directives not preceded by the words “contact medical control” may be considered standing orders for the specific condition addressed by each protocol. Directives preceded by the words “contact medical control” may be considered standing orders only when communication with MCEP cannot be established. The barriers to contacting MCEP should be documented and submitted to SFFD’s medical officer within 24 hours. Note that a registered nurse may act as an intermediary for MCEP, but the physician must be identified by name.

Authorization of treatment requiring orders is at the discretion of the MCEP at the receiving facility. MCEP orders may be executed if the intervention is (1) indicated for the patient’s condition, (2) within the EMT’s scope of practice, and (3) included in SFFD’s list of approved skills. If requested orders are not authorized by MCEP, concerns may be communicated to SFFD’s medical officer and medical director through the departmental chain of command.

STANDING ORDERS: PRIMARY MANAGEMENT (ABCs)

The directive “establish primary management” is found throughout these protocols. It indicates that complete primary and secondary surveys should be performed, if possible, and that via standing orders all necessary and appropriate interventions should be performed to maintain airway, breathing, and circulation. Primary management appropriate to each level of EMT licensure is outlined below.

A: Ensure a patent airway

ALL EMTS

- Positioning
- Suction (oropharyngeal, nasopharyngeal, stomal)
- Nasopharyngeal and oropharyngeal airway insertion
- LMA insertion

PARAMEDICS

- Suction (endotracheal)
- Laryngoscopy
- Magill forceps manipulation
- Tracheal intubation (nasal, oral, stomal)
- Surgical cricothyrotomy

B: Ensure adequate ventilation and oxygenation

ALL EMTS

- Supplemental oxygen administration
- Continuous positive airway pressure (CPAP)
- Ventilation with manual (BVM) or automatic ventilator
- Pulse oximetry
- Capnograpy/capnometry

PARAMEDICS

- Needle thoracostomy (chest decompression)

C: Ensure adequate circulation

ALL EMTS

- Automatic external defibrillation
- CPR
- Positioning (supine, Trendelenberg)
- Cardiac monitoring

INTERMEDIATES AND PARAMEDICS

- Peripheral and external-jugular intravenous (IV) access
- Intraosseous (IO) access
- IV/IO fluid administration

PARAMEDICS

- Use of pre-existing vascular access, including central venous catheters, as primary IV site
- Manual defibrillation, synchronized cardioversion, and external pacing
- Performance of ACLS and PALS skills per current American Heart Association guidelines as specified in these protocols

A complete assessment includes the following, as appropriate:

- Level of consciousness
- Mental status
- History of present incident, past medical history, allergies, and medications
- Vital signs, including respiratory rate/effort/depth, pulse rate/strength/regularity, blood pressure, pulse oximetry, and blood glucose level
- Complete physical examination, including lung sounds and neurological exam
- Cardiac monitor and/or 12-lead ECG
- Capnography/capnometry

STANDING ORDERS: FLUID ADMINISTRATION

The directive "establish IV/IO access" is found throughout these protocols. When establishing IV/IO access, intermediates and paramedics should observe the following guidelines regarding fluid administration based on patient condition. The guidelines for patients with hemorrhage are based on the concept of permissive hypotension.

- Patients requiring IV/IO access for medication administration only may receive a saline lock or fluid maintained at KVO rate.[1]
- A saline lock will be appropriate for most of these patients.
- If multiple medication pushes are anticipated, consider hanging a 250 ml bag of NS for flushes.
- Patients without hemorrhage (either controlled or uncontrolled) who require IV/IO fluid may receive fluid titrated to improvement in vital signs.
- Patients in cardiac arrest should receive fluid per current AHA ACLS or PALS guidelines.
- Cardiac arrest patients who are hypotensive after return of spontaneous circulation (ROSC) should receive IV/IO bolus as follows:
- Adult patient: 1-2 L NS.
- Pediatric patient: 20 ml/kg NS. Hypotension is defined as SBP < 60 mm Hg for term neonates, < 70 mm Hg for infants, [< 70 + (age in years x 2)] mm HG for children ages 1-10 yrs, and < 90 mm Hg for children ages > 10 yrs.
- Other adult patients should receive fluid as follows[2]:

SUSPECTED CNS INJURY

- Titrate IV/IO fluid to maintain SBP ≥ 90 mm Hg[3]

UNCONTROLLED HEMORRHAGE[4]

- Normotensive: IV/IO fluid at KVO rate1
- Hypotensive: Titrate IV/IO fluid to maintain SBP 80-90 mm Hg (MAP 60-65 mm Hg)

CONTROLLED HEMORRHAGE[5]

- Normotensive with normal to minimally increased HR: IV/IO fluid at KVO rate1
- Hypotensive, or normotensive with tachycardia and tachypnea: Bolus 1-2 liters IV/IO fluid
- Rapid response[6]: Titrate IV/IO fluid to maintain normal vital signs[7]
- Transient[8], minimal, or no response[9]: Titrate IV/IO fluid to maintain SBP 80-90 mm Hg (MAP 60-65 mm Hg)

[1] KVO = keep vein open (about 30 mL/hr = 30 mgtt/min = 8 gtt/min)
[2] Based on *Prehospital Trauma Life Support,* 8th ed. (2015)
[3] Consider MAP 85-90 mm Hg for spinal cord injury
[4] Suspected intrathoracic, intraabdominal or retropertoneal hemorrhage
[5] External hemorrhage controlled with pressure or tourniquet
[6] Rapid response = vital signs return to normal
[7] HR < 120/min; SBP > 90 mm Hg for adult
[8] Transient response = vital signs initially improve, then deteriorate
[9] Minimal or no response = little or no change in vital signs

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STANDING ORDERS: LOCAL ANESTHETIC FOR IO PLACEMENT

When establishing IO access for patients responsive to pain using the EZ-IO device, intermediates and paramedics should provide local anesthetic with lidocaine 2% according to the following guidelines.

Adult patient

- Prime extension set with lidocaine.
- The priming volume of the EZ-Connect extension set is approximately 1.0 ml (20 mg of lidocaine 2%).
- Slowly infuse lidocaine 40 mg (2 ml) IO over 120 sec.
- Allow lidocaine to dwell in IO space for 60 sec.
- Flush with 5-10 ml NS.
- Slowly administer an additional 20 mg (1 ml) lidocaine IO over 60 sec.
- Repeat as needed.
- Manage pain per "Pain Management" protocol.

Pediatric patient

- Initial lidocaine dose is 0.5 mg/kg (0.025 ml/kg), not to exceed 40 mg (2 ml).
- Prime extension set with lidocaine.
- The priming volume of the EZ-Connect extension set is approximately 1.0 ml (20 mg of lidocaine 2%). For smaller doses of lidocaine, consider administering by carefully connecting syringe directly to needle hub and prime extension set with NS.
- Slowly infuse lidocaine IO over 120 sec.
- Flush with 2-5 ml NS.
- Slowly administer subsequent lidocaine (half initial dose) IO over 60 sec.
- Repeat as needed.
- Paramedics should consider pain management per "Pain Management" protocol for patients not responding to IO lidocaine.

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STANDING ORDERS: CONTROLLED SUBSTANCES

Standing orders for controlled substances are found throughout these protocols. Only paramedics may administer controlled substances under standing orders. The following paragraphs and chart summarize the intended framework in which paramedics may administer controlled substances under standing orders.

For pain management and anxiolysis, Ketamine and Midazolam shall not be administered to any pregnant patient without first contacting MCEP.

Fentanyl and/or Ketamine may be given for pain relief in the setting of trauma.

Any administration outside this framework requires MCEP consult.

Controlled Substances: Standing Orders Summary for Adults

Drug	*Pain*	*Seizure*	*Patient Restraint*	*Post-Intubation*
Fentanyl	50-200 mcg			50-200 mcg
Midazolam		1-5 mg	5-10mg	2-10 mg
Ketamine	0.5mg/kg IN; 0.1-0.25 mg/kg in 100 mL over 12 minutes IV/IO		2-4mg/kg IM or 1-2mg/kg IV	1-2 mg/kg IV/IO

Notes:

- Use capnography to monitor breathing status on and patient receiving medication that may cause apnea and or respiratory changes, including these controlled substances.
- Fentanyl administration should be limited to 100 mcg initially with repeat 100 mcg only after re-evaluation of patient unless otherwise stated in protocols.
- Pediatric dosages and limits are referenced in the individual protocols.
- With all narcotics and benzodiazepines, it is desirable to start with a lower dose and titrate to desired effect.
- When a stable patient with severe pain is being transported from the Santa Fe Ski Area and MCEP cannot be contacted, a paramedic may administer an additional 5 mg of morphine. Upon completion of the call, the paramedic must contact the medical director through the departmental chain of command within 24 hours. The medical director will review the case with the paramedic.
- See "Post-Intubation Analgesia and Sedation" protocol.
- For Ketamine dosing table, see Ketamine drug sheet.

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PAIN MANAGEMENT

DESIGNATION OF CONDITION

Moderate to severe pain. The etiology of the pain may be trauma or medical in nature.

ALL EMTS

Depending on the nature of the pain any combination of the following may be helpful:

- Help the patient into a position of comfort.
- Splint and stabilize the afflicted area in preparation of transport.
- Elevate, apply a cold compress.
- Provide supplemental oxygen.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access.

PARAMEDICS

- Fentanyl 50-200 mcg IV, IO, IN.

- Ketamine:
    - 0.5 mg/kg IN
    - 0.1-0.25 mg/kg in 100 mL NS IV/IO given over 12 minutes.
    - May repeat as needed. May be used as an adjunct or in conjunction with opioid analgesics.

AIRWAY MANAGEMENT: PARAMEDIC GUIDELINES

Paramedics should use advanced airway interventions for apneic or severely hypoxic patients who do not improve with basic airway maneuvers and oxygen administration, or for whom airway problems are anticipated (facial/airway burns, severe asthma, impending respiratory arrest, etc.).

- Patients under age 12 may not be intubated, per New Mexico scope of practice for paramedics.
- For patients under age 12, laryngoscopy may be performed only for foreign body removal and meconium aspiration.
- No drugs may be used to facilitate placement of an advanced airway.
- Fentanyl, Ketamine, Midazolam may be administered per “Post-Intubation Management,” below, if the paramedic determines that sedation and/or analgesia are needed for post-intubation management.
- Medications should be administered in increments with intervening serial assessments whenever possible.
- Immediately following intubation, tracheal placement must be confirmed and documented using at least three indicators (e.g. physical exam, gum-elastic bougie, Toomey syringe, $ETCO_2$).
- Continuous $ETCO_2$ monitoring must be initiated immediately for all intubated patients. Both numeric value and waveform must be monitored and documented.
- Other confirmation indicators include direct visualization, chest rise, equal bilateral lung sounds, no epigastric sounds, and improving oxygen saturation, vital signs, and skin signs.

POST-INTUBATION MANAGEMENT

DESIGNATION OF CONDITION

This is intended to address the sedation of a patient who has been intubated in the field by EMS or who is being transported interfacility with an endotracheal tube in place.

PARAMEDICS

- Continuously monitor and document $ETCO_2$.
- Midazolam 2-10 mg and/or fentanyl 50-200 mcg IV/IO may be administered as necessary for post-intubation sedation and/or analgesia during transport.
- Ketamine [1-2 mg/kg IV/IO].
- Patients who have been paralyzed with neuromuscular blocking agents are unable to exhibit the usual signs of agitation and/or pain. Observe closely for tachycardia, hypertension, tearing, or other signs and administer adequate sedation and analgesia to keep the patient comfortable. This should be balanced with the need to keep the patient in a state that will allow assessment at the receiving hospital. Monitor vital signs carefully, with particular attention for hypotension.
- The paramedic must confirm and document tracheal tube patency before releasing the patient to the receiving hospital. The receiving physician should also be asked to verify tube patency before receiving the patient.

CARDIAC EMERGENCIES

AMI STAT

If the patient meets the criteria outlined below, the EMS provider should notify St. Vincent Hospital ER of an “AMI STAT” candidate. This terminology allows for the highest state of readiness upon the AMI patient’s arrival.

The patient must meet BOTH the “Symptoms” criterion AND AT LEAST ONE of the “ECG” criteria.

Symptoms

- History consistent with AMI as described in “Chest Pain” protocol.

ECG

- 12-lead ECG shows "Meets ST Elevation MI Criteria," “Consider Acute Infarct,” or ST elevation greater than 1 mm in two or more contiguous leads
- QRS less than 0.12 seconds.

ASYSTOLE

DESIGNATION OF CONDITION

The adult patient will be unresponsive, apneic, and pulseless, and the cardiac monitor will show asystole (confirmed with ten-second strips in at least two leads).

ALL EMTS

- Establish primary management, including CPR.
- Basics and intermediates should use AED and manage airway per scope of practice if paramedic not already on scene.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access and consider fluid bolus based on history.
- Intermediates should administer epinephrine 1 mg (10 ml of 1:10,000) IV/IO every 3-5 min until pulse returns or paramedics arrive.

PARAMEDICS

- Confirm asystole in multiple leads.
- Administer epinephrine 1 mg (10 ml of 1:10,000) every 3-5 min.
- Identify and treat reversible causes (“5 H’s and 5 T’s”): hypovolemia, hypoxia, hydrogen ion (acidosis), hyperkalemia/hypokalemia, hypothermia, tablets (drug OD) and toxins, tamponade (cardiac), tension pneumothorax, thrombosis (coronary), and thrombosis (pulmonary).
- In cases of known or suspected hyperkalemia (e.g. renal failure) or hypocalcemia (e.g. after multiple blood transfusions) consider calcium chloride 1 g (10 ml of 10%) slow IV/IO push, followed by sodium bicarbonate 1 mEq/kg IV/IO, early in resuscitation.
- Consider advanced airway management at any point during the resuscitation attempt.
- Only paramedics may terminate unsuccessful resuscitation attempt via standing orders. Consider termination of efforts for any normothermic adult in asystole despite appropriate basic and advanced life support. Involvement of medical control is encouraged. Contact medical control before terminating resuscitation attempts in cases of electrocution, drowning, overdose, or environmental hypothermia.

