Tucson Medical Center
Base Hospital
Administrative / Standing Orders

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Tucson Medical Center Base Hospital Administrative/Standing Orders

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Introduction

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Tucson Medical Center (TMC) Base Hospital Administrative/Standing Orders are offline procedures approved by TMC Base Hospital Medical Director. Each set of Administrative/Standing Orders and Protocols will be reviewed by all EMCTs working under TMC Medical Direction. These evidence-based guidelines will be used to provide the care to the best of their education, experience and within their full scope of practice. TMC Base Hospital members will receive the full support of the Medical Director when providing care to this level.

Protocol Deviation Statement

It is not reasonable to expect any single document to cover all situations where providers may make an assessment that indicates a deviation from these protocols may be necessary. These guidelines are not meant to be absolute treatment doctrines nor are they a substitute for the judgment and experience of the provider. Providers are expected to utilize their best clinical judgment and deliver care and procedures according to what is reasonable and prudent for specific situations. Under rare circumstances deviation may be necessary.

In circumstance where it would not cause further harm and the provider believes a patient may clinically benefit from an intervention, or that following the protocol would be harmful or not in the best interest of the patient, the following procedure should be followed:

1. The EMCT on scene is responsible for performing a complete assessment and determining if a protocol deviation is warranted. Providers must be able to demonstrate they were aware of, and considered the guidance provided with TMC protocols, and understand the risks associated with deviating from protocol.
2. When considering a protocol deviation, a peer with the appropriate level of expertise should be consulted (if available) or call medical direction.
3. ONLY if a provider is comfortable performing the deviation and treatment is consistent with their level of training, may they proceed with the deviation. Documentation must include the reasons for the deviation, all clinical data validating safety, mitigating risk, and the response/effects. The provide must advise the receiving physician of the deviation and document it clearly on the PCR. In all cases providers are expected to deliver care within the scope of practice for their certification.
4. Any protocol deviations will be reported to their Supervisor, Agency EMS Coordinator and Base Hospital Manager within 24 hours. This serves as a safeguard to remind providers that protocol deviations are considered a rare necessity. All deviations are subject to review to determine whether or not it was appropriate.

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Definition of a Patient

A "patient" means an individual who is sick, injured, or wounded and who requires medical monitoring, medical treatment, or transport. (Section R9-25-101 - Authorized by A.R.S. Sections 36-2201, 36-2202, 36-2204, and 36-2205). A patient should meet one or more of the following criteria:

- An acute chief medical complaint
- Signs or symptoms of illness or injury
- Involved in an event with significant mechanism that could cause injury
- Appears disoriented or to have impaired cognitive function
- Exhibits or verbalizes suicidal/homicidal intent
- A person with knowledge of the individual requests treatment and/or transport on the patient's behalf

A person meeting the definition of a patient will be transported ALS, EMT or treated and released per Administrative/Standing Orders. If the patient or responsible adult declines ambulance transport & requests POV or non-transport, guidelines for determining decision-making capacity and informed refusal will be followed & documented. A patient care record will be initiated for each individual meeting the definition of a patient. Documentation will accurately reflect the initial evaluation, care rendered and disposition of each patient.

Definition of a Non-Patient

A "Non-Patient" refers to an individual that EMS has responded to who doesn't meet the definition of a patient. Persons meeting the following criteria may be designated non-injured and/or non-patients and documented as such:

- Age ≥ 18 unless OR legally emancipated, OR accompanied by unimpaired parent or legal guardian
- No complaint: denies pain, illness, or injury
- No concern from others: No bystanders, family, law enforcement of EMS personnel express concern for possible illness or injury
- Normal cognition: No evidence of cognitive impairment, intoxication, altered mental status, or psychiatric emergency.
- Mental status: Alert and oriented x 4 (person, place, time, and event
- Physical appearance: no visible or suspected injury, no obvious distress, and no abnormal findings on general impression

Documentation will comply with agency-specific procedures for a non-EMS encounter. EMS providers can recommend transport of any non-patient if deemed in the person's best interest. If there is any doubt, the individual must be treated and documented as a patient.

Special Considerations:

- **Minors (<18 years, not emancipated):** Always considered patients unless released to a legal guardian and meeting criteria above.
- **Intoxicated or impaired individuals:** Always considered patients.
- **Potential mechanism of injury (e.g., MVC, fall, assault):** Individuals must be considered patients unless clearly uninjured after assessment and meeting criteria above.
- **Law enforcement custody:** Must be treated

How-To Guide

This provides general guidance for how to use flowcharts.

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Criteria for use of this order	• Criteria that would exclude use of this order

This section includes initial stabilizing treatments or important considerations for these patients.

↓

BLS

This section includes orders authorized for use by EMT-Basic level providers and above.

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ALS

This section includes orders authorized for use by Paramedic level providers and above.

This section includes additional guidance and reminders.

ALS/BLS General

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Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs (VS)
  - Document HR, RR, BP, Pulse Ox on al lpatients.
  - Obtain FSBG and Temperature as indicated
  - For stable 911 patients, repeat VS every 15 minutes.
  - For unstable 911 patients, repeat VS every 5 minutes.
  - For Interfacility Transports, repeat VS every 30 minutes if stable, and sooner if unstable.
  - Please document at least VS x 2 prior to transfer of care

↓

BLS

- Prepare for transport
- Basic supportive care as needed
- If indicated and trained, may perform STR as approved by TMC Base Hospital Medical Director.
- Febrile patient - follow **OTC Medication Protocol**
- Assess for inclusion criteria to more suitable SO
- Assess need for ALS upgrade - refer to **ALS/BLS Criteria SO**

↓

ALS

- Obtain IV/IO access
- Consider **NS/LR 20 mL/kg bolus IV**, reassess hemodynamic and pulmonary status every 500 mL
- Obtain 12-lead ECG as indicated

If patient's condition deteriorates, **call Medical Direction Authority.**
Consider transport to closest facility.
Provide appropriate receiving facility notification.

ALS/BLS Criteria

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BLS CRITERIA

VITALS

- No more than one vital sign abnormality
  - Adults:
    - HR ≤ 60 or ≥ 110 bpm
    - RR ≤ 12 or ≥ 24 bpm
    - SBP ≤ 90 mmHg
    - O2 Sat ≤ 94% on max NC 6L
  - Peds:
    - Based on Peds Field Guides

AIRWAY

- No anticipated airway compromise during transport (e.g. severe facial trauma, severe allergic reactions, upper airway swelling)

BREATHING

- No abnormal lung sounds (e.g. stridor, audible wheezing, increased use of accessory muscles, tripoding)

CIRCULATION

- No uncontrolled bleeding
- No shock
- No history of cardiac stent, ablation, or procedure
- ≤ 45 y.o. with non-traumatic chest pain

DISABILITY

- GCS > 13
- Glucose > 70
- No acute neurologic deficit

EXPOSURE

- No significant environmental exposure
  - Heat Stroke
  - Moderate or severe hypothermia
  - Life-threatening ingestion, poisoning, or OD with symptoms
- No SAEMS Trauma Triage Criteria

MISC

- Pain requiring only 1 round of opioids

ALS CRITERIA

Patient does NOT meet BLS Criteria

Patient requires ALS Treatment:

- Requires ALS medication administration or anticipates need for medication during transport
- Requires 2 or more rounds of opioids for pain control
- Requires airway monitoring
- Requires cardiac monitoring
  - >45 y.o. with chest pain
  - Worsening cardiac symptoms and/or ECG changes
  - Overdose
- < 3 months old with any symptoms or illness or injury
- OBGYN emergency
  - Impending delivery
  - Vaginal bleeding with shock
  - Known/suspected pregnancy > 20 weeks gestation or < 6 weeks postpartum with BP > 140/90
- Meets SAEMS Trauma Triage Criteria

Important Considerations:

- **Transport to the closest facility by BLS ambulance should NOT be delayed if any of the following conditions are met:**
  - **ALS response is unavailable**
  - **Rendezvous with ALS is unreasonable due to location and distance from anticipated destination**
- **All protocol deviations should be documented appropriately in PCR with justification. All deviations are subject to review to determine whether or not it was appropriate.**

Abdominal Pain

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Abdominal Pain	• Pregnancy • Trauma

Initiate Immediate Supportive Care:
- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

BLS

Stable: SBP >90 or HR <130
- Initiate IV (if permitted)
- Transport in position of comfort with supportive measures as indicated

Unstable: SBP <90 or HR >130
- Follow stable orders
- Bolus **NS/LR 20 ml/kg IV** maximum to keep SBP > 90; reassess hemodynamic and pulmonary status at 500 ml intervals (if permitted)

ALS

- If patient stable with complaints of nausea and/or vomiting, administer Ondansetron HCL IV/IM/PO
  - **Adult size(>30 kg)**
    - **Ondansetron 4 mg IV** over 2-5 minutes, if no response, may repeat once after 15 minutes
    - If unable to obtain IV, give **Ondansetron Orally Dissolving Tablet (ODT) 8mg PO**, do NOT repeat dose
  - **Pediatric size(<30kg)**
    - **Ondansetron 0.15 mg/kg IV/IO** over 2-5 minutes, do NOT repeat dose
- If patient stable, may follow **Pain Management SO**
- If patient unstable, and unable to start IV, obtain I/O for fluid bolus

If patient's condition deteriorates, **call Medical Direction Authority.**
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Abuse and Maltreatment

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Suspected abuse, maltreatment, neglect, or potential human trafficking	• None

Be aware of potential clues to abuse/maltreatment. Recognize any act, or series of acts of commission or omission by a caregiver or person in a position of power over the patient, that results in harm, potential for harm, or threat of harm to a patient. EMS's role is to:

- Document concerns.
- Assess and stabilize potentially serious injuries.
- Disclose concerns to the appropriate authorities (hospital and law enforcement or state authorities).
- EMS personnel are mandatory reporters of any suspicion for abuse, maltreatment, neglect, or potential human trafficking or sex trafficking of a minor per A.R.S. §13-3620.A and A.R.S. §13-3212.