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ASYSTOLE, PEDIATRIC

DESIGNATION OF CONDITION

The pediatric patient will be unresponsive, apneic, and pulseless, and the cardiac monitor will show asystole (confirmed with ten-second strips in at least two leads).

ALL EMTS

- Establish primary management, including CPR.
- Basics and intermediates should use AED and manage airway per scope of practice if paramedic not already on scene.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access.
- Intermediates should administer epinephrine 0.01 mg/kg (0.1 ml/kg of 1:10,000) IV/IO every 3-5 minutes until pulse returns or paramedics arrive. Maximum single dose is 1 mg.

PARAMEDICS

- Confirm asystole in multiple leads.
- Administer epinephrine 0.01 mg/kg (0.1 ml/kg of 1:10,000) IV/IO every 3-5 min.
- Consider advanced airway management at any point during the resuscitation attempt.
- For normothermic patients in asystole despite appropriate basic and advanced life support interventions, contact medical control and consider termination of resuscitation efforts, taking down time into account.

ATRIAL FIBRILLATION/FLUTTER, SYMPTOMATIC

DESIGNATION OF CONDITION

To qualify for prehospital cardioversion, the atrial fibrillation/flutter patient should be determined to be critically unstable (shortness of breath, chest pain, altered mental status, pulmonary edema, hypotension, ischeemic ECG changes) and exhbiting a rapid ventricular response (rate > 150/min). The benefits of cardioversion should be considered against the known risk of embolic complications with cardioversion of atrial fibrillation/flutter > 48 hr in duration. If the time of onset is unclear or suspected to be > 48 hr, contact medical control prior to cardioversion.

ALL EMTS

- Establish primary management.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access.

PARAMEDICS

- If ventricular rate > 150/min, prepare for immediate cardioversion.
- Contact medical control if possible prior to cardioversion of atrial fibrillation.
- Premedicate whenever possible using midazolam 1-5 mg IV for sedation with or without fentanyl 50-200 mcg IV for analgesia, per "Pain Management" protocol.
- Perform synchronized cardioversion.
- For atrial fibrillation, 200 J as needed.
- For atrial flutter, begin at 100 J and proceed to 200 J as needed.
- Obtain 12 ECG

BRADYCARDIA, SYMPTOMATIC

DESIGNATION OF CONDITION

The patient will be bradycardic (HR < 60) and hypotensive (systolic BP < 90), with associated signs and symptoms such as altered LOC, dyspnea, and/or chest pain.

ALL EMTS

- Establish primary management.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access.

PARAMEDICS

- Administer atropine 0.5 mg IV/IO every 3 min to a maximum total dose of 0.04 mg/kg. Usual total adult dose is 3 mg. The goal is HR ≥ 60 and systolic BP > 90.
- If atropine ineffective or bradycardia believed not to be vagal, perform transcutaneous pacing.
- Set rate at 70 bpm. Increase current in 20 mA increments until electrical capture is obtained; then increase in 5 mA increments until mechanical capture is obtained.
- Premedicate whenever possible using midazolam 1-5 mg IV for sedation with or without fentanyl 50-200 mcg IV for analgesia, per "Pain Management" protocol. Do not delay pacing attempt for IV/IO access.
- For patients on calcium channel blockers, consider calcium chloride 1 g (10 ml of 10%) slow IV/IO push.
- Do not administer calcium to patients on digoxin.
- If above treatments are not effective, consider Epinephrine infusion at 2-10mcg/min.
    - To make this mix, add 1mg of Epinephrine to 250mL saline, creating a 4mcg/mL solution. With 60gtts tubing, run this at 30gtts(2mcg)-150gtts(10mgc) per minute.
    - Titrate to heart rate and blood pressure and or MAP.
- Obtain 12 lead ECG

BRADYCARDIA, SYMPTOMATIC, PEDIATRIC

DESIGNATION OF CONDITION
The patient will be bradycardic (HR < 60) and hemodynamically unstable, with associated signs and symptoms such as altered LOC, poor perfusion, hypotension, and/or respiratory distress
ALL EMTS
- Establish primary management.
- Check BGL.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access.

PARAMEDICS
- Assess for signs and symptoms of poor perfusion.
- Assess rate and depth of ventilation, secure airway as necessary, and administer high-flow oxygen.

Neonate (age ≤ 1 mo)
- If HR < 60 despite adequate oxygenation and ventilation for 30 sec, begin CPR.
- Administer epinephrine 0.01 mg/kg (0.1 ml/kg of 1:10,000) IV/IO every 3 min until the rhythm changes. Maximum single dose is 1 mg.

Infant/child (age 1 mo to onset of puberty)
- If HR < 60 despite adequate oxygenation and ventilation for 30 sec, and signs of poor perfusion, begin CPR.
- Administer epinephrine 0.01 mg/kg (0.1 ml/kg of 1:10,000) IV/IO every 3 min until the rhythm changes. Maximum single dose is 1 mg.
- Administer atropine 0.02 mg/kg IV/IO (0.1 mg minimum single dose, 0.5 mg maximum single dose)
- Atropine may be repeated once.
- Obtain 12-lead ECG.
- Contact medical control to consider pacing.

CARDIAC ARREST, HYPOTHERMIA

DESIGNATION OF CONDITION

The patient will be unresponsive, apneic, and pulseless, with core temperature < 92°F (33°C). Note that tympanic thermometers may not be accurate at low temperatures.

ALL EMTS

- Establish primary management.
- Remove patient from cold environment, strip wet clothing, and cover with blankets.
- Goal is to achieve core rewarming.
- Basics and intermediates should use AED, perform CPR, and secure airway per scope of practice if paramedic not already on scene.
- Defibrillation is unlikely to cause conversion to a normal rhythm until core temperature is > 86°F (30°C).
- Ventilate at a maximum rate of 6-10/min, with warm humidified oxygen if available.
- Rapid transport.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access with warm NS.

PARAMEDICS

- Provide rhythm-specific treatment per protocols.
- Double the time intervals between drug administrations.
- If pulses develop:
- Do not treat bradycardia or atrial fibrillation (assuming severe hypothermia).
- If rhythm is VT with pulse, administer amiodarone 150 mg slow IVP or lidocaine 1 mg/kg IV/IO.
- Contact medical control.
- Obtain 12-lead ECG.

CARDIOGENIC SHOCK

DESIGNATION OF CONDITION

The patient will usually present with signs and symptoms of shock (including altered LOC, tachycardia, hypotension), shortness of breath, and pulmonary edema. These signs and symptoms are usually observed in the setting of AMI and require expeditious transport.

ALL EMTS

- Establish primary management.
- Place patient in Trendelenberg position or position of comfort.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access with large-bore catheter. If systolic BP < 80, administer NS 250 ml bolus and reassess.

PARAMEDICS

- Consider Epinephrine as a push-dose pressor at a dose of 5mcg at a time.
    - Create Epinephrine 1:100 by drawing up 1mL of 1:10 Epinephrine in a 10mL syringe and adding 9mL normal saline to create Epinephrine 10mcg/mL, use 0.5mL per push to achieve a 5mL dose.
    - Titrate to systolic BP >90mm/Hg.
- If wheezing or poor air movement is noted, or if patient is in respiratory arrest, administer albuterol 5 mg nebuized.
- Obtain 12-lead ECG.

CHEST PAIN

DESIGNATION OF CONDITION

The patient will complain of substernal chest discomfort, which may be described as pain, tightness, or pressure and may radiate to the epigastrium, jaw, neck, arms, or back. When in doubt, treat as an AMI. Thoracic aortic dissection may mimic an AMI in presentation and in response to treatment.

ALL EMTS

- Establish primary management, including oxygen sufficient to address dyspnea.
- Administer ASA 162 mg PO, chewed and swallowed.
- Begin cardiac monitoring, unless impending cardiac arrest is anticipated. If cardiac arrest appears imminent, attach defibrillation electrodes.
- Obtain a 12-lead ECG and serial 12-lead ECGs, and include lead V4R if an inferior MI is suspected. Leave electrodes on patient's chest.
- Evaluate whether patient meets AMI STAT criteria (see "AMI STAT" protocol).

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access. Do not delay transport.
- When possible, establish two lines, with the first in the left arm.
- When directed by an on-scene paramedic, an intermediate may administer morphine or fentanyl as specified below.

PARAMEDICS

- The treatment goal is to relieve the chest pain as much as possible, as long as the patient remains hemodynamically stable.
- Obtain 12-lead ECG before giving NTG and/or morphine.
- If systolic BP > 100 and HR > 60, administer NTG 0.4 mg SL every 3-5 min as needed.
- NTG is contraindicated in patients who have taken medication for erectile dysfunction within 24 hours.
- Use NTG with caution if inferior MI is suspected.
- If pain persists and patient remains hemodynamically stable after 3 doses of NTG, administer morphine 2-10 mg IV, titrated to pain relief and hemodynamic effect.
- Use morphine with caution if inferior MI is suspected.
- Consider fentanyl 50-200 mcg IV in patients with hypotension or morphine allergy.
- Contact medical control for orders if more than 10 mg morphine or 200 mcg fentanyl is needed.

CONGESTIVE HEART FAILURE / PULMONARY EDEMA

DESIGNATION OF CONDITION

The patient will present with moderate to severe dyspnea and/or pulmonary edema (including wet lung sounds and possibly pink frothy sputum), and may have a known history of congestive heart failure.

Fever suggests infectious rather than cardiac origin. Look for a differential diagnosis accordingly.

ALL EMTS

- Establish primary management. Elevate head and provide oxygen therapy.
- Administer ASA 162 mg PO, chewed and swallowed.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access. Most patients will require fluid at TKO rate.

PARAMEDICS

- If systolic BP > 100 and HR > 60, administer NTG 0.4 mg SL every 3-5 min as needed.
- NTG is contraindicated in patients who have taken medication for erectile dysfunction within 24 hours.
- CPAP

PULSELESS ELECTRICAL ACTIVITY

DESIGNATION OF CONDITION

The patient will be unresponsive, apneic, and pulseless, and the cardiac monitor will show an organized rhythm.

ALL EMTS

- Establish primary management, including CPR.
- Basics and intermediates should use AED and manage airway per scope of practice if paramedic not already on scene.
- Consider and treat underlying causes.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access with large-bore catheter and begin fluid bolus of 20 ml/kg.
- Intermediates should administer epinephrine 1 mg (10 ml of 1:10,000) IV/IO every 3 min until pulses return or paramedics arrive.

PARAMEDICS

- Administer epinephrine 1 mg (10 ml of 1:10,000) every 3 min until the rhythm changes.
- Identify and treat reversible causes (“5 H’s and 5 T’s”): hypovolemia, hypoxia, hydrogen ion (acidosis), hyperkalemia/hypokalemia, hypothermia, tablets (drug OD) and toxins, tamponade (cardiac), tension pneumothorax, thrombosis (coronary), and thrombosis (pulmonary).
- In cases of known or suspected hypocalcemia (e.g. after multiple blood transfusions) consider calcium chloride 1 g (10 ml of 10%) slow IV/IO push.
- In cases of known or suspected hyperkalemia (e.g. renal failure) consider sodium bicarbonate 1 mEq/kg IVP and calcium chloride 1 g (10 ml of 10%) slow IV/IO push early in resuscitation.
- Consider advanced airway management at any point during the resuscitation attempt.
- Only paramedics may terminate unsuccessful resuscitation attempt via standing orders. Consider termination of efforts for any normothermic adult in asystole despite appropriate basic and advanced life support. Involvement of medical control is encouraged. Contact medical control before terminating resuscitation attempts in cases of electrocution, drowning, overdose, or environmental hypothermia.

PULSELESS ELECTRICAL ACTIVITY, PEDIATRIC

DESIGNATION OF CONDITION

The patient will be unresponsive, apneic, and pulseless, and the cardiac monitor will show an organized rhythm.

ALL EMTS

- Establish primary management, including CPR.
- Basics and intermediates should use AED and manage airway per scope of practice if paramedic not already on scene.
- Consider and treat underlying causes.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access, administer 20 ml/kg bolus, and reassess.
- Intermediates should administer epinephrine 0.01 mg/kg (0.1 ml/kg of 1:10,000) IV/IO every 3 minutes until pulse returns or paramedics arrive. Maximum single dose is 1 mg.

PARAMEDICS

- Administer epinephrine 0.01 mg/kg (0.1 ml/kg of 1:10,000) IV/IO every 3 min until the rhythm changes. Maximum single dose is 1 mg.
- Identify and treat reversible causes (“5 H’s and 5 T’s”): hypovolemia, hypoxia, hydrogen ion (acidosis), hyperkalemia/hypokalemia, hypothermia, tablets (drug OD) and toxins, tamponade (cardiac), tension pneumothorax, thrombosis (coronary), and thrombosis (pulmonary).
- For normothermic patients in asystole despite appropriate basic and advanced life support interventions, contact medical control and consider field termination of resuscitation efforts, taking down time into account.

SUPRAVENTRICULAR TACHYCARDIA

DESIGNATION OF CONDITION

The patient will have a regular HR > 140 with a supraventricular focus by history, or a QRS complex < 0.12 sec and an ECG consistent with SVT (other than atrial fibrillation or atrial flutter). Consider compensatory tachycardia and/or fever and the global clinical picture before treating.

ALL EMTS

- Establish primary management.
- Reassure the patient and place in a position of comfort.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access and consider early bolus based on history.
- A proximal site, such as the antecubital, is preferred in anticipation of adenosine administration.

PARAMEDICS

- Initiate continuous cardiac monitoring and recording prior to conversion efforts.
- If patient is stable:
- Have patient perform Valsalva's maneuver.
- Place patient in Trendelenberg position while continuing Valsalva's maneuver.
- Administer adenosine 6 mg rapid IV/IO push, followed by 20 ml NS flush. A second dose of 12 mg, followed by 20 ml NS flush, may be given if needed
- If patient is critically unstable (with significantly altered LOC, severe dyspnea, severe chest pain, and/or profound hypotension):
- If IV/IO access can be obtained quickly, administer adenosine 12 mg rapid IV/IO push, followed by 20 ml NS flush.
- If adenosine does not convert rhythm and patient remains unstable, perform synchronized cardioversion, starting at 100 J and proceeding to 150 J and 200 J as needed.SUPRAVENTRICULAR TACHYCARDIA, PEDIATRIC

DESIGNATION OF CONDITION

The patient will have HR > 180 (> 220 if an infant), monitored rhythm with a supraventricular focus (narrow-complex tachycardia), and ECG consistent with supraventricular tachycardia.

ALL EMTS

- Establish primary management.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access.

PARAMEDICS

- If patient is stable, ensure adequate oxygenation and transport.
- If patient is unstable, contact medical control to discuss orders for adenosine and/or synchronized cardioversion.
- If IV/IO access immediately available, administer adenosine 0.1 mg/kg rapid IV/IO push followed by NS 2-5 ml. If SVT persists, adenosine may be doubled and repeated once. Maximum single dose is 12 mg.
- If IV/IO access is not immediately available, or if adenosine does not convert the rhythm, perform synchronized cardioversion, starting at 0.5-1 J/kg and proceeding to 1-2 J/kg as needed.
- Transport expeditiously with fluid resuscitation en route as needed.

VENTRICULAR FIBRILLATION / PULSELESS VENTRICULAR TACHYCARDIA

DESIGNATION OF CONDITION

The patient will be unresponsive, apneic, and pulseless, and the cardiac monitor will show ventricular fibrillation or ventricular tachycardia.

ALL EMTS

- Establish primary management.
- Basics and intermediates should use AED and manage airway per AHA BLS guidelines and New Mexico scope of practice if paramedic not already on scene.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access.
- Intermediates should administer epinephrine 1 mg (10 ml of 1:10,000) every 3 min until pulse returns or paramedics arrive.

PARAMEDICS

- If the arrest was witnessed and monitored, defibrillate immediately at 200 J.
- Organize CPR in 2-min periods (5 cycles of 30 chest compressions and 2 ventilations each). Minimize interruptions, pausing only to check rhythm and deliver shocks. Perform CPR while defibrillator is charging, and resume CPR immediately after shock delivery. Prepare drug doses prior to rhythm check and administer drugs during CPR, as soon after rhythm check as possible.
- Attempt defibrillation if indicated after each 2 min period of CPR. Using the Lifepak 15 in manual mode, first dose is 200 J, second dose 300 J, third and subsequent doses 360 J.
- Administer epinephrine 1 mg (10 ml of 1:10,000) every 3 min until the rhythm changes.
- Consider antidysryhthmics for shock-resistant VF or pulseless VT:
- Administer amiodarone 300 mg IV/IO; repeat once in 5-10 min at 150 mg IV/IO if VF/VT continues.
- Consider magnesium sulfate 2 g slow IV/IO push for refractory VF and for suspected torsades de pointes.
- In cases of suspected hyperkalemia (e.g. renal failure) consider sodium bicarbonate 1 mEq/kg IV/IO and calcium chloride 1 g (10 ml of 10%) slow IV/IO push early in resuscitation.
- Consider advanced airway management at any point during the resuscitation attempt.
- Only paramedics may terminate unsuccessful field resuscitation via standing orders. Consider termination of efforts for any normothermic adult in asystolic cardiac arrest who is unresponsive to appropriate defibrillation, airway management and ventilation, and rhythm-appropriate drugs. Involvement of medical control is encouraged.

V-FIB AND PULSELESS V-TACH, PEDIATRIC

DESIGNATION OF CONDITION

The patient will be unresponsive, apneic, and pulseless, and the cardiac monitor will show ventricular fibrillation or ventricular tachycardia.

ALL EMTS

- Establish primary management, including CPR.
- Basics and intermediates should use AED and manage airway per AHA BLS guidelines and New Mexico scope of practice if paramedic not already on scene.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access.
- Intermediates should administer epinephrine 0.01 mg/kg (0.1 ml/kg of 1:10,000) IV/IO every 3 minutes until pulse returns or paramedics arrive. Maximum single dose is 1 mg.

PARAMEDICS

- Organize CPR in 2-min periods (cycles of 15 chest compressions and 2 ventilations). Minimize interruptions, pausing only to check rhythm and deliver shocks. Perform CPR while defibrillator is charging, and resume CPR immediately after shock delivery. Prepare drug doses prior to rhythm check and administer drugs during CPR, as soon after rhythm check as possible.
- Attempt defibrillation if indicated after each 2 min period of CPR. Using the Lifepak 15 in manual mode, first dose is 2 J/kg, second dose is dose 3-4 J/kg, and third and subsequent doses are 4 j/kg.
- Administer epinephrine 0.01 mg/kg (0.1 ml/kg of 1:10,000) IV/IO every 3 min until the rhythm changes. Maximum single dose is 1 mg.
- Consider antidysrhythmics as indicated:
- Amiodarone 5 mg/kg IV/IO. May repeat up to 2 times for refractory VF/pulseless VT.
- Magnesium sulfate 25-50 mg/kg IV/IO, maximum dose 2 g, for torsades de pointes or known hypomagnesemia.
- Consider advanced airway management at any point during the resuscitation attempt.
- Contact medical control to discuss field termination of resuscitation efforts for normothermic patients in asystole despite appropriate basic and advanced life support interventions, taking down time into account.

VENTRICULAR TACHYCARDIA, ADULT, STABLE

DESIGNATION OF CONDITION

The cardiac monitor will show sustained ventricular tachycardia (wide-complex tachycardia, and the patient will be awake and alert with a systolic BP > 90 and no significant chest discomfort or signs of shock.

ALL EMTS

- Establish primary management.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access.

PARAMEDICS

- Obtain 12 lead ECG.
- Consider adenosine only if rhythm is regular and monomorphic.
- First dose: 6 mg rapid IVP. Second dose: 12 mg rapid IVP if required.
- Administer amiodarone 150 mg IV over 10 min.
- Be prepared for synchronized cardioversion

VENTRICULAR TACHYCARDIA, ADULT, UNSTABLE

DESIGNATION OF CONDITION

The cardiac monitor will show sustained ventricular tachycardia (wide-complex tachycardia), generally at a rate > 150. The patient will have a pulse but will be hypotensive, with decreased LOC, significant dyspnea, severe chest pain, and/or diaphoresis.

ALL EMTS

- Establish primary management.
- Notify the arriving ALS unit.
- Administer ASA 162 mg PO

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access.

PARAMEDICS,

- Perform synchronized cardioversion, starting at 100 J and proceeding to 150 J, and 200 J as needed.
- Administer amiodarone 150 mg IV/IO over 10 min.
- If rhythm is thought to be torsades de pointes, administer magnesium sulfate 2 g in 250 ml NS IV/IO over 10 min.
- Obtain 12 lead ECG

VENTRICULAR TACHYCARDIA, PEDIATRIC

DESIGNATION OF CONDITION

The patient will have a pulse and the cardiac monitor will show sustained ventricular tachycardia (wide-complex tachycardia).

ALL EMTS

- Establish primary management.

INTERMEDIATES AND PARAMEDICS

- Establish IV/IO access.

PARAMEDICS

- If patient is stable (asymptomatic), give amiodarone 5 mg/kg IV/IO over 20 min.
- If patient is unstable (symptomatic):
- Perform synchronized cardioversion at 0.5-1.0 J/kg. Repeat at 2 J/kg as needed..
- Consider amiodarone 5 mg/kg IV/IO over 20 min.

● MEDICAL EMERGENCIES

ALLERGIC REACTIONS / ANAPHYLAXIS

DESIGNATION OF CONDITION
The patient will present with respiratory distress from bronchoconstriction and/or upper airway edema due to an allergic reaction. Other allergy signs and symptoms include wheezing, urticara (hives, rash), or shock (tachycardia, hypotension). Common allergies include medicines (especially antibiotics), foods (nuts, shellfish), and bee/wasp/hornet stings.

Symptoms that have been present for > 1 hr without increasing in severity are unlikely to worsen suddenly. Hives or a rash not associated with breathing or swallowing problems are unlikely to develop into more severe problems later.

ALL EMTS
- Establish primary management.
- Apply cold packs to sting or injection site.
- Administer albuterol 5-10 mg via nebulizer if wheezing or decreased breath sounds are detected.

INTERMEDIATES AND PARAMEDICS
If patient is stable:
- Establish IV/IO access.
- For severe urticaria without other signs and symptoms, consider diphenhydramine 25-50 mg IV/IO or IM (adult) or 1 mg/kg IV/IO or IM (pediatric).

If patient is unstable:
- In cases of severe respiratory distress, angioedema, and/or hypotension, administer epinephrine, albuterol, and diphenhydramine. Cardiac monitoring is required for all patients receiving epinephrine and/or ≥ 10 mg of albuterol.
- Epinephrine: Adult, 0.3 mg (0.3 ml of 1:1000) IM. Pediatric, 0.01 mg/kg (0.01 ml/kg of 1:1000) IM. May repeat once in 10 min.
- Albuterol 5-10 mg via nebulizer.
- Diphenhydramine: Adult, 50mg IV/IO or IM. Pediatric, 1 mg/kg IV/IO or IM.
- Initiate aggressive isotonic fluid therapy with multiple large-bore lines.

PARAMEDICS
- Repeat epinephrine IM, as above, every 3 min as needed for SBP < 90.
- Consider advanced airway management as needed.

ALTE: APPARENT LIFE-THREATENING EVENT IN INFANTS

DESIGNATION OF CONDITION

An episode that is frightening to the parent or caregiver and that is characterized by some combination of the following observations: (1) apnea (absence of breathing for at least 3 breaths and not simple gasping), (2) skin color change (cyanosis or recognized paleness), (3) marked change in muscle tone (unexplained rigidity or flaccidity), (4) unexplained choking or gagging (*not* choking or gagging episodes that commonly occur with feeding or rhinorrhea). In some cases the observer fears that the infant is dead and has initiated CPR.

An apparent life-threatening event (ALTE) describes a set of symptoms and is associated with a wide variety of illnesses, including gastroesophageal reflux, pertussis, RSV infection, UTI, metabolic disorders, cardiac dysrhythmias, seizures, sepsis, and child abuse.

The majority of infants with an ALTE will appear to be in no acute distress when evaluated by EMS personnel. Therefore the signs and symptoms noted by the caregiver should be considered credible—even when they do not match the observations of EMS providers.

ALL EMTS

- Airway: Ensure it is clear and patent.
- Breathing: Evaluate lung sounds. Record the respiratory rate. Evaluate work of breathing (use of accessory muscles, nasal flaring, grunting). Obtain pulse oxymetry. Provide oxygen as indicated.
- Circulation: Note skin color and capillary refill. Record pulse quality and rate. Initiate isotonic IV/IO if necessary. Apply cardiac monitor as indicated.
- Neurological status: Is the infant alert and appropriately interactive? If not, check blood glucose. Check pupils. Note abnormal muscle tone or movements.
- Expose: Expose the infant. Look carefully for signs of trauma or rash.
- Carefully record the signs and symptoms observed by caregivers.
- Transport to hospital.

ASTHMA

DESIGNATION OF CONDITION

The patient will present with dyspnea, perhaps accompanied by wheezing, secondary to bronchoconstriction. The patient will almost always have a history of asthma and will often have used prescription medications without relief. Wheezing may not be present; lack of wheezing with diminished breath sounds may be a sign of impending respiratory arrest.

ALL EMTS

- Establish primary management.
- Initiate rapid transport if RR > 30 or < 10, or if distress is worsening.
- Administer albuterol 5-10 mg (adult) or 5 mg (child) by nebulizer. Repeat treatments as needed.
- Some patients require continuous nebulizer treatment during transport.
- Cardiac monitoring is required for patients receiving ≥ 10 mg of albuterol.
- Deliver nebulized albuterol via BVM if patient's respiratory effort is ineffective.
- Do not delay transport waiting for the medication to take effect.
- Consider CPAP for patients unresponsive to medical therapy.

INTERMEDIATES AND PARAMEDICS

- Enroute, establish IV/IO access. Consider fluid bolus for dehydration.
- For severe, life-threatening asthma (cyanosis, inability to speak, silent chest, impending respiratory arrest, unresponsive to albuterol, poor SpO_2, etc), administer epinephrine IM.
- Adult, 0.3 mg (0.3 ml of 1:1000) IM.
- Child, 0.01mg/kg (0.1 ml of 1:1000) SQ.
- Epinephrine should be administered cautiously to patients with a history of CAD and/or hypertension, or age > 45.
- Cardiac monitoring is required for all patients receiving epinephrine.

PARAMEDICS

- Repeat epinephrine IM as above every 5 min as needed.
- Contact medical control.
- If intubation is required, do not hyperventilate. Use controlled ventilation to maintain SpO2 > 90%. Ventilate with short inspiration and long expiration, rate of 8-10/min.
- Consider needle decompression if patient exhibits signs of tension pneumothorax.
- Administer magnesium sulfate 2 g slow IV/IO push.