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BLS

- Complete primary and secondary survey as indicated
  - **Have high-index of suspicion for child abuse with:**
    - **Brief Resolved Unexplained Event (BRUE)**
    - **Any bruising in ≤ 4 m.o.**
    - **Any bruising on torso, ears, neck in ≤ 4 y.o.**
- Upgrade to ALS as indicated
- Report concerns immediately about caregivers impeding ability to assess/transport patient or refusing care for patient.
- Attempt to preserve evidence, but focus on providing emergency care to patient.
- Notify one of the following applicable entities:
  - Law enforcement.
  - Arizona Department of Child Safety 1-888-SOS-CHILD (1-888-767-2445)
  - Adult Protective Services Central Intake Unit 1-877-SOS-ADULT (1-877-767-2385) Link to their online reporting form: https://hssazapsprod.wellsky.com/assessments/?WebIntake=1F74FCDA-C6AB-4192-9CEE-F8D20DE98850.
  - A tribal law enforcement or social services agency for any Native American minor who resides on an Indian reservation.
- Leave the investigation to law enforcement.

NOTE: Reporting to hospital personnel does not qualify as fulfilling the mandatory reporting requirement.

If in need of further direction or questions of how to navigate, **call Medical Direction Authority.**
Consider transport to appropriate receiving facility.
Provide appropriate receiving facility notification.

Altered Mental Status / Overdose

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Altered mental status • Possible overdose	• Traumatic brain injury

Verify scene is secure prior to initiating immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs **including FSBG** and temperature (if available)
- Assess for stroke using validated Prehospital Stroke Screening Scale - refer to **Stroke SO**

↓

BLS

- Initiate IV NS/LR TKO (if permitted)
- If hypoventilation, pinpoint pupils, or possible opioid use, administer **Naloxone 4mg IN**, may repeat x 1

↓

ALS

- Obtain IV/IO access
- Obtain 12-lead ECG.
- Obtain continuous EtCO2 monitoring
- Treat dysrhythmias as indicated.
- If continued suspicion of opioid overdose with no response to intranasal naloxone, administer **Naloxone 0.4 - 2mg IV/IM/IN/IO**, may repeat every 3-5 minutes.

Assess and evaluate for treatable causes.

- Shock
- Dysrhythmia
- Hypoglycemia
- Hyperglycemia.
- Toxic ingestion or substance use
- Hyperthermia
- Opioid poisoning/Overdose
- Agitated or Violent Patient/Behavioral Emergency
- Seizures.

If in need of further direction or questions of how to navigate, **call Medical Direction Authority.**
Consider transport to appropriate receiving facility.
Provide appropriate receiving facility notification.

TMC EMS PROGRAM

Behavioral Emergency

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Hx of recent crisis, emotional trauma, bizarre or abrupt changes in behavior • Suicidal ideation / homicidal ideation • Acute psychiatric complaint • Violent behavior who are a danger to self or others	• Acute medical needs related to any acute correctable medical problem (e.g. hypoxia, hypoglycemia, hypercapnia, TBI, postictal state) • Any acute medical needs that would better fit a different SO

Verify scene is secure prior to initiating immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs **including FSBG** and temperature (if available)

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BLS

- Utilize law enforcement assistance if necessary
- Calm patient with reassuring voice and gestures
- Engage family members / loved ones to encourage patient cooperation if their presence does not exacerbate the patient's agitation
- If patient is combative, agitated and/or a danger to themselves or EMS personnel, consider **physical restraints** per individual agency protocol
  - Vitals must be monitored documenting circulation and hands every 15 minutes
  - Law enforcement officers must accompany during transport if placed in handcuffs
- For Pepper Spray: decon with H2O, apply ice packs, discourage eye rubbing
- For Tazer Probes: May remove if not in high-risk area (e.g. face, neck, hand, bone, groin, spinal column, eye) - refer to **Trauma Hemorrhage Control SO** as indicated

↓

ALS

- For patients who have violent or combative behavior that is dangerous to self or others, consider pharmacological management based on patient's clinical condition. **Use caution as all these medications can cause respiratory depression/compromise.**
  - **Midazolam 0.1 mg/kg (max initial dose 5 mg) IV/IM**
    - IV: May repeat after 10 minutes, up to max TOTAL dose 10 mg
    - IM: May repeat every 10 minutes, up to max TOTAL dose 20 mg
  - **Lorazepam 0.05 mg/kg (max initial dose 2 mg) IV/IM**
    - IV/IM: may repeat after 10 minutes, up to max TOTAL dose 4 mg
  - **Ketamine 4 mg/kg (max dose 250mg) IM only**
    - No repeat dose, unless authorized through call to Medical Direction Authority
- For patients in need of medications to facilitate care, but are not violent or combative, consider small dose for symptomatic control.
  - **Midazolam 0.05 mg/kg (max initial dose 2.5 mg) IV/IM**
    - May repeat after 10 minutes, up to max TOTAL dose 5 mg
  - **Lorazepam 0.025 mg/kg (max initial dose 1 mg) IV/IM**
    - May repeat after 10 minutes, up to max TOTAL dose 2 mg
- If pharmacological management is performed, you must ensure that:
  - Patient is **NOT placed in prone position**
  - Patient is placed on **continuous SpO2 and EtCO2 monitoring**
  - Patient is **reexamined** with **full set of vitals documented every 5 minutes**
  - **Copy of PCR** is made available to Base Hospital Manager / Medical Director **within 24 hours**

If in need of further direction or questions of how to navigate, **call Medical Direction Authority.**
Call Poison Control for suspected or verified ingestions/overdose/exposures as needed
(800-222-1222)
Consider transport to appropriate receiving facility.
Provide appropriate receiving facility notification.

Bradycardia (Adult)

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INCLUSION CRITERIA	EXCLUSION CRITERIA

• HR < 60 with either
  ○ symptoms (AMS, chest pain, pulmonary edema, seizure, syncope, shock, pallor, diaphoresis), or
  ○ hemodynamic instability
	• Pulseless and apneic - refer to Cardiac Arrest SO
	• Patient < 15 y.o.

Initiate Immediate Supportive Care:
- Oxygen to maintain O_2 sat ≥ 94%
- Transmit/Interpret 12-lead ECG
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

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BLS

- Initiate IV NS/LR TKO (if permitted)

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ALS

- Obtain 12-lead ECG
- Administer **Atropine Sulfate 1mg IV/IO** every 3-5 min (max total dose 3mg)
- Consider **Calcium Chloride 1g IV/IO** over 5 min if history of renal failure or concern for hyperkalemia
- Administer **Push Dose Epinephrine 10-20 mcg bolus IV** every 2 minutes to maintain MAP > 65 or SBP > 90, or **Epinephrine IV drip 0.02 - 0.2 mcg/kg/min**
- In cases of hemodynamic collapse (shock, altered LOC) or unresponsive to medication, proceed to **transcutaneous pacing**
- Consider **Midazolam IV/IO/IM** once hemodynamically stable. Stabilizing the patient is priority.
  - **Midazolam 2.5 mg IV/IO,** or **Midazolam 5 mg IM**
    - May repeat x 1
  - **Do NOT give if patient is hypotensive, as Midazolam can cause hypotension**
  - Place on continuous SpO2 and EtCO2 monitoring if sedation used

Guide to Creating Push-Dose Epi:
Mix 1 mL of 0.1mg/mL cardiac Epi (1:10,000) with 9mL NS --> creates 10mcg/mL concentration.

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Burn

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Sustained thermal burns • Exposed to electrical current (AC or DC) • Victim of lighting strike	• Chemical burns • Radiation burns

Verify scene is secure prior to initiating immediate Supportive Care:
- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

BLS

- Stop the burning process
  - Soak clothing and skin with water if burning or smoldering
  - Remove clothing and jewelry that are not stuck to patient
- Leave blisters intact
- Do NOT use ice
- Cover burns with dry dressing or clean sheets
- Evaluate for high risk burn injuries
- Keep patient warm
- Estimate involved body surface area (BSA) using appropriate burn estimation guide
- Establish IV access (if permitted), however avoid burned skin

ALS

- Administer **initial fluid bolus of 20 mL/kg**
- Evaluate for airway thermal burn
  - Assist respirations as needed
  - Do NOT use supraglottic device for airway burns
  - Pursue advanced airway management only if unable to ventilate or oxygenate
- Administer Pain medication as needed, per Pain Management SO
- Refer to Carbon Monoxide / Smoke Inhalation SO and Cyanide Poisoning SO as needed

High Risk Burns should be transported to the regional burn facility if meeting following criteria:
- Partial Thickness Burns: >10% total BSA
- Full Thickness Burns: >5% total BSA
- Significant burns that involve face, hands, feet, genitalia, perineum, or major joints
- Electrical burns, including lightning injury
- Inhalation injury
- Significant burn injury in patients with pre-existing medical disorders that could complicate management, prolong recovery, or affect mortality, such as diabetes, cardiac disease, pulmonary disorders, pregnancy, cirrhosis, morbid obesity, immunosuppression, bleeding disorders.

Regional Burn Center per SAEMS Burn Triage Protocol: Banner UMC-Tucson Campus

If patient's condition deteriorates, **call Medical Direction Authority.**
Consider transport to closest facility in outlying areas with transport time > 30 minutes to regional burn facility, or consider air transport directly to closest burn facility.
Provide appropriate receiving facility notification.

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Cardiac Arrest

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Out-of-hospital cardiac arrest	• Meets Dead on Scene SO • Newborns, refer to Neonatal Resuscitation SO

0 - 8 Minutes

- Initiate chest compressions: 100 - 120/minute
- Place on NRB Mask, 15L O2 with NPA/OPA

BLS

- Perform 4 rounds of CPR (200 compressions)
  - Apply AED and defibrillate if indicated.
  - Minimize interruptions

If UNWITNESSED, likely non-cardiac cause, or <8 y.o.:

- Immediately begin airway management with positive pressure ventilation at a rate of 10 bpm

ALS

- Obtain IV/IO access
- Apply pads, check rhythm every 2 minutes, and defibrillate if indicated (200J for adults; for pediatrics, initial shock 2J/kg, with incremental increase +2J/kg with each subsequent shock up to 10 J/kg [max 200J])
- Administer **Epinephrine IV/IO** every 3-5 minutes (max 3 total doses during resuscitation)
  - Adults: 1mg; Peds: 0.01mg/kg (0.1mg/mL, 1mg max)

If shock-refractory VF/Pulseless VT:

- Administer **Amiodarone 5mg/kg IV/IO (max 300mg)** or **Lidocaine 1mg/kg IV/IO (max 100mg)** x 1 dose
- May repeat at half dose at 5 minutes.

If Torsades de Pointes:

- Administer **Magnesium sulfate 50mg/kg IV/IO (max 2g)** over 5 minutes

8 - 20 Minutes

BLS

- Continue CPR, check rhythm/pulse, defibrillate if indicated every 2 minutes
- If not performed, initiate airway management with positive pressure ventilation

ALS

- If not performed (excluding patients <13 y.o.), place advanced airway (supraglottic or ETI) after 8 minutes.
- Obtain continuous EtCO2
- Consider reversible causes of cardiac arrest
- **Call Medical Direction Authority after 20 minutes if:**
  - **Persistent VF or pulseless VT**
  - **PEA with elevated EtCO2 (>20 mmHg)**
  - **< 18 years**

- If NO response, use Dead on Scene SO

Post - ROSC Care

BLS

- Maintain maximal oxygenation and ventilation
- Evaluate and treat hypoglycemia. Refer to Hypoglycemia/Hyperglycemia SO
- Avoid hyperthermia

ALS

- Maintain EtCO2 35-45 mmHg
  - If < 20 mmHg, may indicate rearrest
- Obtain 12-lead ECG
- Administer **push-dose Epinephrine** (if 14 y.o. or older) if HR or BP downtrending or signs of shock
  - If < 14 y.o., call medical direction

If Rearrest:

- Resume chest compressions and treat underlying rhythm
- If total of 3 doses of Epinephrine have not been given, give up to 3rd dose (max resuscitation 3mg)

Pharmacological Interventions:

- **Epinephrine** 0.01mg/kg (0.1 mg/mL) IV/IO (max dose 1 mg)
- **Push Dose Epinephrine** 10-20 mcg bolus every 2 minutes
  - Mix 1 mL of 0.1mg/mL cardiac Epi (1:10,000) with 9mL NS --> creates 10mcg/mL concentration
- **Amiodarone** 5mg/kg IV/IO
  - Max initial dose 300 mg
  - May repeat half dose after 5 min
- **Lidocaine** 1mg/kg IV/IO
  - Max initial dose 100 mg
  - May repeat half dose after 5 min
- **Magnesium Sulfate** 50mg/kg IV/IO
  - Max dose 2 g over 5 min
- **Calcium Chloride** 20 mg/kg IV/IO
  - Max dose 1g IV/IO over 5 min
  - Only if concern for hyperkalemia
  - May substitute **Calcium Gluconate 100mg/kg IV/IO** (max 2g) over 5 min
- **Naloxone** 4 mg IN or 2mg IV/IO
  - Only if concern for opioid OD

- If in need of further direction on resuscitation or termination, **call Medical Direction Authority.**
- If ROSC obtained, transport to recognized **Cardiac Receiving Center (CRC)** or appropriate facility per **SAEMS Post Cardiac Arrest Triage Protocol**.
- If CPR enroute, transport to closest facility or consider air transport if > 30 minutes to CRC.
- Provide appropriate receiving facility notification.

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Chest Pain

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INCLUSION CRITERIA	EXCLUSION CRITERIA
≥ 25 y.o. with following symptoms: • Dull aching or substernal / epigastric pressure • Radiation to arm/neck/shoulder/jaw • Associated diaphoresis or dyspnea • Back pain or epigastric discomfort for women • Hx of cardiac disease or angina Patients ≤ 25 y.o. with recent drug use	• Traumatic chest pain • CHF or Pulmonary edema - refer to Dyspnea CHF / Pulmonary Edema SO • Dysrhythmia - refer to Bradycardia SO or Tachycardia SO

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

BLS

- Administer **Aspirin (4) 81 mg chewable tablets (total 324 mg)**
- Initiate IV NS/LR TKO (if permitted)
- If SBP ≤ 90, administer **250 mL NS/LR bolus IV**, reassess hemodynamic and pulmonary status and repeat as needed.

ALS

- Obtain 12-lead EKG and send to receiving facility if possible
- Consider **Nitroglycerin 0.4 mg SL tablet or 1 full spray** every 5 minutes until resolution of pain, up to 3 total doses
  - Do NOT use if SBP < 100 mmHg, recent PDE5-inhibitor use (typically for erectile dysfunction or pulmonary HTN), or evidence of STEMI
- Consider **Morphine Sulfate 0.05 mg/kg/dose IV/IM** (max single dose 3 mg) every 10 minutes to total max of 10mg
  - Do not use in unstable angina/non-STEMI, hypotension, or allergy
  - If allergic to Morphine, can substitute with **Fentanyl 25mcg-50mcg (0.5mcg/kg/dose) IV** slow push over 2 min every 5 minutes to a max of 200 mcg
- Consider **Ondansetron 4mg IV/IM over 2-5 minutes** for nausea or vomiting
- If STEMI (1mm ST elevation in ≥ 2 contiguous limb leads or 2mm ST elevation in precordial leads):
  - Transport to Cardiac Receiving Center or Certified Chest Pain Center with 24/7 cath lab capabilities

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Crashing Patient

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INCLUSION CRITERIA	EXCLUSION CRITERIA

• General impression of patient in extremis
• New onset altered level of consciousness
• Signs of shock
• Signs of cardiopulmonary distress
  ○ Diaphoretic
  ○ Respiratory Distress
  ○ Pallor
  ○ Systolic BP ≤ 90 mmHg
	• Meets Cardiac Arrest SO

DO NOT INITIATE MOVEMENT OF PATIENT

↓

B L S

Initiate Immediate Stabilizing Care:

- Vital signs including FSBG and temperature as indicated
- EMT cardiac monitor (non-interruptive) if available
- Airway:
  - Assess for airway patency.
  - Place NPA/OPA adjuncts and utilize iGel (if permitted) as indicated.
- Breathing:
  - Oxygen to maintain O_2 sat ≥ 94%.
  - Refer to Allergic Reaction/Anaphylaxis SO, Asthma/COPD SO, CHF/Pulmonary Edema SO, or Infectious Illness SO as indicated.
  - If in respiratory failure (e.g. poor respiratory effort, loss of muscle tone, SpO2 < 90% despite supplemental oxygen, AMS), perform PPV with BVM.
- Circulation:
  - Initiate IV access (if permitted)
  - If SBP ≤ 90, administer **250 mL NS/LR bolus IV**, reassess hemodynamic and pulmonary status and repeat as needed.
    - For CHF, renal disease on dialysis, or suspected pulmonary edema, do not give unless SBP < 90. If SBP < 90, give **NS/LR 250mL bolus** and call for additional resources (e.g. ALS upgrade, Medical Direction Authority).

↓

A L S

- Obtain 12-lead ECG
  - If STEMI, refer to Chest Pain SO and arrange for transport to Cardiac Receiving Center or Certified Chest Pain Center with 24/7 cath lab capabilities when stable
  - If suspected dysrhythmia, refer to Bradycardia SO and Tachycardia SO as indicated
- If SBP ≤ 90 despite **NS/LR 20 mL/kg bolus IV**, or patient with contraindications to large volume fluid resuscitation (CHF, renal disease on dialysis, or suspected pulmonary edema), administer **Push Dose Epinephrine 10-20 mcg bolus IV every 2 minutes** to maintain MAP > 65 or SBP > 90
  - Consider initiation of **Epinephrine IV drip 0.02 - 0.2 mcg/kg/min**.
  - If < 14 y.o., call medical direction.

↓

Initiate Patient Extrication and Transport

Guide to Creating Push-Dose Epi:
Mix 1 mL of 0.1mg/mL cardiac Epi (1:10,000) with 9mL NS --> creates 10mcg/mL concentration.

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Revised 01/26

Dead on Scene

Administrative/Standing Orders

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Pulseless and Apneic	• Hypothermia • Lightning Strikes

Does patient have condition incompatible with life?

- Decapitated
- Decomposed
- Extrusion of brain matter
- Rigor mortis / Dependent Lividity
- Transection of torso
- Incineration (90% BSA)
- Absent signs of life with VALID DNR *(see next page for more information)*

NO

YES

ASSESS CAUSE OF CARDIAC ARREST

Non-Traumatic Cardiac Arrest

ALL of the following criteria must be met for each category:

Unwitnessed Arrest:

- Prolonged downtime (>30 min) likely
- PEA/Asystole or non-shockable rhythm noted on AED
- No shock was delivered
- No ROSC was obtained anytime
- No pulse for 60 seconds

Witnessed Arrest:

- 20 minutes of resuscitation with:
  - PEA and EtCO2 < 20 mmHg

  OR
  - Asystole or non-shockable rhythm noted on AED
- No shock was delivered
- No ROSC was obtained anytime

Traumatic Cardiac Arrest

If airway obstruction or concern for tension pneumothorax:

- Consider OPA/NPA
- Bilateral Needle Thoracostomy

Penetrating Trauma
If continued apneic/pulseless
AND
Time to Level 1 Trauma Center > 15 min from time of loss of pulses

Blunt Trauma
If continued apneic/pulseless

If patient meets above criteria, **withdraw or withhold resuscitative efforts**.
If asked for time of death, please provide the TIME which resuscitation was withheld/withdrawn.

If patient is < 18 y.o., other special circumstances, or does not meet criteria,
call Medical Direction Authority.

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Medical Care Directives

The purpose of this page is to ensure that procedures for applying the Prehospital Medical Care Directive (PMCD) Form for Withholding Care or other medical care directives, comply with ARS 36-3251.

Patients must have one of the following documents or a valid alternative immediately available:

1. **Prehospital Medical Care Directive (PMCD)**
   a. This an advanced directive that directs the withholding of CPR by EMS personnel. It is sometimes called a DNR – Do Not Resuscitate. **This form needs to be on ORANGE letter sized or wallet sized paper to be valid.** It must be fully completed, including patient signature, doctor or other health care provider signature, and witness or notary signature. Patient may choose to either fill out the personal information section or attach a recent photo.
   b. EMS personnel are not required to accept or interpret medical care directives other than the PMCD (Orange Form). A person who has a valid prehospital medical care directive may also wear an **ORANGE identifying bracelet** on wrist or ankle wear that states in BOLD type: DO NOT RESUSCITATE, [PATIENT'S NAME], [PATIENT'S PHYSICIAN].
   c. In the event a patient is being transported for medical care, the PMCD may be validated by EMS personnel and the original left with the patient, patient's guardian, or agent. Documentation regarding the validity of a PMCD must be included on the agency's patient care reporting document.
   d. If at any time the patient wishes to reverse the DNR order, they may do so by communicating their wish to the emergency provider.
   e. **Contact medical direction authority** if there is any doubt to the validity of a directive or medical situation, or if patient's guardian or healthcare agent wishes to revoke a DNR order. Proceed with resuscitation until clarification is made with medical direction.
   f. Does not apply to Mass Casualty Incidents or medical emergencies involving children and disable adults on public or private school property.
2. **Provider Orders for Life Sustaining Treatment (POLST) or Medical Orders for Life Saving Treatment (MOLST)**
   a. Explicitly describes acceptable interventions for the patient in the form of medical orders, must be signed by a physician or other licensed medical provider to be valid.
3. **Advanced Directives**
   a. Document that describes acceptable treatments under a variable number of clinical situations including some or all the following: what to do for cardiac arrest, whether artificial nutrition is acceptable, organ donation wishes, dialysis, etc. Frequently does not apply to emergent or potentially transient medical conditions.