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

DESIGNATION OF CONDITION
Continuous positive airway pressure (CPAP) is indicated for any patient in respiratory distress with signs and symptoms consistent with asthma, COPD, CHF, pulmonary edema including high-altitude pulmonary edema, or pneumonia. Avoid CPAP in trauma.

To qualify for CPAP, the patient must be (1) able to follow instructions, (2) able to maintain airway, and (3) age > 8 yr and able to obtain good fit with CPAP mask.

CONTRAINDICATIONS
- Cardiac arrest
- Respiratory arrest or failure with agonal respirations
- Unable to maintain airway
- Unable to remain in upright position
- Vomiting
- Nasal or oral bleeding
- Blood pressure less than 90 systolic
- Suspected pneumothorax
- Chest or facial trauma

ALL EMTS
1. Monitor and document lung sounds, pulse oximetry, capnography, cardiac rhythm, HR, RR, and BP before and after initiation of CPAP and every 5 minutes.
2. Allow patient to assume position of comfort, typically sitting or upright.
3. Explain procedure to patient.
4. Assemble CPAP device and attach to oxygen source.
5. Allow patient to manually apply mask if able. Assist and coach as needed. Apply harness.
6. Adjust starting CPAP pressure at 5 cm H2O.
7. Gradually increase CPAP pressure from 5 cm H2O to 7.5 to 10 cm H2O as tolerated and titrate to patient effect.
8. If needed, provide supplemental O2 via capnography line.
9. If needed, administer albuterol with CPAP in-line nebulizer.
10. Continuously observe patient. Discontinue for N/V, nasal/oral bleeding.
11. If respiratory status deteriorates, remove device and consider ventilatory support via BVM.

CROUP / EPIGLOTTITIS

DESIGNATION OF CONDITION
The patient will present with respiratory distress, stridor, and fever. Epiglottitis is typically characterized by sudden onset, high fever, sore throat, and dysphagia/drooling; patient may be a child or an adult. Croup is typically characterized by gradual onset, low-grade fever, and a barking cough; patient age most commonly 6 mo to 3 yr. Consider foreign body aspiration in differential diagnosis.

ALL EMTS
- Keep child comfortable and quiet with parent.
- Avoid invasive procedures unless lifesaving intervention is required.
- Give oxygen. Humidify if available.
- Allow child to assume position of comfort (usually sitting up with head forward in sniffing position).
- Notify receiving facility ASAP.

PARAMEDICS
- If respiratory distress and stridor continue despite cool mist, administer epinephrine 1 mg (1 ml of 1:1000) in 3 ml NS neb for children and adults up to age 35. For age > 35, contact medical control.
- Ventilate with BVM if necessary.
- Consider advanced airway management if BVM unsuccessful.

DIABETIC EMERGENCIES

DESIGNATION OF CONDITION
The patient will present with signs, symptoms, and/or history consistent with hypoglycemia or hyperglycemia. The BGL will be out or normal range (< 60 mg/dl or > 140 mg/dl). The patient may or may not have a history of diabetes and may or may not be taking insulin or oral agents. Common signs and symptoms of hypoglycemia include altered mental status, diaphoresis, tremor, weakness, and tachycardia; history may include compliance with medications but failure to eat. Common signs and symptoms of hyperglycemia include altered mental status, dehydration, excessive thirst or hunger, and Kussmaul's respirations; history may include noncompliance with medications or recent illness/infection.

ALL EMTS
- Establish primary management.
- If BGL < 60 and patient is alert and able to protect airway, administer oral glucose. Do not administer oral glucose to any patient with altered mental status or airway compromise.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access.

Hypoglycemia
- If BGL <60 mg/dl with associated signs of hypoglycemia, administer dextrose slow IV/IO push.
- Adult: 25 g (50 ml of D50W or 250mL or D10W)
- Pediatric (age 1 mo - 8 yr): 1 g/kg (4 ml/kg of D25W). To make D25W, mix equal parts D50W and NS (take 50 ml D50W, expel 25 ml, and replace with 25 ml NS).
- Neonate (age < 1 mo): 1g/kg (10 ml/kg of D10W) over 20 minutes. To make D10W, mix 2 ml/kg D50W with 8 ml/kg NS (yield is the full single dose of 10 ml/kg D10W). Alternatively, withdraw 50 ml from a 250 ml bag of NS and replace with 50 ml D50W (yield is 250 ml D10W).
- May repeat in 10 min if patient's condition does not improve.
- Reassess BGL after each intervention. Blood sample from arm opposite IV line is preferred.
- Contact medical control if patient wants to refuse transport after dextrose administration.
- In general, patients with hypoglycemia secondary to oral antidiabetic agents need to be transported because hypoglycemia can be prolonged. In children, a single pill can be deadly.

Hyperglycemia
- If BGL > 300 mg/dl in an adult patient with clear lung sounds and no history of pulmonary edema or congestive heart failure, administer 500 ml bolus of isotonic fluid and reassess lung sounds. If lung sounds remain clear and SpO_2 > 92% on room air, administer an additional 500 mL of isotonic fluid.

EXTRAPYRAMIDAL REACTION

DESIGNATION OF CONDITION
A response to a medication, typically a phenothiazine (e.g.; Thorazine, Compazine) or a butyrophenone (e.g.; Haldol, droperidol), marked by acute dystonia (muscle spasm) or akathisia (motor restlessness).

ALL EMTS
- Establish primary management.

INTERMEDIATES AND PARAMEDICS
- Establish IV access.

PARAMEDICS
- Administer diphenhydramine IV or IM.
- Adult: 25-50 mg.
- Pediatric: 1 mg/kg.

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FAINTING / SYNCOPE

DESIGNATION OF CONDITION
The patient will have experienced a sudden loss of consciousness. Syncope is almost always a result of other medical conditions.

ALL EMTS
- Establish primary management.
- Obtain detailed past medical history and history of present illness.
- Assess baseline vital signs, including orthostatic vital signs and BGL
- Place patient in supine position.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access.

PARAMEDICS
- Obtain 12 lead ECG.

FEVER

DESIGNATION OF CONDITION
Fever is elevated core temperature in a natural response primarily to infection or heat emergencies. Rapid temperature elevation in children may cause seizures. It is important to distinguish fever due to infection from hyperthermia due to environmental exposure and malignant hyperthermia due to medications.

ALL EMTS
- Establish primary management.
- If conscious and alert, patient may drink fluids.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access.
- If patient exhibits signs of dehydration or shock, consider fluid bolus.
- If febrile seizures occur, follow seizure protocol and rapidly cool patient by any reasonable means.

HEAT EMERGENCIES

DESIGNATION OF CONDITION
The patient will present with the following conditions secondary to environmental heat exposure.

Heat cramps: Cramping of large muscle group cramping, usually after prolonged or heavy exertion. Normal LOC.

Heat exhaustion: Often a progression from heat cramps. Signs and symptoms include pale, moist, clammy skin; dilated pupils; weakness, dizziness, headache, or nausea. Normal temperature and LOC.

Heatstroke: A progression from heat exhaustion, with altered LOC, dry/red skin, constricted pupils, high temperature, strong and rapid pulse, deep and rapid respirations, hypotension, dry mouth, and/or seizures.

ALL EMTS
- Establish primary management.
- Remove patient from warm environment
- Rapidly cool patient by whatever reasonable means possible but avoid causing shivering.
- If patient is alert and not nauseated, encourage oral hydration, with commercial electrolyte solution if available.
- If LOC deteriorates, place cold packs in patient's armpits and at neck, ankles, groin and head. Consider cooling with wet towels/dressings.
- Assess BGL.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access with multiple lines. Consider fluid bolus and reassess lung sounds.

HYPOTHERMIA

DESIGNATION OF CONDITION
Core temperature < 95˚F. The patient may present with altered mental status or coma. Conditions, medications, and substances that may predispose to hypothermia include exhaustion, diabetes, hypothyroidism, systemic illness or infection, drug or alcohol overdose, and extremities of age.

ALL EMTS
- Establish primary management.
- Remove patient from cold environment.
- Remove any wet/cold clothing.
- Cover torso with warm blankets to prevent further heat loss.
- Assess pulse for one full minute at the carotid or by auscultation of heart sounds. If any pulse is detected, do not perform CPR.
- If patient is unresponsive, apneic, and pulseless, see “Cardiac Arrest Hypothermia” protocol.
- If necessary, assist respirations with warm humidified oxygen, if available, at a maximum rate of 6-10/min.
- Consider wrapping heat packs under arms, groin, and posterior neck.
- Rapid transport.

INTERMEDIATES AND PARAMEDICS
- Enroute, establish IV/IO access with warm isotonic solution.

INCREASED INTRACRANIAL PRESSURE

DESIGNATION OF CONDITION
The patient will be suspected of having increased intracranial pressure due to trauma, infection, aneurysmal bleeding, tumor, or VP shunt failure. Common signs and symptoms include altered mental status, bradycardia, HTN, decerebrate or decorticate posturing, single dilated pupil, and/or fixed and dilated pupils.

ALL EMTS
- Place patient in reverse Trendelenburg position.
- Establish primary management, including ventilation and oxygen as needed to maintain SpO2 > 90%.
- Assess and document Glasgow Coma Scale (GCS) every 5 min for patients who present with a GCS < 9.
- Hyperventilate only if patient shows signs of impending herniation (e.g., "blown" pupil or unequal/asymmetrical pupils). Assess and document GCS every 5 min. Return to normal ventilation if pupils improve (become equal and/or symmetrical.
- Assess BGL if patient presents with altered mentation.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access and titrate fluid to maintain systolic BP ≥ 90.
- If BGL < 60mg/dl, administer dextrose 12.5 g (25 ml of D50W or 250mL of D10W) and reassess BGL. If BGL still < 60 mg/dl, administer an additional 12.5 g (25 ml) and reassess BGL.
- Do not administer NTG or otherwise attempt to lower BP.

PARAMEDICS
- If patient is being ventilated, maintain $ETCO_2$ at 30-35 mmHg. If herniation is imminent, maintain $ETCO_2$ at 25 mmHg.
- Follow airway management protocols as appropriate.

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MOUNTAIN SICKNESS

DESIGNATION OF CONDITION
Mountain sickness is characterized by headache, fatigue, nausea/vomiting, anorexia, and insomnia, although unlikely at an alititude below 8,200 feet. Treatment priority is descent to lower altitude. Life-threatening complications include (1) high-altitude pulmonary edema (HAPE), characterized by dyspnea, hypoxia, cyanosis, wet lung sounds, and possibly blood-tinged sputum; and (2) high-altitude cerebral edema (HACE), characterized by severe headache, ataxia, confusion, and decreased level of consciousness.

ALL EMTS
- Establish primary management, including oxygen by nasal cannula.
- Descend to lower altitude.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access and consider fluid bolus.

PARAMEDICS
- Administer albuterol 2.5-5 mg nebulized, if wheezing is present.
- Contact medical control for possible furosemide orders.

NAUSEA AND VOMITING

DESIGNATION OF CONDITION
The patient will be experiencing nausea, including nausea associated with motion sickness or morphine administration, with or without vomiting.

INTERMEDIATES AND PARAMEDICS
- Consider IV access for medication and/or fluid.
- Administer ondansetron:
- Adults: 4 mg IV or IM
- Children: 0.1mg/kg IV or IM

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OVERDOSE: GENERAL

DESIGNATION OF CONDITION
The patient will be symptomatic (altered mental status, etc.) with history and/or evidence of ingestion, inhalation, or injection of prescription, nonprescription, or street drugs.

ALL EMTS
- Establish primary management.
- Assess BGL.
- Identify substance and estimate amount and time ingested, inhaled or injected.
- Consider naloxone (per "Overdose: Narcotic" protocol) as appropriate.
- Collect any drugs and/or containers and transport with the patient.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access.
- If BGL < 60 mg/dL, consider dextrose (per "Diabetic Emergencies" protocol) as appropriate.

PARAMEDICS
- Monitor cardiac rhythm and provide rhythm-specific treatment per protocols.
- Obtain 12-lead ECG.
- See specific protocols for narcotic overdose and tricyclic antidepressant overdose.
- For calcium channel blocker overdose with hypotension (unresponsive to fluid bolus) and/or dysrhythmias, administer calcium chloride 1 g (10 ml of 10%) slow IV/IO push over 10 min.
- Do not administer calcium to patients on digoxin

OVERDOSE: NARCOTIC

DESIGNATION OF CONDITION
The patient will present with evidence of ingestion, inhalation, or injection of narcotics, and associated signs and symptoms (e.g., altered mental status, respiratory depression, pinpoint pupils, etc).

ALL EMTS
- Establish primary management, including BVM ventilation if needed.
- Assess BGL.
- Administer naloxone 2 mg IN (1 mg in each nare), or in 0.4 mg increments IM titrated to improvement in respiratory effort.
- Patient may awaken quickly and be combative. Be prepared to restrain patient if necessary.

INTERMEDIATES AND PARAMEDICS
- Establish IV access.
- Administer naloxone.
- Adult: If unconscious/'unresponsive, administer 2 mg IV. For mild to moderate overdose with respiratory depression, administer in 0.4 mg increments titrated to improvement in respiratory effort.
- Pediatric (age < 12 yr): 0.4 mg IV.
- Repeat as needed (high doses may be required for synthetic narcotics).
- If unable to establish IV access, administer IN or IM. In cases of suspected multi-substance abuse, consider administration of sufficient amount of medication to restore adequate respiratory effort.
- If prompt improvement does not occur, see "Unconscious, Cause Unknown" protocol.

PARAMEDICS
- Monitor cardiac rhythm and provide rhythm-specific treatment per protocols.
- Consider advanced airway management as necessary.