In the absence of formal written directions (MOLST, POLST, DNR, advanced directives), a person on scene with power of attorney for healthcare, or healthcare proxy, may prescribe limits of treatment.

Special Considerations:

- Emergency medical system and hospital emergency department personnel who make a good faith effort to identify the patient and who rely on an apparently genuine PMCD form or photocopy of a PMCD form on orange paper are immune from liability to the same extent and under the same conditions as prescribed in statute. If a person has any doubt as to the validity of a PMCD form or the medical situation, that person shall proceed with resuscitative efforts as otherwise required by law. Emergency medical system personnel are not required to accept or interpret medical care directives that do not meet the requirements of A.R.S. 36-3251
- Authorization for the withholding of CPR does not include the withholding of other medical interventions, such as intravenous fluids, oxygen or other therapies deemed necessary to provide comfort care or to alleviate pain.

Dialysis Complications

Administrative/Standing Orders

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INCLUSION CRITERIA	EXCLUSION CRITERIA

• Symptomatic dialysis patient
  ○ Dyspnea
  ○ Chest Pain
  ○ Altered Mental Status
• Missed dialysis
	• Falls under a more appropriate SO

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
  - DON'T obtain BP on graft/fistula arm
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS

- Initiate IV NS/LR TKO (if permitted)
  - DON'T obtain access on graft/fistula arm
- If SBP < 90, administer **250 mL NS/LR IV bolus** and call for additional resources (e.g. ALS upgrade, Medical Direction Authority).
- If patient shows signs of pulmonary edema:
  - Place patient in position of comfort.
  - Consider CPAP (if permitted) with inline nebulization, refer to CPAP Protocol
    - Discontinue for shock, altered LOC, or vomiting

↓

ALS

- Obtain IV/IO access
- Obtain 12-lead ECG to assess for signs of hyperkalemia (e.g. peaked T waves, widened QRS, sine wave, bradycardia). If suspicious, administer hyperkalemia medications - see table below
  - ***Remember to prioritize Calcium to stabilize patient***
- If SBP < 90 or HR < 60, administer **Push Dose Epinephrine 10-20 mcg bolus IV every 2 minutes** to maintain MAP > 65 or SBP > 90.

Hyperkalemia Medications

Adults	Peds

• **Calcium Chloride 1g IV/IO** over 5 min, OR **Calcium Gluconate 2g IV/IO** over 5 min
• **Albuterol 5mg nebulized**
• Consider **Sodium Bicarbonate 1 mEq/kg (max 50 mEq) IV/IO** over 5 min
  ○ CANNOT be administered in same line as calcium
	• **Calcium Chloride 20 mg/kg (max 1g) IV/IO** over 5 min, OR **Calcium Gluconate 100mg/kg (max 2g) IV/IO** over 5 min
	• **Albuterol 5mg nebulized**
	• Consider **Sodium Bicarbonate 1 mEq/kg (max 50 mEq) IV/IO** over 5 min
	  ○ CANNOT be administered in same line as calcium

Guide to Creating Push-Dose Epi:
Mix 1 mL of 0.1mg/mL cardiac Epi (1:10,000) with 9mL NS --> creates 10mcg/mL concentration.

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

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TMC EMS PROGRAM

Dyspnea - Allergic Reaction / Anaphylaxis

Administrative/Standing Orders

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STABLE Allergic Reaction

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Urticaria (Hives) • Localized angioedema without airway or GI symptoms • Localized reaction	• Unstable vitals • Respiratory distress *follow unstable protocol > > >

Initiate Immediate Supportive Care:
- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

BLS

- Monitor for airway compromise or progression to anaphylaxis with signs of shock or **two or more** system involvement:
  - Urticaria
  - Swollen tongue or lips
  - Dyspnea
  - Vomiting
  - Abdominal pain
  - Syncope
  - Incontinence

ALS

- Administer **diphenhydramine 1mg/kg IV/IM/PO (max dose 50mg)**

UNSTABLE Allergic Reaction (Anaphylaxis)

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Signs of shock • Airway compromise (dyspnea, wheeze, stridor, hypoxemia) • Multisystem reaction	• Meets stable allergic reaction protocol

Initiate Immediate Supportive Care:
- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

BLS

- Administer **Epinephrine IM**
  - Adult or weight > 25kg:
    - **0.3mg (1 mg/mL concentration)**, OR
    - **EpiPen**
  - Pediatric or weight <25kg:
    - **0.15mg (1mg/mL concentration)**, OR
    - **EpiPen Jr.**
  - Repeat every 5 min as needed
- If wheezing, consider:
  - **Duoneb every 15 min**, max 3 doses
  - **Albuterol 5mg nebulized** (if permitted)
- Initiate IV NS/LR TKO (if permitted)
- Administer **NS/LR 20 mL/kg bolus IV (max 1000 mL)**, reassess pulmonary after 500mL

ALS

- Administer **diphenhydramine 1mg/kg IV/IM (max dose 50mg)**
- Administer **methylprednisolone 2mg/kg IV/IM (max dose 125mg)**
  - can substitute **Dexamethasone 0.6 mg/kg IV/IM/PO (max dose 16mg)**
- Consider **push-dose epinephrine** if no response to IM Epinephrine

Guide to Creating Push-Dose Epi:
Mix 1 mL of 0.1mg/mL cardiac Epi (1:10,000) with 9mL NS --> creates 10mcg/mL concentration.

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

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Dyspnea - Asthma / COPD

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA
• History of Asthma or COPD • Wheezing with increased work of breathing • Patients ≥ 2 y.o

EXCLUSION CRITERIA	
• Anaphylaxis • Bronchiolitis • Bronchitis • Croup • Epiglottis • CHF	• Drowning • Pneumonia • Trauma • Foreign body aspiration

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Maintain position of comfort
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

BLS

- Administer **Duoneb every 15 min, max 3 doses**
  - If unavailable, **Albuterol 5 mg nebulized (repeat as needed)** + **Ipratropium 0.5mg nebulized (max 3 doses)**
- **CPAP (if permitted)** with inline nebulization, refer to CPAP Protocol
  - Discontinue for shock, altered LOC, or vomiting
- Initiate IV NS/LR TKO (if permitted)

ALS

- **CPAP** (if not already authorized by BLS)
  - If CPAP is contraindicated or no improvement, refer to **Airway Management Protocol**
  - In the management of patients with Asthma or COPD, ETI should be used as last resort.
- Obtain IV/IO access (if not already done)
- Obtain continuous EtCO2
- Administer **NS/LR 20 mL/kg bolus IV (max 1000 mL)**
- Administer **methylprednisolone 2mg/kg (max dose 125mg) IV/IM**
  - can substitute **Dexamethasone 0.6 mg/kg (max dose 16mg) IV/IM/PO**
- Consider **Magnesium Sulfate 40 mg/kg (max dose 2 g) IV** over 5-10 min for severe respiratory distress
- Consider **Epinephrine 0.01 mg/kg (1mg/mL concentration) IM (max dose 0.3 mg adults, 0.15mg peds)** for severe respiratory distress without clinical improvement

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Dyspnea - CHF / Pulmonary Edema

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• History of volume overload (e.g. CHF, renal failure, ascites) with increased work of breathing or dyspnea	• Clinical impression consistent with infection (e.g. fever) • Clinical impression consistent with Asthma/COPD

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Maintain position of comfort
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

BLS

- CPAP (if permitted) for severe respiratory distress or impending respiratory failure without decreased level of consciousness
  - Discontinue for shock, altered LOC, or vomiting
- Initiate IV NS/LR TKO (if permitted)
- May acquire and transmit 12-lead ECG as indicated (goal within 5 min patient contact)

ALS

- Obtain IV/IO access (if not already done)
- Obtain continuous EtCO2
- Obtain 12-lead ECG
  - If evidence of STEMI, refer to Chest Pain SO
- Administer **Nitroglycerin 0.4 mg SL tablet or 1 full spray** every 5 minutes, up to 3 total doses
  - Do NOT use if SBP < 100 mmHg, recent PDE5-inhibitor use (typically for erectile dysfunction or pulmonary HTN), or evidence of STEMI
  - Do NOT use in pediatric patients
- **CPAP** (if not already authorized by BLS)
  - If CPAP is contraindicated or no improvement, refer to Airway Management Protocol

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Dyspnea - Infectious Illness

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Clinical impression consistent with respiratory infection (e.g. fever, cough, shortness of breath, hypoxemia)	• Clinical impression consistent with non-infectious etiology

- Don enhanced PPE, per agency policy
  - Prioritize use of masks blocking aerosolized particles (N95, P100, etc.) when any medication or procedure is being provided that generates aerosolized particles (e.g. nebulizers, PPV, airway suction)
  - Wear gown, gloves, and eye protection when available
- Place surgical mask on patient

↓

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- Minimize aerosolization
- When available, insert viral filter between BVM / SGA / ETT and bag/ventilator

↓

BLS

- Initiate IV NS/LR TKO (if permitted)

↓

ALS

- Obtain IV/IO access (if not already done)
- Obtain continuous EtCO2
- Treat additional causes as indicated - refer to appropriate SO
- Treat Shock as indicated - refer to **Shock SO**

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification, noting "possible highly infectious airborne respiratory illness."