OVERDOSE: TRICYCLIC OR HETEROCYCLIC ANTIDEPRESSANT

DESIGNATION OF CONDITION
Patient will have ingested a tricyclic or heterocyclic antidepressant in excess of prescribed amount. Early signs may include tachycardia, nystagmus, wide QRS complex, and terminal R wave in lead aVR.

ALL EMTS
- Establish primary management.

INTERMEDIATES AND PARAMEDICS
- Establish IV access. Consider multiple lines.

PARAMEDICS
- If the patient exhibits tachycardia, QRS complex > 0.12 sec, ventricular dysrhythmias, and/or hypotension, administer sodium bicarbonate 1 mEq/kg bolus, followed by sodium bicarbonate infusion (1 mEq/kg in 1 L NS). Titrate to blood pressure if hypotensive; otherwise administer 500 ml bolus, then TKO.
- Manage seizures with benzodiazepines per "Seizure" protocol.
- Contact medical control.

SEIZURE

DESIGNATION OF CONDITION
The patient will have experienced convulsions. Most seizures end within 5 min, followed by a postictal state, with altered mental status or unconsciousness, of varying duration. Status epilepticus exists when seizure activity continues > 10 min or multiple seizures recur without a return to normal mental status. The patient may have a history of seizure disorder and may have appropriate prescription drugs.

ALL EMTS
- Establish primary management.
- Protect patient from injury during seizure.
- Obtain history of seizure activity, including onset, duration, type, medication taken and prior history.
- Assess BGL and treat per "Diabetic Emergencies" protocol if < 60 mg/dL.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access.

PARAMEDICS
- For status epilepticus or for patients who are having a witnessed seizure > 5 min in duration, administer diazepam or midazolam.
- Diazepam : Adult, 2-10 mg slow IV/IO push. Pediatric, 0.1-0.2 mg/kg slow IV/IO push or 0.3-0.5 mg/kg PR.
- Midazolam: Adult, 1-5 mg slow IV/IO push or IM. Pediatric, 0.05 mg/kg slow IV/IO push, IM, or PR, up to 5 mg. Midazolam may be given IN at 1 mg per 5 kg to a total of 7.5 mg; give half in each nare.
- Contact medical control for diazepam > 10 mg in adults or 5 mg in children, or for midazolam > 5 mg.
- See "Eclampsia" protocol for treatment of pregnancy-related seizures.

STROKE

DESIGNATION OF CONDITION
The patient will present with signs, symptoms, and history consistent with stroke. Common signs and symptoms include brief loss of consciousness, altered mental status or coma, HTN, irregular breathing, unequal/asymmetrical pupils, dysphasia, and hemiplegia. Headache, if present, may be a sign of hemorrhagic stroke. The patient may have a history of TIAs or stroke.

ALL EMTS
- Establish primary management.
- Obtain a detailed history, including time of onset or last time seen normal.
- Transport promptly to a facility capable of treating acute stroke.
- Do not hyperventilate unless the patient exhibits clear signs of herniation (unequal pupils).
- Do not administer ASA because of increased risk of bleeding in hemorrhagic stroke.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access.

PARAMEDICS
- Consider advanced airway management as needed.

TOXIC EXPOSURE: GENERAL

DESIGNATION OF CONDITION
The patient will present with signs, symptoms, and history suggesting exposure to poison. See specific protocols for carbon monoxide poisoning, organophosphate poisoning, and overdoses.

Poison Center New Mexico is not recognized as online medical control. Contact Poison Center by telephone at 800-222-1222 for help in identifying substances and providing treatment guidelines to the receiving facility.

ALL EMTS
- Establish primary management.
- Identify substance and estimate amount ingested, inhaled, injected, or absorbed.
- If altered LOC, assess BGL.
- Perform on-scene decontamination for external exposures.
- Initiate rapid transport.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access.

PARAMEDICS
- Initiate cardiac monitoring and provide rhythm-specific treatment per protocols.
- Provide advanced airway management as needed.

TOXIC EXPOSURE: CARBON MONOXIDE

DESIGNATION OF CONDITION

Carbon monoxide is a colorless, odorless gas produced by incomplete combustion of hydrocarbons or carbon-based fuels, including natural gas, propane, and gasoline. Carbon monoxide victims may appear to be intoxicated and may complain of headache, dizziness, and nausea. Pulse oximetry may give a false high SpO2.

Remember your own safety first. Wearing SCBA into a confined space may be appropriate. Always remove the victim from the source before beginning treatment. Pulse oximetry will not provide accurate readings of tissue oxygenation.

ALL EMTS

- Establish primary management.
- Monitor co-oximetry along with other vital signs.
- Administer high-flow oxygen (nonrebreather mask at 12-15 lpm) or assist ventilations with BVM and 100% oxygen regardless of level of respiratory distress.
- Ensure the safety of asymptomatic people at the scene before transport.

INTERMEDIATES AND PARAMEDICS

- If wheezing is detected, administer albuterol via nebulizer.
- Adult: 5-10 mg.
- Child: 5 mg.
- Repeat albuterol as needed. Some patients may need continuous nebulizer treatment throughout transport.
- Cardiac monitoring is required for patients receiving > 10 mg of albuterol.
- Obtain 12-lead ECG for all suspected exposures.

TOXIC EXPOSURE: ORGANOPHOSPHATE

DESIGNATION OF CONDITION
The patient will present with signs, symptoms, history, and/or evidence of exposure to an organophosphate substance. Classical presentation is summarized with the mnemonic “SLUDGE”: salivation, lacrimation, urination, defecation, gastric irritability, emesis.

Remember your own safety first. Organophosphates can be absorbed via the respiratory tract, mucous membranes, and skin. Wearing SCBA into a confined space may be appropriate. Always remove the victim from the source before beginning treatment. Patients should be decontaminated with soap and water as soon as possible and cared for in a well-ventilated area. All body fluids should be stored in closed containers.

ALL EMTS
- Establish primary management.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access and consider fluid boluses.

PARAMEDICS
- If patient presents with “SLUDGE” signs and symptoms, administer atropine 1 mg every 1-3 min, titrated to drying of secretions. A large total dose may be required.
- Provide advanced airway management as needed.
- Treat seizures per “Seizure” protocol.

UNCONSCIOUS, CAUSE UNKNOWN

DESIGNATION OF CONDITION
The patient will have a pulse, but will be unconscious from an undetermined cause.

ALL EMTS
- Establish primary management.
- Avoid invasive airway devices until hypoglycemia and/or narcotic overdose have been ruled out.
- If trauma is suspected, consider spinal motion restriction.
- Assess BGL.
- Initiate cardiac monitoring.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access.
- If BGL < 60 mg/dL, administer dextrose per "Diabetic Emergencies" protocol.
- If no change, administer naloxone per "Overdose: Narcotic" protocol.

PARAMEDICS
- Provide advanced airway management as needed.

OBSTETRIC / GYNECOLOGIC EMERGENCIES

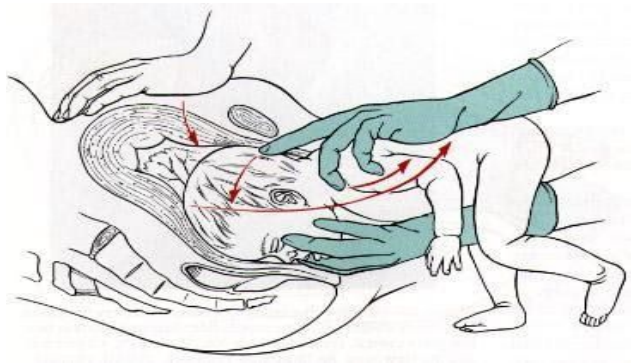
CHILDBIRTH: BREECH PRESENTATION

DESIGNATION OF CONDITION
Presentation in which the buttocks of the fetus present, rather than the head.

ALL EMTS
- Establish primary management.
- Support the infant's body. Delivery of the lower extremities is generally easily accomplished. If head delivers spontaneously, proceed as with normal delivery.
- Once the umbilical cord is visualized, pull it gently down and out of the vagina.
- After the umbilicus has been delivered, the head must be delivered in 3-5 min.
- Deliver the shoulders by depressing the buttocks and extracting the anterior shoulder with a gloved finger. Then raise the baby gently by the legs and extract the posterior shoulder.
- The infant will then usually rotate so that the back faces anteriorly.
- Initiate rapid transport as soon as possible.
- Make radio report to receiving hospital as early as possible.

PARAMEDICS
- If head does not deliver within 4-6 min, perform the Mauriceau maneuver as follows (see illustration below):
- Place body of infant over forearm.
- Place gloved hand on the fetal maxilla and apply enough pressure to tuck and flex the head. Do not pull the head.
- Place the other hand gently over the fetal occiput to aid in flexion.
- An assistant should administer suprapubic pressure downward and caudally to assist with the delivery.

Mauriceau Maneuver



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CHILDBIRTH: LIMB PRESENTATION

DESIGNATION OF CONDITION
Presentation in which one or more extremities of the fetus presents, instead of the head.

ALL EMTS
- Establish primary management.
- Place mother in knee-chest position.
- Initiate rapid transport.
- Make radio report to receiving hospital as early as possible.

CHILDBIRTH: NORMAL DELIVERY

ALL EMTS
- Establish primary management.
- Create field for delivery.
- If membranes are ruptured, look for meconium, prolapsed cord, or nuchal cord and treat accordingly.
- Treat infant with drying, warming, positioning, suctioning, and stimulation.
- Provide blow-by oxygen as needed.
- If the baby's respirations, heart rate, and/or activity are abnormal, follow "Neonatal Resuscitation" protocol.
- Clamp the umbilical cord approximately 7 in and 10 in from the baby and cut between clamps.
- Clean, dry, and wrap the baby in a clean sheet, towel, or blanket; cover head, give to mother and allow to nurse.
- Obtain Apgar score 1 min and 5 min after delivery.
- Gently massage the fundus if placenta delivers.
- Prepare for transport and make early radio report to receiving hospital.

INTERMEDIATES AND PARAMEDICS
- For the mother, establish IV access and administer fluid as needed.

CHILDBIRTH: NUCHAL CORD

DESIGNATION OF CONDITION
On delivery of the baby's head, the umbilical cord is observed to be wrapped around the neck.

ALL EMTS
- Attempt to gently loosen the cord with fingers and loop over the baby's head.
- Swift delivery is critical for fetus survival.

CHILDBIRTH: PROLAPSED CORD

DESIGNATION OF CONDITION
Expulsion of the umbilical cord before delivery of the fetus.

ALL EMTS
- Establish primary management.
- Place mother in kneechest position.
- Insert gloved hand into vagina and gently lift baby's head off of the cord until pulsations are felt; if effective, maintain positioning.
- If the cord is exposed, cover with gauze soaked in warm sterile saline.
- Initiate rapid transport.
- Make radio report to receiving hospital as early as possible.

CHILDBIRTH: SHOULDER DYSTOCIA

DESIGNATION OF CONDITION
One or both of the baby's shoulders hinders delivery of the body after delivery of the head. Typically the anterior shoulder is impacted behind the mother's pubic symphysis. After delivery of the head, the head may retract tightly against the perineum ("turtle sign").

ALL EMTS
- Establish primary management.
- Initiate rapid transport as soon as possible.
- Make radio report to receiving hospital as early as possible.

PARAMEDICS
- Flex the mother's legs sharply toward her abdomen (McRoberts maneuver).
- Have an assistant apply suprapubic (*not* fundal) pressure.
- The combination of the McRoberts maneuver and suprapubic pressure is usually enough to free the anterior shoulders.

CHILDBIRTH: SPONTANEOUS RUPTURE OF MEMBRANES (SROM)

DESIGNATION OF CONDITION
Rupture of the amniotic sac in pregnancy. A normal part of labor, but SROM before week 37 of gestation increases risk of intrauterine infection and preterm delivery.

ALL EMTS
- Establish primary management.
- Assess fetal heart rate for a full minute after SROM.
- If prolapsed cord occurs, treat per “Prolapsed Cord” protocol.
- No further manipulation should be performed unless delivery is imminent.
- Initiate rapid transport.
- Make radio report to receiving hospital as early as possible.

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NEONATAL RESUSCITATION

DESIGNATION OF CONDITION
The newborn presents with depressed respirations, heart rate, and/or activity immediately after delivery.

ALL EMTS
- Establish primary management
- Do not delay delivery if birth appears imminent.
- After delivery of head, if meconium noted, suction mouth and hypopharnyx with bulb syringe when the head is at the perineum.
- Complete delivery.
- Thoroughly suction the airway.
- Warm and dry baby, make sure to keep warm.
- Place in slight Trendelenburg and open/maintain airway, be careful not to hyperextend neck.
- Administer aggressive tactile stimulation of feet and/or back.
- If apneic, gasping, or with persistent central cyanosis, or HR < 100, administer high-flow blow-by oxygen.
- If no improvement, ventilate with BVM and 100% oxygen.
- HR < 60 despite oxygenation/ventilation, begin CPR.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access.
- If BGL < 60 mg/dl, administer dextrose 1 g/kg (10 ml/kg of D10W) over 20 min.
- Make D10 W by mixing 2 ml/kg D50W with 8 ml/kg NS (yield is 1 g dextrose per 10 ml fluid).
- If newborn exhibits respiratory depression unresponsive to interventions so far and nonaddict mother has used narcotics within the past 4 hr, consider naloxone 0.1 mg/kg IV/IO.
- Do not administer naloxone to newborn of addict mother unless apneic or in respiratory distress.

PARAMEDICS
- If HR < 60 despite oxygenation, ventilation, and CPR, administer epinephrine 0.01-0.03 mg/kg (0.1-0.3 ml/kg of 1:10,000) IV/IO.