ETOH Intoxication

Administrative/Standing Orders

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Suspected ETOH consumption • No other emergent medical need ALL of the following must be present in ages 13 or greater: • GCS 13 or greater • BP: Systolic 100-180, Diastolic 60-100 • HR 60 - 120 • RR 16 - 28 • BGM 70 - 400	• Unconscious / Unresponsive • Requires any ALS treatment, including ECG • Falls under a more appropriate SO

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

BLS

- Utilize law enforcement assistance if necessary
- Calm patient with reassuring voice and gestures
- Engage family members / loved ones to encourage patient cooperation if their presence does not exacerbate the patient's agitation
- If patient is combative, agitated and/or a danger to themselves or EMS personnel, consider physical restraints per individual agency protocol

ALS

- Consider pharmacological management based on patient's clinical condition. **Use caution as all these medications can cause respiratory depression/compromise.**
  - **Midazolam 0.1 mg/kg (max initial dose 5mg) IV/IM**
    - IV: May repeat after 10 minutes, up to max TOTAL dose 10 mg
    - IM: May repeat every 10 minutes, up to max TOTAL dose 20 mg
  - **Lorazepam 0.05 mg/kg (max initial dose 2mg) IV/IM**
    - IV/IM: may repeat after 10 minutes, up to max TOTAL dose 4 mg
  - **Ketamine 4 mg/kg (max dose 250) IM only**
    - No repeat dose, unless authorized through call to Medical Direction Authority
- If pharmacological management is performed, you must ensure that:
  - Patient is **NOT placed in prone position**
  - Patient is placed on **continuous SpO2 and EtCO2 monitoring**
  - Patient is **reexamined** with **full set of vitals documented every 5 minutes**
  - **Copy of PCR** is made available to Base Hospital Manager / Medical Director **within 24 hours**

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Hypoglycemia / Hyperglycemia

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

HYPOglycemia

INCLUSION CRITERIA	EXCLUSION CRITERIA
• FSBG < 60 with symptoms or abnormal VS	• Cardiac Arrest

Initiate Immediate Supportive Care:
- Assess Prehospital Stroke Screening Scales and refer to Stroke SO as needed
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

BLS
- For adult, administer **Glucose 15-25 g PO** if alert and able to swallow
  - For pediatric, administer **Glucose 0.5-1 g/kg PO** if alert and able to swallow
- Initiate IV NS/LR TKO (if permitted)
- Reassess vital signs, mental status, FSBG
- Document current medications and doses
- If patient ≥ 18 y.o. improves condition and do not wish further evaluation/transport, see Hypoglycemia (Treat and Release) SO

ALS

For adults:
- Administer **Dextrose** (max single dose 25 g, repeat as needed)
  - **D10 IV/IO:** 1 mL/kg, max dose 250 mL, or
  - **D50 IV/IO**: 50 mL
- If unable to obtain IV/IO, administer **Glucagon 1 mg IM**

For pediatrics:
- Administer **D10 IV/IO**: 1 mL/kg, max dose 250 mL
- If unable to obtain IV/IO, administer **Glucagon 1 mg IM** (if > 20kg or > 5y.o.) or **0.5mg IM** (if <20kg or <5y.o.)

Note on Insulin Pumps:
- If patient is altered, stop insulin pump or disconnect at insertion site
- If GCS 15 and able to take oral glucose, leave connected with pump running

HYPERglycemia

INCLUSION CRITERIA	EXCLUSION CRITERIA
• FSBG > 250 with symptoms or abnormal VS	• Cardiac Arrest

Initiate Immediate Supportive Care:
- Assess Prehospital Stroke Screening Scales and refer to Stroke SO as needed
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

BLS
- Initiate IV NS/LR TKO (if permitted)
- Bolus **NS/LR 10 mL/kg IV (max dose 2L)**; reassess hemodynamic and pulmonary status at 500 ml intervals (if permitted)
  - For CHF, renal disease on dialysis, or suspected pulmonary edema, do not give.
- Reassess vital signs, mental status, FSBG

ALS
- Obtain IV/IO access
- Place on cardiac monitor
- Obtain continuous EtCO2 monitoring
- Airway management as indicated
- If no contraindications to large volume fluid resuscitation (CHF, renal disease on dialysis, or suspected pulmonary edema), consider additional NS/LR bolus IV up to maximum total dose of 2L

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
If pediatric, transport to closest pediatric care facility if condition permits.
Provide appropriate receiving facility notification.

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Hypoglycemia (Treat and Release)

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Patients with symptomatic hypoglycemia who return to normal mental status with no focal neurologic signs/symptoms after receiving glucose/dextrose	• Patient is taking long-acting insulins or oral diabetic medication other than metformin

Patient or guardian/parent wishes to refuse transport after hypoglycemia treatment, as dictated by **Hypoglycemia / Hyperglycemia SO**

↓

Does the patient or guardian/parent have Decision-Making Capacity?

The individual's judgement must not be impaired by illness, injury, or clinically apparent drug/alcohol intoxication. GCS score must be normal (15). Decision-making capacity should be demonstrated and documented as defined by the presence of all 4 criteria. The patient must be able to:

- Receive and comprehend information needed to make a decision
- Process and deliberate a decision and its potential consequences
- Make and articulate a decision that is consistent over time
- Justify that decision with logic that fits the individual's own value system.

↓ **YES**

Does the patient meet ALL of the following criteria?

- Repeat Glucose > 80 mg/dL
- Takes only short-acting insulin or metformin
- Tolerating oral intake
- Patient or legal guardian refuses transport
- Reliable adult will be staying with patient
- No major comorbid symptoms exist (e.g. chest pain, dyspnea, seizures, intoxication

→ **NO**

↑

Call **Medical Direction Authority**

↓ **YES**

Patient may be **released without transport**. Ensure the patient verbalizes an understanding of the nature of the problem, the potential consequences of non-transport, and formulates plan for future needs.

↓ **NO**

Call **Medical Direction Authority**

Call Medical Direction Authority if:

- Life threatening conditions exists
- Possible abuse or neglect situation
- Doubt that patient has decision-making capacity to refuse

Nausea / Vomiting

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Complaints of nausea and/or vomiting	• Falls under a more appropriate SO

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs **including FSBG** and temperature as indicated

BLS

- Initiate IV access as indicated (if permitted)
- Consider bolus NS/LR 10-20 mL/kg IV (max dose 2L) unless contraindicated (history of CHF, renal failure); reassess pulmonary status at 500 ml intervals (if permitted)

ALS

- Obtain IV/IO access as indicated
- Consider cardiac monitoring or 12-lead ECG if concern for atypical acute coronary syndrome, refer to Chest Pain SO if indicated
- Administer Ondansetron HCL PO/SL/IV/IM if not contraindicated (known or potential prolonged QT syndrome)
  - For Adults: **Ondansetron 4 mg PO/SL/IV/IM,** may repeat x 1 in 15 min to max total dose 8mg
  - For Peds 6 m.o. - 14 y.o.: **Ondansetron 0.15 mg/kg PO/SL/IV/IM (max 4 mg)**, no repeat
  - For Peds < 6 m.o.: do NOT give

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

OBGYN - Childbirth (1/2)

Administrative/Standing Orders

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Known/suspected pregnancy (e.g. missed periods) with imminent delivery and crowning	• Vaginal bleeding in any stage of pregnancy without signs of imminent delivery • Emergencies in first or second trimester • Seizure from eclampsia

Initiate Immediate Supportive Care:
- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

↓

BLS

- Delivery should be controlled and support the newborn's head.
- Check the umbilical cord. If surrounding the neck, slip it over the head. If unable to free the cord from the neck, double clamp the cord and cut between the clamps.
- Do NOT routinely suction the infant's airway (even with a bulb syringe) during delivery.
- Grasping the head with hand over the ears, gently guide head down to allow delivery of the anterior shoulder.
- Gently guide the head up to allow delivery of the posterior shoulder.
- Slowly deliver the remainder of the infant
- Wait at least 1 minute post delivery before clamping and cutting the umbilical cord.
- Clamp cord 5-6 inches from abdomen with 2 clamps and cut the cord between the clamps.
- Record APGAR scores at 1 and 5 minutes. Suction if obvious obstruction to the airway or require positive pressure ventilation.
- Placenta will deliver spontaneously (~5-15 minutes after infant). Do not force the placenta to deliver. Contain all tissue in plastic bag and transport.
- After delivery, massaging the uterus (fundal massage) and allowing the infant to nurse will promote uterine contraction and help control bleeding.

↓

ALS

- Obtain IV/IO access
- If hypertension or signs/symptoms of preeclampsia/eclampsia - refer to **OBGYN Preeclampsia/Eclampsia SO**
- If patient is experiencing Postpartum Hemorrhage - refer to **OBGYN Hemorrhage SO**

If complications of delivery are identified, apply high-flow oxygen to mother and perform the following steps:

Shoulder Dystocia
- Hyperflex mother's hips
- Apply suprapubic pressure
- Angle baby's head as posteriorly as possible but never pull

Prolapsed Cord
- Use gloved finger to lift head/body off cord
- Wrap prolapsed cord in moist sterile gauze
- DO NOT PULL CORD
- Transport mother with hips elevated and knees to chest

Breech Birth
- Place gloved hand with fingers between infant's face and wall to create open airway, careful not to block mouth
- Do NOT encourage pushing
- Transport ASAP

Maternal Cardiac Arrest
- Displace uterus to patient left
- Refer to **Cardiac Arrest SO**
- Transport ASAP if ≥ 24 weeks gestation

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

APGAR Scoring System

Directions: Neonate should be scored using the APGAR scoring system at 1-minute and 5-minutes after birth. These number should be recorded and provided to receiving facility and are used to identify need for resuscitative interventions.

SCORE	0 Points	1 Point	2 Points
Appearance (skin color)	Central cyanosis / Pale / Blue	Peripheral cyanosis	Pink
Pulse (heart rate)	0	<100	> 100
Grimace (reflex irritability)	No response when stimulated	Grimace or weak cry when stimulation	Cry when stimulated
Activity (tone)	Limp	Some flexion	Active motion
Respiration	Apneic	Slow, irregular	Good, Crying

Scoring Definition	
7-10 Points	Reassuring
4-6 Points	Moderately Abnormal
0-3 Points	Abnormal

OBGYN - Hemorrhage

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA

• Vaginal Bleeding
  ○ Non-gestational
  ○ Gestational
  ○ Non-traumatic
  ○ Post-partum
	• Contractions
	• Traumatic vaginal bleeding
	• Sexual assault

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

↓

BLS

- Initiate IV access as indicated (if permitted)
- If applicable, place products of conception in container and transport with patient.
- If patient is experiencing Postpartum Hemorrhage, attempt fundal massage

↓

ALS

- Obtain IV/IO access, two large bore 16G or 18G preferable
- If patient is exhibiting shock symptoms including SBP < 90, > 110 or estimated blood loss > 250 mL, consider the following:
  - Place in shock position
  - > 20 weeks: left lateral recumbent
  - < 20 weeks or not pregnant: trendelenburg
  - Bolus NS/LR 20 mL/kg IV (max dose 2L); reassess pulmonary status at 500 ml intervals (if permitted)
- If patient is experiencing Postpartum Hemorrhage, consider the following
  - **TXA 1g IV bolus** within 3 hours of birth
  - **Oxytocin 10 units IM** or **20 units diluted in 500 mL NS IV bolus**
- If active seizure or hypertension or signs/symptoms of preeclampsia/eclampsia Postpartum - refer to **OBGYN Preeclampsia/Eclampsia SO**.