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OBSTETRIC INTERFACILITY TRANSFER

OBSTETRIC INTERFACILITY TRANSFER: GENERAL

DESIGNATION OF CONDITION
General guidelines on interfacility transfer of pregnant patients.

PARAMEDICS
- Patients are to be transported in left lateral recumbent position whenever possible to relieve/prevent supine hypotensive syndrome and to improve maternal/fetal perfusion. If this position is not possible, tilt the pelvis (place an object under backboard or apply manual traction to displace the uterus to the side).
- Place safety belts over the chest (below the breasts and above the gravid uterus) and over the thighs.
- Administer oxygen by nasal cannula at 2-4 LPM or by NRB mask at high flow if indicated.
- Assess fetal heart tones (FHTs) by Doppler (if available) before transport, during transport, and upon arrival at the receiving facility. If tocolytics are being administered and/or there is reported or suspected fetal distress, assess FHTs at least every 15 min.
- Maintain a large-bore IV with NS or LR during transport.
- Monitor contractions by palpation and document frequency and duration.
- Administer the following drugs as indicated:
- Naloxone 0.4-1.0 mg IV or IM PRN for narcotic-induced respiratory depression.
- Magnesium sulfate (see "Obstetric Interfacility Transfer: Magnesium Sulfate" protocol).

OBSTETRIC INTERFACILITY TRANSFER: CONSULTATION

DESIGNATION OF CONDITION
The following conditions require direct consultation with the receiving perinatologist or the labor and delivery unit charge nurse at the receiving facility.
- Maternal temperature >38° C
- Maternal HR > 110
- Maternal systolic BP >140 or <90
- FHT >160 or <120
- Active or increased vaginal bleeding
- Cervical dilation >3 cm by history (no exam will be performed by EMS personnel)
- New diagnosis of spontaneous rupture of membranes by history
- Contractions with any of the following:
- Frequency < 10 min
- Duration > 45 sec
- Moderate to strong intensity by palpation
- Medication toxicity

OBSTETRIC INTERFACILITY TRANSFER: PLACENTA PREVIA / ABRUPTIO

DESIGNATION OF CONDITION
The patient is being transferred with placenta previa or abruptio.

PARAMEDICS
- Observe all applicable protocols.
- Consult with receiving perinatologist if active bleeding is present.
- Establish 2 large-bore IVs with blood administration tubing, if possible.
- If typed and crossed packed red blood cells are being administered, monitor ordered infusion rate or administer as fast as patient's condition requires/permits.
- If blood administration is being initiated upon your arrival at the transferring facility, limit intake in first 15 min to 50 ml and monitor the patient for the following signs and symptoms: back or chest pain, hypotension, increase in temperature > 1.8° F, pain at the infusion site, tachycardia, tachypnea, wheezing, cyanosis, hives or rashes. If any of these occur, stop the transfusion and keep the vein open with NS. Notify the patient's physician and the blood bank.
- Ensure that a Foley catheter is in place prior to transport.

OBSTETRIC INTERFACILITY TRANSFER: HYPERTENSION

DESIGNATION OF CONDITION
The patient is being transferred with pregnancy-induced hypertension, with or without pre-eclampsia or eclampsia.

PARAMEDICS
- Observe all applicable protocols.
- Ensure that a Foley catheter is in place prior to transport.
- Ensure that patient has been medicated with magnesium sulfate prior to transport.
- Contact accepting perinatologist prior to transport for:
- Maternal BP > 140 systolic or > 110 diastolic, or MAP >135
- Urine output < 30 ml/hr at referring facility
- Presence of signs/symptoms listed under "Consultation" above
- Monitor patient for dizziness, headache, epigastric pain, abdominal or uterine pain, uterine contractions, tinnitus, or spontaneous mucosal hemorrhage.

OBSTETRIC INTERFACILITY TRANSFER: MAGNESIUM SULFATE

DESIGNATION OF CONDITION
Paramedics may administer magnesium sulfate to pregnant patients as defined in these protocols or with direct medical control. Magnesium sulfate is the drug of choice in pre-eclampsia and in preterm labor with contraction frequency ≥ 10 min.

Magnesium sulfate is a CNS depressant and not an antihypertensive. It is thought that it exerts part of its pharmacological effect by retardation of motor end plate conduction and transmission across the neuromuscular junction. Half-life is < 5 min and 90% may be absent from the intravascular space within 30-45 min. It is completely excreted by the kidneys and urine output > 30 ml/hr must be maintained to avoid neuromuscular blockade of voluntary and respiratory muscles. Therapeutic serum level is 5-8 mg/dL and toxic levels is >10 mg/dL, although toxic effects may be noted before this level is reached..

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PARAMEDICS
- Administer loading dose of 4 g magnesium sulfate in 250 ml NS IVPB over 10 min.
- More rapid administration may result in vomiting or cardiovascular or respiratory depression, while excessively long administration times may result in subtherapeutic serum levels.
- Magnesium sulfate may be continued throughout transport for either pre-term labor or pre-eclampsia. The usual rate is 2-3 g/hr.
- Monitor RR and urinary output, and assess deep tendon reflexes (DTRs) every 15 min. If RR < 14, urinary output <30 ml/hr, or DTRs < 1, reduce or discontinue magnesium sulfate.
- Neuromuscular blockade most commonly presents as respiratory muscle weakness and paralysis, and is preceded by the loss of DTRs. If this occurs, stop $MgSO_4$ and administer calcium chloride 1 g (10 ml of 10%) over 10 min.
- If clonus is present, contact medical control for orders to increase infusion rate or administer additional 2 g doses.

PRE-ECLAMPSIA / ECLAMPSIA

DESIGNATION OF CONDITION

Pre-eclampsia is hypertension and peripheral edema associated with pregnancy. Eclampsia is the presence of seizures and/or coma in pregnant patients with hypertension.

ALL EMTS
- Establish primary management.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access with isotonic solution and titrate to maintain LOC, HR, and end-organ perfusion.

PARAMEDICS
- For seizures, administer diazepam or midazolam per "Seizure" protocol.
- Follow benzodiazepines with magnesium sulfate 4 g in 250 ml NS over 15-30 min IV/IO piggyback.
- Stop administration of magnesium when knee reflexes are depressed.
- In case of magnesium overdose (with respiratory depresion, hypotension, and/or areflexia), administer calcium chloride 1 g (10 ml of 10%) over 10 minutes IV/IO piggyback (if transport time still > 15 min).

VAGINAL HEMORRHAGE, POST-DELIVERY

DESIGNATION OF CONDITION
Heavy and/or continuous vaginal bleeding after delivery.

ALL EMTS
- Establish primary management.
- Place mother in Trendelenburg position, keep warm, and give nothing by mouth.
- After delivery of the placenta, aggressively massage the fundus by palpating the abdomen.
- Encourage mother to nurse baby.
- Place dressings to the external vaginal area. Do not place anything inside the vagina.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access and consider fluid bolus per "Standing Orders: Fluid Administration" protocol.

PSYCHOLOGICAL / BEHAVIORAL EMERGENCIES

PATIENT RESTRAINT

DESIGNATION OF CONDITION
The patient requires transport to a health care facility and based on assessment is believed to pose a danger to himself or others.

ALL EMTS
- Responder safety is the first priority. Assessment of scene safety is a shared responsibility.
- Do not enter or remain in any situation that poses a threat to the safety of the crew. The crew should enter and leave the scene together.
- Each EMT has the authority to decline to enter or remain in a potentially dangerous scene. If any crew member elects to leave the scene, the entire crew should leave immediately.
- Verbal de-escalation of a volatile situation is the best first step for ensuring responder and patient safety. These efforts should be exhausted before moving to physical or chemical restraint, when appropriate.
- Use the least restrictive or invasive method of restraint that will protect the patient and others.
- Summon law enforcement at the first implication of danger.
- Patient safety is the next priority. Patients in dangerous or threatening environments should be protected and/or moved to a safe place before further care is rendered.
- Establish primary management.
- If involuntary transport is necessary, ensure compliance with the New Mexico Emergency Transportation statute (see "Involuntary Transport" in Appendix A).
- Involve parents or other appropriate adults for minor patients when possible.
- Use physical restraints in a humane manner, affording the patient as much dignity as possible. Explain to the patient and family that restraints are necessary to prevent the patient from hurting himself or someone else.
- Apply restraints to at least 2 extremities (opposite hand and foot).
- Never place a restrained patient in a prone position because of the risk of positional asphyxia and lack of proper access for assessment and treatment. If a patient is found restrained in a prone position or in hobble restraints, place the patient on his side and apply appropriate EMS restraints.
- Continually monitor and document the restrained patient's airway, breathing, and circulation status. Never leave a restrained patient unattended.
- Document the patient's mental status, lack of response to verbal interventions, the need for restraint, the method of restraint used, the results, any injuries to patient or EMS personnel resulting from the restraint efforts, the need for continued restraint, and methods of monitoring the restrained patient.

PARAMEDICS

IF PATIENTS IS IN A STATE OF EXCITED DELIRIUM (see below**) AND AGE ≥ 16 CONSIDER THE FOLLOWING:**

EXCITED DELIRIUM

Excited delirium is essentially a sympathetic overdrive, and responds to benzodiazepines such as Midazolam/Versed that slow the sympathetic system down. Ketamine is a dissociative that will "pause" the excited delirium problem, not stop it. When the Ketamine wears off, the patient may wake

up just as agitated as before. Treatment of excited delirium includes the administration of ketamine to "pause" the event and midazolam to slow the sympathetic response.

Patients who are in a state of excited delirium are at risk for sudden death and require medical intervention. Be prepared to support ventilation and resuscitate. If the patient requires further sedation, know that physical restraint alone can intensify the patient's condition.

The components of excited delirium are the following:

- Bizarre behavior
- Nonsensical speech
- Constant motion
- Paranoia
- Attraction to shiny objects/lights
- Superhuman strength
- Decreased pain sensation
- Hyperthermia
- Tachycardia
- Hypertension
- Often dilated pupils

As of October 2020, use of chemical sedation in in joint operations with the Santa Fe Police Department is on hold, awaiting further discussion. Refrain from chemically sedating patients in the direct presence of SFPD.

KETAMINE

- For the adult patient >16y/o with *profound* agitation that poses a safety risk to the patient and providers, administer Ketamine-4mg/kg IM or 2mg/kg IV if an IV is available.

  a) It is prudent to back away after ketamine has been administered for several minutes until the medication has taken effect. Onset: 30 secs IV, 3-4 min IM. Ketamine dosing does not "stack"/is not cumulative. Once a patient is sedated, giving them more only increases side-effects; it will not make them "more sedated". You must wait until it wears off.

  b) Be prepared to suction the airway and/or assist with ventilation with BVM.
  c) Administer 500 ml normal saline bolus.

MIDAZOLAM

For the adult patient age ≥16 y/o, consider midazolam 2-5 mg IV, IM or IN. Contact medical control if higher doses are required.

Either *in place* of Ketamine, or *in addition* to Ketamine, administer Midazolam 2-5mg IV/IM/IN to treat excited delirium. May repeat once in 5 minutes. Onset: 3-5 min IV.

a) If using Midazolam *in addition* to Ketamine, recommend giving the Midazolam as the patient is starting to wake up from Ketamine. This will both keep them sedated for safe transportation and help stop the underlying excited delirium.
b) Be prepared to suction the airway and/or assist with ventilation with BVM.
c) Administer 500 ml normal saline bolus.

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Patients who are in a state of excited delirium are at risk for sudden death and require medical intervention. Be prepared to support ventilation and resuscitate. If the patient requires further sedation, know that physical restraint alone can intensify the patient's condition.

Medications should be administered cautiously in frail or debilitated patients. Lower doses should be considered.

TRAUMA AND BURNS

AIRWAY MANAGEMENT FOR THE TRAUMA PATIENT

DESIGNATION OF CONDITION
The trauma patient is unable to adequately maintain his own airway.

ALL EMTS
- Establish primary management.
- Provide spinal motion restriction as appropriate.
- Place NPA or OPA.

PARAMEDICS
- If the patient is in respiratory failure or ineffective ventilations with GCS < 8, spinal motion restriction should be maintained and intubation performed without extension or flexion of the head.
- Orotracheal intubation is preferred for patients with head or face trauma.
- Nasotracheal intubation with spinal motion restriction should be considered for the patient who is unresponsive but breathing.
- If attempts to intubate the patient in spinal motion restriction are unsuccessful, consider basic airway procedures with BVM, LMA, intubation attempt with gum-elastic bougie, or surgical cricothyrotomy

AMPUTATION

DESIGNATION OF CONDITION
The patient will present with an amputated body part. Often, amputated parts can be salvaged, with optimal results when reattachment is achieved within a few hours of the injury.

ALL EMTS
- Establish primary management.
- Control bleeding. Apply tourniquet if necessary (see "Tourniquet" protocol).
- Cover stump with sterile dressing moistened with saline.
- Enroute, rinse the amputated parts with NS to remove debris. Do not scrub. Wrap loosely in saline-moistened gauze. Place in plastic bag or emesis basin. Do not pour water into bag and do not cool directly with ice. Consider placing cold packs outside bag for gentle cooling.

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access.

PARAMEDICS
- Manage pain per "Pain Management" protocol.

ASSAULT / RAPE

DESIGNATION OF CONDITION
The patient will present with a complaint of assault or sexual assault.

ALL EMTS
- Confirm law enforcement activation and assure scene safety.
- Establish primary management.
- Comfort and reassure the patient.
- Treat injuries as appropriate.
- Genital/anal examination is not appropriate unless uncontrolled life-threatening external hemorrhage is suspected.
- Protect and preserve evidence. Encourage the patient not to change clothes, wash, bathe, or urinate.
- Notify receiving hospital of patient for Sexual Assault Nurse Examiner (SANE).
- Contact New Mexico Child Protective Services (855-333-7233) or Adult Protective Services (866-654-3219) in all cases of suspected or confirmed child or elder abuse or sexual assault.

BITE: ANIMAL OR HUMAN

DESIGNATION OF CONDITION
The patient will present with a complaint of having been bitten by an animal or another person. Bites are rarely a threat to life or limb; more limbs are lost because of infection and inappropriate treatment than because of bites themselves.

ALL EMTS
- Establish primary management.
- Remove constrictive clothing.
- Gently irrigate wound with sterile saline and dress.
- Notify animal control.
- Encourage patient to be transported. If patient refuses transport, advise to seek further medical attention.

BITE: SNAKE

DESIGNATION OF CONDITION
The patient will present with a complaint of having been bitten by a snake. More limbs are lost because of inappropriate treatment with ice and tourniquets than because of bites themselves.

ALL EMTS
- Establish primary management.
- Remove jewelry from affected limb.
- Flush wound with sterile saline. Immobilize affected area at heart level. Keep patient calm.
- Apply constricting band 1-2 in wide 3 in above the bite. Band should not be too tight; distal pulse should be present and it should be possible to easily work one finger under the band (lymphatic constriction only).
- Mark boundaries of inflammation, if present.
- Make early report to hospital to assure antivenin resources.
- Do not delay transport, but try to determine species of snake; photograph snake if possible.

INTERMEDIATES AND PARAMEDICS
- Enroute, establish IV access.

PARAMEDICS
- Manage pain per "Pain Management" protocol.

BURNS

DESIGNATION OF CONDITION
The following terms are often used to describe burns.
- Superficial: red skin (like sunburn).
- Superficial partial thickness: red skin, often with blisters.
- Deep partial thickness: blistering (very painful), often difficult to distinguish from full thickness.
- Full thickness: all skin layers and possibly deeper structures involved; may be pain-free, often lacks blanching and tenderness, appears dry, leathery, often charred.

Rules of Nines (for estimating body surface area)
(Palm of patient's hand represents 1% of body surface area)

	Adult	**Child**
Head	*9%*	*18%*
Chest/Back	*18%/18%*	*18%/18%*
Arm	*9%*	*9%*
Leg	*18%*	*13.5%*
Pubis/perineum	*1%*	*1%*

Patients with respiratory problems from smoke or chemical inhalation, respiratory tract burns, or burns involving the face, head or chest are at an increased risk for airway compromise, hypothermia, and later shock and infection.

ALL EMTS
- When burns are associated with severe trauma, trauma protocols will supersede burn protocols.
- Establish primary management.
- Gently wash burned area with cool water.
- For chemical burns, brush off dry chemicals, identify contaminant, and flush with water for 10 min (unless contraindicated). Contact poison control if needed at 800-222-1222.
- Estimate depth and percent BSA injured.
- Partial-thickness burns < 10% BSA in adults or < 5% BSA in children may be cooled with water for 1015 min.
- Cover with sterile burn sheets and keep patient warm.
- Contact medical control to discuss patient destination decisions, as appropriate.

INTERMEDIATES AND PARAMEDICS
- Enroute, establish IV/IO access. Fluid boluses are generally not needed prehospital.
- Do not place IV/IO in burned area unless absolutely necessary.

PARAMEDICS
- For burns involving airway or face, consider intubation during transport from scene or before interfacility transfer.
- Manage airway aggressively in the presence of a respiratory burn with signs of airway compromise. Refer to "Airway Management: Paramedic Guidelines" and "Post-Intubation Sedation."
- Manage pain per "Pain Management" protocol.
- Obtain 12 ECG and continuous cardiac monitoring for electrical burns.

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BURNS OLDER THAN 1 HOUR

DESIGNATION OF CONDITION
The patient will have sustained burns more than 1 hr before first contact with EMS. This includes interfacility transfers as well as incidents in which EMS activation is significantly delayed.

ALL EMTS
- Establish primary management.

INTERMEDIATES AND PARAMEDICS
- Ensure airway is managed appropriately before transfer. If disagreement exists regarding airway management, encourage the sending physician to contact the receiving physician. The service medical director may be contacted if issues remain unresolved after physician-to-physician consult.
- For interfacility transfer of patients with burns ≥ 20% BSA, ensure that a Foley catheter is in place before initiating transfer. Monitor VS, breath sounds, and intake/output. Titrate fluids to achieve urinary output as ordered.
- Keep the patient dry and warm.

EYE INJURIES

DESIGNATION OF CONDITION
The patient will present with eye pain due to superficial corneal abrasion, foreign body, mace or pepper spray exposure, or welder's burns (UV keratitis), or ruptured globe.

ALL EMTS
- Establish primary management.
- Assess for obvious trauma to globe or cornea. If found, do not irrigate.
- If non-traumatic injury (no penetrating mechanism) and globe is not ruptured, gently irrigate eyes with NS for at least 15 minutes or until 1 l of NS has been used.
- Do not be concerned with removal of contact lenses in the field unless broken. Treat with irrigation like any foreign body.
- In case of exposure to law-enforcement chemical agents such as pepper spray, transport may not be required following irrigation if eye irritation is relieved.
- Consider covering both eyes to help decrease eye movement.
- Do not patch penetrating eye injury. May cover without pressure on the globe.

FRACTURES

DESIGNATION OF CONDITION
Signs and symptoms may include pain, tenderness, deformity, loss of use of injured extremity, swelling, crepitus, discoloration, exposed bone ends, and/or absent distal pulses with associated extremity trauma. Treat significant dislocations, strains and sprains as fractures until proven otherwise.

ALL EMTS
- Establish primary management.
- If spinal injury suspected, immediately provide spinal motion restriction (if indicated) and transport. If the situation dictates rapid extrication with partial spinal motion restriction, try to accomplish full spinal motion restriction en route.
- If patient is stable or if injury is isolated:
- Splint injured limb in position found. If limb must be repositioned for extrication or transport, gently straighten and splint. Immobilize the joints proximal and distal to the injury. Check distal pulses and sensation before and after splinting, and reassess frequently.
- If extremity is severely angulated with absent pulses, gently straighten to anatomically correct positioning. Reassess circulation and sensation after repositioning and after splinting.
- Most isolated hip and high femur fractures are best managed without the use of a rigid device such as a backboard or vacuum splint. Carefully placing the patient on a soft cot will dramatically increase comfort and minimize any pain experienced during transport.

INTERMEDIATES AND PARAMEDICS
- Enroute, establish IV/IO access on uninjured side.

PARAMEDICS
- Manage pain per “Pain Management” protocol.

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SPINAL PRECAUTIONS

Backboards have long been a staple of prehospital care for patients with potential spine injuries. However, they have not been shown to be of any benefit, and may cause harm. This protocol provides guidance for determining appropriate spine protection.

ALL EMTS

(1) Does patient have/complain of ANY of the following?

- Midline cervical/thoracic/lumbar spine tenderness on palpation
- Neurologic complaints or deficits
- Other injuries that are potentially distracting
- Altered mentation or under influence of EtOH/drugs
- Barriers to evaluation for spinal injury (e.g. language or developmental barrier)

- If NONE of the above are present, no spinal precautions are required.
- If ANY of the above is present, apply C-collar and instruct patient not to move neck, and proceed to (2).

(2) Is there an objective neurological deficit?

- If YES, immobilize using backboard or scoop stretcher.
- If NO, proceed to (3).

(3) Do ANY of the following apply?

- Patient sustained ONLY penetrating trauma
- Patient was ambulatory on scene at time of EMS arrival
- Patient can comfortably lie still.

- If ANY of these apply, patient does not require a backboard. Have them lie still on the gurney, which will provide sufficient spinal protection.
- If NONE of these apply, immobilize using backboard or scoop stretcher.

- If for any reason you are uncomfortable not immobilizing a patient, place him or her on a backboard.
- Consider improvised C-spine immobilization, such as a blanket roll or SAM splint, if needed to prevent airway compromise or worsening spinal injury, or if the C-collar cannot be properly sized to the patient.
- Self-extrication from a vehicle with assistance is likely better than standard extrication procedures.
- Vacuum mattress should be used preferentially over backboard if available.
- Be careful when assessing for spinal injury in elderly patients, who are at higher risk but may have minimal symptoms.
- Perform serial neurological exams for patients with potential spinal trauma.

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TOURNIQUET

CLINICAL INDICATIONS

- Life-threatening extremity hemorrhage that cannot be controlled by other means
- Life-threatening extremity hemorrhage when conditions (patient location, tactical or hazmat environment, etc.) prevent use of standard hemorrhage control techniques
- Tourniquet is contraindicated in non-extremity hemorrhage or proximal extremity location where application is not practical.

ALL EMS PROVIDERS

- Place tourniquet proximal to wound. Best sites are high in armpit for upper extremities and inguinal area for lower extremities.
- Tighten per manufacturer instructions until bleeding stops and/or distal pulses in affected extremity disappear.
- Secure tourniquet per manufacturer instructions.
- Note time of tourniquet application and communicate this to receiving care providers.
- Dress wounds per standard practices.
- If transport is delayed or prolonged and tourniquet is in place > 30 minutes, and in the absence of shock or amputation, consider reattempting standard hemorrhage control techniques and loosening tourniquet. If significant bleeding continues, tighten tourniquet and notify receiving facility.
- If bleeding cannot be controlled with one tourniquet, consider placement of a second tourniquet just proximal or distal to the first.

TRAUMA: BLUNT

DESIGNATION OF CONDITION
Injury caused by non-penetrating mechanism.

ALL EMTS
- Establish primary management.
- Provide spinal protection per "Spinal Precautions" protocol.
- Initiate transport as soon as possible.
- Longer scene times should occur only in rare situations (e.g. unsafe scene, difficult patient access, precarious airway requiring prompt invasive intervention, multiple patients, combative patient requiring arrival of extra hands). Prolongation of scene time is unacceptable to await arrival of helicopter (rendezvous en route when necessary), to start lines at the scene when ground transport is available, or to await arrival of a paramedic.
- Notify receiving facility if patient meets "trauma STAT" criteria (see "Trauma STAT" protocol).

INTERMEDIATES AND PARAMEDICS
- Establish IV/IO access and consider fluid per "Standing Orders: Fluid Administration" protocol.

PARAMEDICS
- Consider advanced airway management for patients with respiratory failure or ineffective ventilations with GCS <8
- Consider needle thoracotomy for patients with signs and symptoms of tension pneumothorax.

TRAUMA: PENETRATING

DESIGNATION OF CONDITION
General comments on management of penetrating trauma patients. This includes all penetrating trauma to the head with loss of consciousness or deteriorating neurological signs; penetrating trauma to the neck, chest, abdomen, back, or groin; and penetrating trauma to an extremity proximal to the elbow or knee.

ALL EMTS
- Ensure scene safety and attempt not to disturb evidence.
- Establish primary management.
- Provide spinal protection per "Spinal Precautions" protocol.
- Initiate transport as soon as possible.
- Longer scene times should occur only in rare situations (e.g., unsafe scene, difficult patient access, precarious airway requiring prompt invasive intervention, multiple patients, combative patient requiring arrival of extra hands). Prolongation of scene time is unacceptable to await arrival of helicopter (rendezvous en route when necessary), to start IVs at the scene when ground transport is available, or to await arrival of a paramedic.
- Notify receiving facility if patient meets "trauma STAT" criteria (see "Trauma STAT" protocol).

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PARAMEDICS
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TRAUMA STAT

High-level trauma team activation at Christus St. Vincent Regional Medical Center, known as “trauma stat,” is based on the physiologic and anatomic criteria shown below. **If a trauma patient meets any of these criteria, include the statement "This is a trauma stat" in your full radio report.** This notification will allow ED staff to promptly and appropriately activate the trauma team.

High Level Trauma Stat Activation Criteria:
This activation is based on physiologic and anatomical criteria

1. Confirmed systolic blood pressure of <90 mmHg in adults and age-specific hypotension in children, and/or;
2. Respiratory compromise, obstruction or intubation, and/or;
3. Use of blood products to maintain vital signs in patients transferred from other hospitals, and/or;
4. Gunshot wounds to abdomen, neck or chest, and/or;
5. Glasgow Coma Score <8 with mechanism attributed to trauma, and/or;
6. Two or more long bone fractures, and/or,
7. Criterion at the discretion of the emergency physician or the trauma surgeon.

Age-Specific Pediatric Critical Vitals & Hypotension Guidelines				
Age Group	Weight Range(Kg)	Heart Rate (Beats/Min)	Systolic Blood Pressure (mmHg)	Respiratory Rate(Breaths/Min)
0-12 months	0-10	>160	<60	>60
1-2 years	10-14	>150	<70	>40
3-5 years	14-18	>140	<75	>35
6-12 years	18-36	>120	<80	>30

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APPENDIX A: SPECIAL SITUATIONS

CANCELLATION BY LAYPERSON

Personnel responding should continue to respond to the scene, nonemergency traffic, if cancelled by a layperson. Licensed EMTs may cancel additional medical assistance once patient contact and assessment have been accomplished.

Personnel should coordinate appropriate response to the scene to ensure no patient or patient care issues exist. It may be appropriate to have response cancelled by a layperson if no patient is physically present.