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

OBGYN - Preeclampsia / Eclampsia

Administrative/Standing Orders

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INCLUSION CRITERIA	EXCLUSION CRITERIA

• Known/suspected pregnancy ≥ 20 weeks gestation or < 6 weeks postpartum with BP > 140/90 and any of the following:
  ○ Visual disturbances
  ○ Dizziness
  ○ Headache
  ○ AMS
  ○ Peripheral edema
  ○ Abdominal pain
  ○ Nausea or vomiting
  ○ Seizure
	• Not pregnant
	• Known/suspected pregnancy < 20 weeks gestation

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

↓

BLS

- Place patient in left lateral recumbent position
- High-flow oxygen via NRB
- Initiate IV access as indicated (if permitted)

↓

ALS

- Obtain IV/IO access
- Obtain 12-lead ECG if history of syncope or lightheadedness
- **If SBP 140-159 or DBP 90-109:**
  - Administer **Magnesium Sulfate 4g IV/IO** over 20 min
    - Monitor for respiratory depression
- **If SBP > 160 or DBP > 110 is persistent for 15 minutes (2 measurements 15 min apart):**
  - Administer Magnesium Sulfate 4g IV/IO over 20 min, PLUS
  - Administer antihypertensive agent
    - **Labetalol 20 mg IV over 2 minutes** (avoid if history of asthma, current bradycardia, or cocaine/methamphetamine intoxication), OR
    - **Nifedipine (immediate release) 10 mg PO** if no IV access
      - do not give if altered mental status or unable to swallow
- **If active seizure (lasting > 5 minutes) not responding to Magnesium:**
  - **Midazolam 10mg IM,** may repeat x 1
    - If IV access already established, give **Midazolam 5mg IV**
  - Contact Medical Direction Authority if seizure dose not terminate

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility if unstable airway. Otherwise, transport to most appropriate receiving center per **SAEMS High Risk OB Triage Protocol**
Provide appropriate receiving facility notification.

Pain Management

Administrative/Standing Orders

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Acute pain in stable patient	• SpO2 < 90% • SBP < 90 mmHg • Active labor • Caution: with multi-system trauma

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

BLS

- Determine pain score assessment using standard pain scale
  - < 4 y.o. : Observational scale (FLACC)
  - 4-12 y.o. : Face pain scale
  - ≥ 12 y.o. : Numeric Rating Scale
- Initiate IV access as indicated (if permitted)
- Consider non-pharmaceutical interventions (e.g. position of comfort, ice pack, splints, verbal)
- Consider OTC options:
  - **Acetaminophen 15 mg/kg PO (max 1 g)**
  - **Ibuprofen 10 mg/kg PO (max 400 mg)**
    - Note: do not give if pregnant, significant bleeding, or possible surgery

ALS

- Obtain IV/IO access as indicated
- Place on cardiac monitoring
- Obtain continuous EtCO2 monitoring
- Consider opioid or ketamine analgesia:
  - **Morphine 0.1 mg/kg/dose IV/IM/IO (max dose 5mg)**, may repeat same dose every 5 min to max total dose 15 mg
  - **Fentanyl 1 mcg/kg/dose IN/IV/IO (max dose 100mcg)**, may repeat same dose every 5 min to max total dose 200mcg
  - **[Adults Only] Ketamine 0.25 mg/kg IV/IO (max dose 25mg)** slow administration over 5 min, may repeat same dose every 10 min to max total dose 100mg
- Consider **Ondansetron HCL PO/SL/IV/IM** if not contraindicated (known or potential prolonged QT syndrome)
  - For Adults: **Ondansetron 4 mg PO/SL/IV/IM,** may repeat x 1 in 15 min to max total dose 8mg
  - For Peds 6 m.o. - 14 y.o.: **Ondansetron 0.15 mg/kg PO/SL/IV/IM (max 4 mg)**, no repeat
  - For Peds < 6 m.o.: do NOT give

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Refusal (under 18 years old)

Administrative/Standing Orders

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Patient who agrees to have a medical evaluation and wishes to refuse treatment or transport • Patient < 18 y.o. • Minor with consent from parent/legal guardian	• Suicidal patient with intent or attempt • Auditory or visual hallucinations • Patient ≥ 18 y.o - refer to **Patient Refusal (over 18 years old) SO** • Emancipated minors who provide state-issued emancipated identification card

Initial patient assessment as indicated to include, but not limited to:

- Vital signs including FSBG
- Appropriate body system assessment

↓

Is parent/guardian on scene?

YES

1. Determine **Decision-Making Capacity** of Parent/Guardian
   a. Individual must not be impaired by illness, injury, or clinically apparent drug/alcohol intoxication. GCS score must be normal (15). Decision-making capacity should be demonstrated and documented as defined by the presence of all 4 criteria. The parent/guardian must be able to:
      i. Receive and comprehend information needed to make a decision
      ii. Process and deliberate a decision and its potential consequences
      iii. Make and articulate a decision that is consistent over time
      iv. Justify that decision with logic that fits the individual's own value system.
2. **Parent/guardian can decline care on behalf of a minor if capacity, unless abuse or neglect is suspected, or in situations where treatment and transport are necessary to prevent death, disability, or serious harm.**

NO

1. Patient cannot refuse
2. Call **Medical Direction Authority**, who can speak with guardian or parent on phone via EMS. Only then can refusal be accepted, as long as:
   a. Guardian or parent is alert and oriented to person, place, time, and event
   b. Guardian or parent is not impaired by drugs or alcohol
   c. Able to verbalize understanding of nature of problem, potential consequences of non-transport, and formulates plan for future needs
   d. No suspicion for abuse or neglect
   e. No situation where treatment and transport are necessary to prevent death, disability, or serious harm
3. Notify law enforcement as necessary to facilitate transport to the hospital

Call Medical Direction Authority if:

- Life threatening conditions exists
- Possible abuse or neglect situation
- Parent/Guardian does not have decision-making capacity

Refusal (over 18 years old)

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA

- Patient who agrees to have a medical evaluation and wishes to refuse treatment or transport
- Patient ≥ 18 y.o.
- Emancipated minors who provide state-issued emancipated identification card

EXCLUSION CRITERIA

- Suicidal patient with intent or attempt
- Auditory or visual hallucinations
- Patient < 18 y.o - refer to **Patient Refusal (under 18 years old) SO**

Initial patient assessment as indicated to include, but not limited to:

- Vital signs including FSBG
- Appropriate body system assessment, including neurologic and mental status

↓

Does the patient have Decision-Making Capacity?

The individual's judgement must not be impaired by illness, injury, or clinically apparent drug/alcohol intoxication. GCS score must be normal (15). Decision-making capacity should be demonstrated and documented as defined by the presence of all 4 criteria. The patient must be able to:

- Receive and comprehend information needed to make a decision
- Process and deliberate a decision and its potential consequences
- Make and articulate a decision that is consistent over time
- Justify that decision with logic that fits the individual's own value system.

↓ **YES**

Does the patient meet ALL of the following criteria?

- No suicide attempt, verbalized suicidal intent, or suspicion of danger to self or others
- No evidence of neurological injury
- No evidence of hemodynamic instability
- No symptomatic hypoglycemia
- No court order for psychiatric care
- Ability to verbalize an understanding of the risks of refusing transport up to and including permanent disability, worsening condition, or death
- Assumes complete responsibility for decision not to be transported

↓ **YES**

Patient may refuse medical care. Ensure the patient verbalizes an understanding of the nature of the problem, the potential consequences of non-transport, and formulates plan for future needs.

↓ **NO**

Call **Medical Direction Authority**

Call Medical Direction Authority if:

- Life threatening conditions exists
- Possible abuse or neglect situation
- Doubt that patient has decision-making capacity to refuse

Documentation Tips

Include the following in patient documentation:

- Who called 911? Why 911 called?
- What treatments have been suggested? What could happen if treatments are not completed?
- Why patient wishes to refuse?
- What is patient's plan if symptoms return or worsen?

Revised 01/26

Seizure

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Ongoing seizure • Seizure lasting > 5 min • More than two seizures in one hour • Postictal mental status	• Pregnancy > 20 weeks gestation or < 6 weeks postpartum - refer to **OBGYN Preeclampsia / Eclampsia SO**

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated. **Do not delay treatment of ongoing-seizure to obtain FSBG.**

BLS

- Initiate IV access as indicated (if permitted)
- If suspected febrile seizure in pediatric patients or heat stroke patient with seizure, remove clothing and blankets to help cool patient off.

ALS

- If actively seizing, administer **Midazolam 0.2 mg/kg IM/IN**
  - Max 5 mg if < 40kg
  - Max 10 mg if ≥ 40kg
- If IV access already established, give half the above IM dose
- If continued seizure, repeat initial dose x 1 only. Call **Medical Direction Authority** for authorization of additional medication.
- Obtain IV/IO access as indicated
- Place on cardiac monitoring
- Obtain continuous EtCO2 monitoring

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Sepsis

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Patients meeting sepsis criteria (Elements from Boxes 1 and 2), • Patients meeting severe sepsis or septic shock (Elements from Boxes 1 + 2 + 3).	• Hospice • Comfort Care

Sepsis Screen

1	• Potential infection or immunosuppression • High risk pediatric criteria (malignancy, asplenia, sickle cell disease, bone marrow transplant, indwelling medical device, solid organ transplant, severe intellectual diabilisty or cerebral palsy, immunocompromised, chronic steroid use)	
2	**Two or more SIRS markers:** • Temp ≥ 100 or ≤ 97 • HR ≥ 90 • RR ≥ 20 • Glucose > 140 in non-diabetic • AMS	**Pediatric** 0-2 y.o. 2-10y.o. 10-14y.o. HR > 190 > 140 > 100 RR > 50 >34 >30 Pulses Decreased, weak, or bounding Cap Refill. > 2 sec or < 1 sec Skin Mottled, ruddy, petechiae Mental Decreased, irritability, confused
3	**Findings of Shock** • SBP<90 or MAP<65, or SBP drop of 40 mmHg from baseline • O2 sat ≤ 92% on RA • Mottled or cold extremities • Central cap refill ≥ 3 sec • Purpuric rash • No radial pulse	**Pediatric Shock** • SBP < 70 + (age in yr x 2) • 3 or more exam criteria • 2 or more exam criteria in patient meeting high-risk criteria

Initiate Immediate Supportive Care:
- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated.

↓

BLS
- Initiate IV access as indicated (if permitted)
- Administer **30 mL/kg NS/LR bolus IV**, reassess pulmonary status every 500 mL (if permitted)
  - For CHF, renal disease on dialysis, or suspected pulmonary edema, do not give unless SBP ≤ 90. If SBP ≤ 90, give **NS/LR 250mL bolus** and call for additional resources (e.g. ALS upgrade, Medical Direction Authority).
- Febrile patient - follow **OTC Medication Protocol**

ALS
- Obtain IV/IO access as indicated
- Place on cardiac monitoring and continuous EtCO2 monitoring
- If SBP < 90 despite NS/LR 30 mL/kg bolus IV, or patient with contraindications to large volume fluid resuscitation (CHF, renal disease on dialysis, or suspected pulmonary edema), administer **Push Dose Epinephrine 10-20 mcg bolus IV every 2 minutes** to maintain MAP > 65 or SBP > 90
  - Consider initiation of **Epinephrine IV drip 0.02 - 0.2 mcg/kg/min.**
- If shock, refer to Shock SO

Guide to Creating Push-Dose Epi:
Mix 1 mL of 0.1mg/mL cardiac Epi (1:10,000) with 9mL NS --> creates 10mcg/mL concentration.

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification of "Sepsis Alert".

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Sexual Assault

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Report of sexual assault • Concern for possible sexual assault	• Meets SAEMS Trauma Triage Protocol

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Position of comfort
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated.
- Notify Law Enforcement; they will determine the need for a forensic exam

Patient/Guardian wishes to refuse

If patient is 18 or older, provide with contact information for **SARS Advocate (520) 349-8221**

If patient is under 18, release to law enforcement.

Patient meets criteria for standing order

ORDERS

- Transport to the closest emergency department
- Reassure patient, provide emotional support
- Treat injuries as appropriate
- Consider same sex attendant if possible
- Document patient demeanor and statements related to the assault
- Discourage use of restroom or cleansing
- Do not discard first voided urine; place on ice if possible
- Place any clothing in a clean paper bag
- Human bites: do not clean; cover with a dry dressing

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Shock

Administrative/Standing Orders

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Hypotension • Tachycardia out of proportion to temp • Delayed cap refill > 2 sec • May have other system involvement: decreased urine output, mottled or flushed skin, AMS, hypoxia, tachypnea	• Shock due to trauma - refer to Trauma General SO • Shock due to anaphylaxis - refer to Dyspnea Allergic Reaction / Anaphylaxis SO

Initiate Immediate Supportive Care:
- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated.

BLS

- Initiate IV access as indicated (if permitted)
- Administer **10 mL/kg NS/LR bolus IV**, reassess pulmonary status every 500 mL (if permitted)
  - For CHF, renal disease on dialysis, or suspected pulmonary edema, do not give unless SBP < 90. If SBP < 90, give **NS/LR 250mL bolus** and call for additional resources (e.g. ALS upgrade, Medical Direction Authority).

ALS

- Obtain IV/IO access as indicated
- Place on cardiac monitoring
- If not fluid responsive and ≥ 14 y.o., administer **Push Dose Epinephrine 10-20 mcg bolus IV** every 2 minutes to maintain MAP > 65 or SBP > 90
  - If no response Epinephrine, consider **Norepinephrine 0.05-0.5 mcg/kg/min IV/IO via pump**
  - Call medical direction if < 14 y.o.
- If history of adrenal insufficiency (congenital adrenal hyperplasia, daily steroid use), administer **methylprednisolone 2 mg/kg IV/IO (max dose 125 mg)**

Guide to Creating Push-Dose Epi:
Mix 1 mL of 0.1mg/mL cardiac Epi (1:10,000) with 9mL NS --> creates 10mcg/mL concentration.

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Stroke

Administrative/Standing Orders

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INCLUSION CRITERIA

- Signs and symptoms of stroke:
  - Facial droop
  - Unequal grip or arm drift
  - Unilateral numbness/weakness
  - Difficulty Speaking / Slurred speech
  - Sudden loss of vision
  - Ataxia: acute changes in coordination (arms, legs, or gait)
- **Last Known at Baseline < 24 hours**

EXCLUSION CRITERIA

- Potential Traumatic Brain Injury

*Note: For **patients < 18 y.o.**, call receiving facility or Medical Direction Authority to ensure appropriate destination decision, as stroke scales are not validated for pediatric patients.*

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Obtain FSBS - treat per **Hypoglycemia SO** if indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available
- Establish and relay "STROKE ALERT" with time last seen normal
- Initiate proximal IV 18G or 20G IV access with NS/LR TKO

Symptom onset < 4 hours

- Transport to nearest Stroke Center (Primary, Comprehensive, Thrombectomy-Capable, or Primary Plus Stroke Center)
- If transport > 30 minutes, transport patient to the closest facility (such as Acute Stroke Ready Hospital) or consider air transport.

Symptom onset > 4 hours

- Assess for unilateral motor weakness for 10 seconds. If unilateral weakness present, perform **VAN screening***.
- **If VAN positive, transport patient to nearest Comprehensive Stroke Center, Thrombectomy Capable Stroke Center or Primary Plus Stroke Center with 24/7 thrombectomy capabilities.**

NEGATIVE VAN

***VAN: Screening Tool for Large Vessel Occlusion (LVO)**

1. Assess for unilateral motor weakness: If unilateral motor weakness present, move to step 2
2. Assess for **Visual disturbance** (Field cut, double vision or blind vision)
3. Assess for **Aphasia** (Inability to speak or understand)
4. Assess for **Neglect** (Gaze to one side or ignoring one side)

If patient has any unilateral weakness PLUS any one of the above, likely an LVO (Positive VAN)

If patient's condition deteriorates, **call Medical Direction Authority**. Consider transport to closest facility. Provide appropriate receiving facility notification with "Stroke Alert" and/or "Possible LVO"

Primary Stroke Centers:
BUMCT, NWMC, NWMC-Houghton, OVH, SJH, SMH, TMC

24/7 Thrombectomy available:
Comprehensive Stroke Center: BUMC-T, SJH, TMC
Primary Plus Stroke Center (24/7 thrombectomy): SMH

Tachycardia (Adult)

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA

- Adults: HR > 100
- Elevated HR for age, with or without associated symptoms (e.g. palpitations, dyspnea, chest pain, syncope/near-syncope, hemodynamic compromise, AMS, other signs of end organ malperfusion)

EXCLUSION CRITERIA

- Sinus tachycardia
- Patient < 15 y.o. - refer to PEDS - Tachycardia SO
- Pulseless and apneic - refer to Cardiac Arrest SO

Initiate Immediate Supportive Care:
- Oxygen to maintain O_2 sat ≥ 94%
- Transmit/Interpret 12-lead ECG
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

Unstable →

- Deliver **Synchronized Cardioversion**
  - Start 120 J, repeat dose 200 J
  - If unable to synchronize, deliver **Defibrillation**.

Narrow Complex Tachycardia

SVT

- Vagal maneuvers
- Administer **Adenosine 6mg IV/IO + 10mL flush**
  - May repeat 12 mg x 1
  - Contraindicated in patients with known Wolff-Parkinson-White (WPW)
- If no effect, consider **Diltiazem IV/IO**
  - Adults < 65 y.o: 20mg (give initial 10mg slowly over 2 min, rest over 10 min as BP allows)
  - Adults > 65 y.o: 10mg (give initial 5mg slowly over 2 min, rest over 10min as BP allows)

Irregular Narrow Complex Tachycardia (A.fib, A.flutter, Multifocal Atrial Tachy)

- Administer **Diltiazem IV/IO**
  - Adults < 65 y.o: 20mg (give initial 10mg slowly over 2 min, rest over 10 min as BP allows)
  - Adults > 65 y.o: 10mg (give initial 5mg slowly over 2 min, rest over 10min as BP allows)

Wide Complex Tachycardia

Regular Wide Complex Tachycardia

- Administer **Amiodarone 150mg IV/IO** over 10 min
  - May repeat x 1
- If no Amiodarone is available, consider **Lidocaine 1.5 mg/kg IV/IO**
  - May repeat half initial dose x 1 after 5 min

Irregular Wide Complex Tachycardia

- Administer **Amiodarone 150mg IV/IO** over 10 min
  - May repeat x 1

Torsades

- Administer **Magnesium sulfate 50mg/kg IV/IO (max 2g)** over 15 minutes

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Revised 01/26

PEDS - General

Administrative/Standing Orders

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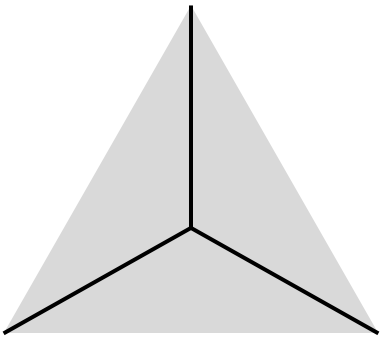
INCLUSION CRITERIA	EXCLUSION CRITERIA
• Patients < 15 y.o.	• Patients ≥15 y.o.