DEAD AT SCENE

Upon arrival at a scene in which the patient is obviously dead and resuscitation efforts would be unsuccessful, resuscitation efforts may be withheld. At least one of the following criteria should be present:

- Rigor mortis
- Livor mortis
- Obvious external exsanguination
- Truncal transection
- Decapitation
- Decomposition
- Extruded brain matter
- Blunt traumatic arrest (after consideration of potentially reversible causes)
- Penetrating trauma arrest with transport time of more than 10 minutes
- Sustained time down prior to arrival without CPR in progress with presenting rhythm of asystole in warm adults
- Appropriately completed EMS DNR orders or advance directive indicating no resuscitative efforts should be initiated

Note: Hypothermic arrests, near-drowning events, and medical pediatric arrests deserve full resuscitative attempts. Contact medical control for direction.

DO NOT RESUSCITATE (DNR) ORDERS

EMS providers may expect to encounter DNR orders (or other advance directives) in the field setting. An EMS-DNR order, including New Mexico MOST (Medical Orders for Scope of Treatment), is a legally recognized advance directive applicable to pre-hospital care providers. Presence of an EMS-DNR order requires that EMS responders not perform certain resuscitation measures. Personnel should contact MCEP for consultation when encountering other advance directives, such as hospital or nursing home DNR orders or personal living wills.

The following guidelines will help when an EMS-DNR situation is encountered:

- If the care provider believes an EMS-DNR order may be present, attempt to locate the order while continuing with appropriate care.
- Identify the patient. This may be done with standard picture identification or accomplished by family members or others associated with the patient.
- If an EMS-DNR order is located, or the patient wears an EMS-DNR bracelet, and the identity has been verified, then the care provider must proceed as follows:
- If the patient is in respiratory and/or cardiac arrest, do not perform:
- External chest compressions
- Artificial ventilation

- Intubation or other advanced airway adjuncts
- Defibrillation or pacing
- Cardiac medications
- If the patient is not in arrest, EMTs may administer the following, as long as the patient or authorized decision-maker does not refuse:
- Oxygen
- Suctioning
- Basic airway management, excluding Combitube
- Control of bleeding
- Paramedics may administer analgesics, as appropriate
- Other comfort care to assist the patient

The patient or legal guardian (when the legal guardian instituted the EMS-DNR order) may revoke the EMS-DNR at any time verbally or by defacing the written order or bracelet. Should this occur, then every action consistent with the standard of care should immediately be taken.

EMS-DNR orders should not be followed in cases of suspected homicide or attempted suicide.

HELICOPTER USE

Only approved EMS helicopter services may be used for patient transport.

Any EMS provider may request helicopter activation based on his training and direct knowledge of patient condition. The helicopter should be canceled only by the requesting provider or by a provider at a higher level of licensure who has made patient contact.

A helicopter should be activated as soon as deemed appropriate, even if ground transport has already been initiated. Use law enforcement or other appropriate resources to assist in establishing a safe and secure landing zone. Clear communication with the receiving facility as well as with the helicopter are essential.

INDICATIONS

- Critical trauma victims entrapped, with lengthy extrication times estimated so long as there is a transport time advantage
- Multiple victims which result in the inability of ground personnel to manage and transport adequately
- Critical trauma patients, when ground transport will take longer than 30 minutes
- Disaster situations
- Trauma patients in situations where ground transport is compromised (greater than 30 minutes) by either mechanical failure or remote location
- Critically burned patients
- When expeditious transport to University Hospital is appropriate
- Critical medical patients when air support can be achieved in less time than ground ALS support

RELATIVE CONTRAINDICATIONS

- Sustained cardiac arrest, medical or traumatic in origin

INTERVENING PHYSICIAN ON SCENE

A physician physically present at a scene who offers to assist in the care of a patient may be allowed to do so if the following conditions are met:

- The physician identifies himself to the EMT in charge of patient care as a physician currently licensed or otherwise authorized to practice in New Mexico.
- The physician agrees to accompany the patient to the hospital and to provide care until responsibility is appropriately transferred to the receiving hospital physician.

- If the on-scene physician's orders conflict with these protocols, the physician should be placed in direct voice contact with the receiving physician. If a conflict remains, EMS personnel will follow protocols.

Cards reading as follows are available to be presented to the intervening physician:
" An Emergency Medical Services system with comprehensive written protocols has been established and is monitored by the appropriate agencies. By showing proof that you are a licensed medical physician, you may take responsibility for the patient's care *if you accept full responsibility for patient management and the issuing of orders conforming to the established protocols, attending the patient in the ambulance enroute to the hospital and signing the EMS patient report form.* If the EMS provider on scene believes there is an issue with patient care, they are instructed to CONTACT MEDICAL CONTROL at the appropriate receiving facility via radio or cellular phone. You may be asked to also speak to the receiving physician. "
Use of this card is only for physicians who are intervening. Nothing in this protocol precludes appropriate assistance from recognized physicians in the community.

INTERVENING PHYSICIAN AT MEDICAL FACILITY

While at the medical office/clinic/urgent care facility, the physician on scene is in charge of patient care, BUT cannot order EMS providers to perform procedures/medications outside of the applicable New Mexico Scopes of Practice for Licensed EMS Personnel.

INVOLUNTARY TRANSPORT

NMSA 24-10B-9.1, Emergency Transportation, states: "Any person may be transported to an appropriate health care facility by an emergency medical technician, under medical direction, when the emergency medical technician makes a good faith judgment that the person is incapable of making an informed decision about his own safety or need for medical attention and is reasonably likely to suffer disability or death without the medical intervention available at such a facility.

- Applies only to New Mexico–licensed EMS professionals.
- "Appropriate health care facility" generally means a hospital emergency department or labor and delivery unit.
- Disability or death must be reasonably likely if patient is not transported.
- Patient must be incapable of making an informed health-care decision. This does not mean that the patient simply disagrees with the provider.
- Voice contact with MCEP is required except when prevented by communications system problems.
- Document factors leading to the "good faith" decision regarding the patient's mental and physical condition, as well as MCEP name.

If it becomes necessary to restrain a patient for any reason, refer to "Patient Restraint" protocol.

MINORS

Patients under the age of 18 do not have the legal ability to refuse treatment and/or transportation to the appropriate facility. SFFD EMTs should contact medical control for situations involving nontransport of minors, in the absence of a legal guardian or authorized health care decision-maker.

NON-PATIENT

An individual must meet each of the following criteria to qualify as a non-patient:

- Refuses to be evaluated
- Did not call for EMS
- Is awake, alert and oriented to time, place, and person
- Has no current complaint

- Has no distracting injuries or illnesses
- Is not a danger to himself or others
- Is not mentally compromised by alcohol or drugs
- Is capable of making an informed decision

EMS personnel should complete the appropriate documentation when individuals refuse care. In light of any complaint, once evaluated by EMS personnel, an individual is considered a patient and thus an appropriate assessment and documentation is required.

All patients choosing not to be transported should be urged to call EMS for an assessment and transport at a later time if they should so desire or if their condition changes.

If personnel are concerned about the safety of the patient, contact medical control.

OMI INVESTIGATIONS

THE UNATTENDED HOME DEATH

When a death occurs outside of a licensed nursing home or hospital facility and the private personal physician of the decedent does not attend the death, that death is considered an unattended death. By law, all unattended deaths fall under the jurisdiction of the OMI and it is necessary for OMI to conduct a full investigation.

In all cases of unattended death law enforcement must be contacted. Local law enforcement should be contacted first; the New Mexico State Police are to be utilized if local law enforcement (city or county) is unavailable or has an extended response time. EMS personnel should simultaneously dispatch law enforcement and OMI to all deaths.

All unattended deaths are to be considered a crime scene by EMS until told otherwise by law enforcement on scene. For this reason, extreme care must be exercised for preservation of the crime scene. Any medical equipment that is used on the patient should be left with the patient (example: IV lines, airway devices, etc.). If external blood loss is caused by EMS (example IV attempts) it should be noted in the EMS run report as well as verbalized to the first arriving law enforcement officer.

The body of the deceased should not be moved until law enforcement is notified. Within reason, no one should be allowed to remain in the room of the deceased alone until law enforcement is on scene.

OMI can obtain the EMS report from headquarters within 24 hours.

If resuscitation efforts are initiated by EMS and then terminated by EMS, the above protocol shall still apply.

ACCIDENTAL/VIOLENT DEATH

In addition to all of the elements outlined above, extra awareness of crime scene preservation must be exercised.

For motor vehicle accidents, this includes: skid marks, debris scattering patterns, clothing location, etc. EMS personnel should realize that on occasion simple placement of units (marked vehicles or private owned vehicles) might place them into the crime scene and subject to the control and authority of law enforcement on scene.

Weapons or sources of injury should not be touched, moved or altered in any way. The only exception to this are when EMS personnel on scene feel that there is a legitimate threat of harm for themselves or additional personnel on scene. In most cases, this means that the scene was not secure and probably should not have ever been entered. If the scene is not safe and you do not have the resources to make it safe, leave the scene. EMS safety always takes precedence over patient safety.

REFUSAL OF TREATMENT/TRANSPORT

Patient refusal of treatment and/or transport represents clinical risks. These situations emphasize the need for complete extensive assessments and documentation, including explanation of potential risks

and recommendations to contact 9-1-1 for any changes in patient condition. Personnel should utilize the departmental EMS Liability Release.

Determining patient decision-making capacity:

- Patient must be oriented to person, place, time and event
- Patient must not appear to have a mental compromise
- Patient judgment must not be influenced by hypoxia or head injury
- Patient must not have obvious visible impairment from drugs or alcohol
- Patient must not have evidence of suicidal tendencies or obvious psychiatric disorders
- Patient must appear to understand the consequences of his/her decision

Accepting refusal from an adult under the influence of alcohol or drugs:

- If, based upon the determination of the paramedic, a patient has decision-making capacity, understands the repercussions of his or her decisions and wishes to sign out against medical advice, the paramedic may accept the refusal so long as the assessment and circumstances are well documented.

If patient is deemed to have the capacity to refuse:

- Potential risks, if any, of refusing treatment/transport must be clearly explained to the patient including any possible implications of the injury or illness, and possibilities of death or disability, if applicable.
- Consider soliciting the help of friends or family to convince the patient to accept your advice. Consider contacting medical control to speak with the patient.
- If patient does not wish to be treated or transported and you do not feel they have a life- or limb-threatening injury, advise them to call 911 for any changes, symptoms, etc. Document accordingly.
- Ask the patient or legal guardian to sign the EMS Liability Release Form. (This request may be refused.)
- Obtain witness signatures on the refusal form, particularly if the patient refuses to sign.

If patient is deemed not to have the capacity to refuse, see “Involuntary Transport.” Summon law enforcement if necessary to assist with restraint and involuntary transportation.

APPENDIX B: DRUG SUMMARY [Under revision]

KETAMINE (KETALAR®)

SCOPE OF PRACTICE

EMT-Paramedic with special skills approval

CLASS OF DRUG

General anesthetic; dissociative anesthetic; phencyclidine derivative

PHARMACOLOGIC ACTION

Theorized to inhibit N-methyl-D-aspartate (NMDA) receptors in the central nervous system. At induction doses, produces a unique dissociative state in which the patient is awake but distant from pain and external stimuli. In lower doses, provides analgesia.

INDICATIONS

Moderate to severe pain
Management of agitated or violent patients, including patients with excited delirium syndrome
Post-intubation sedation

CONTRAINDICATIONS

Relative: ischemic chest pain

Relative: pain management for patient with schizophrenia diagnosis
Relative: pain management in pregnancy

DRUG INTERACTIONS

ADMINISTRATION:

Pain management

[0.5 mg/kg] IN
[0.1-0.25 mg/kg] in 100 ml NS IV/IO given over 12 min
May repeat as needed.

Sedation (behavioral control / post-intubation sedation)

[2-4 mg/kg] IM
[1-2 mg/kg] IV/IO
May repeat as needed.

SFFD KETAMINE ADMINISTRATION GUIDE

		Pain					Sedation (Post-Intubation/Restraint)				
		10kg (~1yr)	20kg (~5yr)	30kg (~10yr)	70kg	100kg	10kg (~1yr)	20kg (~5yr)	30kg (~10yr)	70kg	100kg
IN	dose	5mg	10mg	15mg	35mg	50mg	FOR PEDS, KETAMINE SEDATION FOR POST AIRWAY ONLY (not for patient restraint)				
	vol	0.05mL	0.1mL	0.15mL	0.35mL	0.5mL					
IM	dose						20 - 40mg	40 - 80mg	60 - 120mg	140-280mg	200-400mg
	vol						.2 - .4mL	.4 - .8mL	.6 - 1.2mL	1.4 - 2.8mL	2-4mL
IV/IO	dose	1-2.5mg	2-5mg	3-7.5mg	7-17.5mg	10-25mg	10 - 20mg	20 - 40mg	30 - 60mg	70-140mg	100-100mg
	vol	.01-.025mL	.02-.05mL	.03-.075mL	0.07mL - 0.175ml	0.1mL - 0.25ml	.1 - .2mL	.2 - .4mL	.3 - .6mL	0.7mL-1.4mL	1mL-2mL
		Diluted in 25-100mLbolus over 12mins			in 100mL over 12mins		Slow (1 min) IVP				

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SPECIAL NOTES

Weight-based dosing is the same for adults and children. Use of the SFFD-customized Handtevy reference is recommended for all patients and required for patients 13 years old and younger.
For pain management, may be used as an adjunct to opioid analgesics.
For sedation, use as an alternative to benzodiazepines.
With proper administration, does not cause respiratory depression or hypotension. Causes bronchodilation and increases heart rate and blood pressure.
Layrngospasm has been reported but is rare and associated with excessively high IV doses.
Respiratory depression and apnea have been reported but are rare and associated with too-rapid IV administration.
Some patients may exhibit emergence reactions. Severe cases present with confusion, hallucinations, thrashing, or combativeness. Best practice is to maintain sedation with ketamine during transport, but emergence reactions may be managed with benzodiazepines.

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