- It is preferable for minors to have a parent or legal guardian who can provide consent for treatment on behalf of the child; however, EMS providers may provide emergency treatment when a parent is not available to provide consent.
- Use commercially available tool for:
  - Weight estimate
  - Medication dosing
  - Equipment size selection

Pediatric Assessment Triangle

Appearance

- Abnormal Tone
- Decreased Interactiveness
- Decreased Consolability
- Abnormal Look/Gaze
- Abnormal Speech/Cry



Breathing

- Abnormal Sounds
- Abnormal Position
- Retractions
- Flaring
- Apnea/Gasping

Circulation

- Pallor
- Mottling
- Cyanosis

Pediatric Pain Score: FLACC

Categories	0	1	2
Face	No particular expression or smile.	Occasional grimace or frown, withdrawn, disinterested.	Frequent to constant frown, quivering chin, clenched jaw
Legs	Normal position or releaxed	Uneasy,restless, tense	Kicking or legs drawn up
Activity	Lying quietly, normal position, moves easily	Squirming, shifting back and forth, tense	Arched, rigid, or jerking
Cry	No cry (awake or asleep)	Moans or whimpers; occasional complaint	Crying steadily, screams or sobs, frequent complaints
Consolability	Content, relaxed	Reassured by occasional touching, hugging, or being talked to; distractable	Difficult to console or comfort

Normal Heart Rate by Age (beats/minute) **Reference: PALS Guidelines, 2025**			
Age	**Awake Rate**	**Sleeping Rate**	
Neonate (<28 days)	100 - 205	90 - 160	
Infant (1 - 12 months)	100 - 180	90 - 160	
Toddler (1 - 2 years)	98 - 140	80 - 120	
Preschool (3 - 5 years)	80 - 120	65 - 100	
School-age child (6 - 11 years)	75 - 118	58 - 90	
Adolescent (12 - 15 years)	60 - 100	50 - 90	

Normal Respiratory Rate by Age (breaths/minute) **Reference: PALS Guidelines, 2025**			
Age	**Rate**		
Infant (1 - 12 months)	30 - 53		
Toddler (1 - 2 years)	22 - 37		
Preschool (3 - 5 years)	20 - 28		
School-age child (6 - 11 years)	18 - 25		
Adolescent (12 - 15 years)	12 - 20		

Normal Blood Pressures by Age
Reference: PALS Guidelines, 2025

Age	**Systolic Pressure (mmHg)**	**Diastolic Pressure (mmHg)**	**Mean Arterial Pressure (mmHg)**
Birth (12 hr, <1000 g)	39 - 59	16 - 36	28 - 42
Birth (12 hr, 3 kg)	60 - 76	31 - 45	48 - 57
Neonate (96 hr)	67 - 84	35 - 53	45 - 60
Infant (1 - 12 months)	72 - 104	37 - 56	50 - 62
Toddler (1 - 2 years)	86 - 106	42 - 63	49 - 62
Preschooler (3 - 5 years)	89 - 112	46 - 72	58 - 69
School-age child (6 - 9 years)	97 - 115	57 - 76	66 - 72
Pre-adolescent (10 - 12 years)	102 - 120	61 - 80	71 - 79
Adolescent (12 - 15 years)	110 - 131	64 - 83	73 - 84

PEDS - Bradycardia

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA

• HR < 60 with either
  ○ symptoms (AMS, chest pain, pulmonary edema, seizure, syncope, shock, pallor, diaphoresis), or
  ○ hemodynamic instability
	• Pulseless and apneic - refer to Cardiac Arrest SO
	• Patient < 28 days old - refer to PEDS - Neonatal Resuscitation SO
	• Patient ≥ 18 y.o. - refer to Bradycardia (Adult) SO

Initiate Immediate Supportive Care:
- Oxygen to maintain O_2 sat ≥ 94%
- Transmit/Interpret 12-lead ECG
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS

- Initiate IV NS/LR TKO (if permitted)
- If HR < 60 with poor signs of perfusion, initiate PPV with BVM and O2.
  - If HR < 60 persists, initiate chest compressions. Reassess pulse every 2 minutes. If patient becomes pulseless, refer to Cardiac Arrest SO

↓

ALS

- Obtain 12-lead ECG
- Administer **Atropine Sulfate 0.02 mg/kg IV/IO (min dose 0.1 mg, max dose 0.5mg).** May repeat x1.
- Administer **Epinephrine 0.01mg/kg (0.1 mg/mL) IV/IO** every 3-5 minutes (max total dose 1 mg).
- In cases of hemodynamic collapse (shock, altered LOC) or unresponsive to medication, proceed to **transcutaneous pacing**
- Consider **Midazolam IV/IO/IM** once hemodynamically stable. Stabilizing the patient is priority.
  - **Midazolam 0.1 mg/kg IV/IO (max dose 2.5mg)**, or **Midazolam 0.1 mg/kg IM (max dose 5 mg)**
    - May repeat x 1
  - Do NOT give if patient is hypotensive, as Midazolam can cause hypotension
  - Place on continuous SpO2 and EtCO2 monitoring if sedation used

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest pediatric receiving facility if condition allows.
Provide appropriate receiving facility notification.

PEDS - Brief Resolved Unexplained Event (BRUE)

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA

• Infant with sudden, brief episode, that is frightening to the observer which is unexplained and completely resolved upon arrival of EMS with some combination of the following:
  ○ Absent, decreased or irregular breathing (apnea: central or obstructive) including choking or gagging
  ○ Color change, usually cyanosis or pallor, not including only redness (face) or isolated hands/feet cyanosis
  ○ Marked change in muscle tone (flaccid or rigid)
  ○ Altered level of responsiveness (increased or decreased, irritability)
	• Age > 12 months
	• Seizures
	• Respiratory Distress
	• Pulseless and apneic - refer to Cardiac Arrest SO
	• Trauma with known mechanism of injury - Refer to TRAUMA - General SO
	• History or exam concerning for child abuse or maltreatment - refer to Abuse and Maltreatment SO

Initiate Immediate Supportive Care:

- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated.

↓

BLS

- Assess for signs of abuse or maltreatment
- Regardless of patient appearance, all patients with a history of signs or symptoms of BRUE should be transported for further evaluation.
  - Given possible need for intervention, all patients should be transported to facilities with baseline readiness to care for children, where available, per local protocol.
  - Consider a facility with pediatric critical care capability if any high-risk criteria:
    - Less than 2 months of age
    - History of prematurity (< 32 weeks gestation)
    - More than 1 BRUE, now or in past
    - Event duration > 1 minute
    - CPR or resuscitation by caregivers to trained rescuers.
- Contact **Medical Direction Authority** if parent/guardian refusing medical care and/or transport

↓

ALS

- Obtain IV only if concern of shock or in need of IV medication
- If indicated, airway should be managed in least invasive way possible

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest pediatric receiving facility if condition allows.
Provide appropriate receiving facility notification.

PEDS - Dyspnea

Administrative/Standing Orders

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• Patient < 2 y.o. with wheezing or diffuse rhonchi with viral or other undifferentiated illness characterized by rhinorrhea, cough, fever, tachypnea and/or respiratory failure) • History of stridor or barky cough	• Patient ≥ 2 y.o • Suspected anaphylaxis • Epiglottitis • Foreign body aspiration • Submersion/drowning

Initiate Immediate Supportive Care:
- Oxygen to maintain O_2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated.

Wheezing or Diffuse Rhonchi

BLS

- Suction nose and/or mouth if excessive secretions are present
- If respiratory failure or impending failure, initiate BVM ventilation
- Consider administration:
  - **Duoneb every 15 min**, max 3 doses
  - **Albuterol 5mg nebulized** (if permitted)

ALS

- Consider initiating IV only if concern for severe dehydration
- Obtain continuous EtCO2 monitoring
- For severe respiratory distress, if suctioning and oxygen fail to result in clinical improvement, administer **Epinephrine 5 mg (1 mg/mL concentration) Nebulized**
  - Nebulize 5 mL of 1 mg/mL solution
  - Alternatively, if your agency carries a pre-made SVN, you may use it instead.

Stridor or Barky Cough

BLS

- Suction nose and/or mouth if excessive secretions are present
- If respiratory failure or impending failure, initiate BVM ventilation

ALS

- Avoid IV placement; crying may exacerbate symptoms
- Obtain continuous EtCO2 monitoring
- For severe respiratory distress, if suctioning and oxygen fail to result in clinical improvement, administer **Epinephrine 5 mg (1 mg/mL concentration) Nebulized**
  - Nebulize 5 mL of 1 mg/mL solution
  - Repeat in 20 minutes as needed
  - Alternatively, if your agency carries a pre-made SVN, you may use it instead.
- Administer **Dexamethasone 0.6 mg/kg PO/IM/IV/IO (max dose 10mg)**

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport in accordance to **SAEMS Critical Pediatric Triage Protocol**
Provide appropriate receiving facility notification.

PEDS - Neonatal Resuscitation

Administrative/Standing Orders

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INCLUSION CRITERIA	EXCLUSION CRITERIA
• All neonates immediately following birth	• Non-neonate

Initiate Immediate Supportive Care:

- Initiate IV/IO access if evidence of shock or in need of IV medication - refer to **Shock SO**
- Consider checking blood glucose for ongoing resuscitation, maternal history of diabetes, ill appearing, or unable to feed - refer to **Hypoglycemia / Hyperglycemia SO** as needed
- Wait 60 seconds post-delivery before clamping and cutting umbilical cord
- For first 30 seconds, warm and dry with towel and stimulate baby
- If gestational age < 32 weeks: additional warming with plastic wrap or bag
- If strong cry, regular respiratory effort, good tone, and term gestation, place skin to skin with mother and cover with dry linen.
- If weak cry, signs of respiratory distress, poor tone, or preterm gestation, position airway (sniffing position) and suction mouth then nose.

HR < 100

BLS

- Initiate BVM ventilation with room air at 20 breaths/min and monitor HR closely
- If no improvement after 90 seconds, change O2 delivery to 100% FiO2 until heart rate normalizes

HR < 60

BLS

- Ensure effective ventilations with supplementary oxygen and adequate chest rise
- If no improvement after 30 seconds, initiate chest compressions
- Initiate BVM ventilations at 30 breaths/min

ALS

- If available, place supraglottic device in setting of respiratory failure of apnea
- Administer **Epinephrine 0.01mg/kg (0.1 mg/mL) IV/IO** (max dose 1 mg) after 30 seconds of positive pressure ventilations if HR remains < 60
  - Redose every 3-5 minutes to achieve HR goal of > 60
- Administer **NS 20 mL/kg IV/IO fluid bolus** for shock or post-resuscitative care

HR > 100

BLS

- Monitor for central cyanosis and provide blow-by oxygen as needed.
- If apneic or in significant respiratory distress: use BVM with room air at 20 breaths/min
- Goal SpO2 at 10 min = 85-95%

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport in accordance to **SAEMS Critical Pediatric Triage Protocol**
Provide appropriate receiving facility notification.

PEDS - Tachycardia

Administrative/Standing Orders

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INCLUSION CRITERIA

- Elevated HR for age, with or without associated symptoms (e.g. palpitations, dyspnea, chest pain, syncope/near-syncope, hemodynamic compromise, AMS, other signs of end organ malperfusion)

EXCLUSION CRITERIA

- Sinus tachycardia
- Pulseless and apneic - refer to Cardiac Arrest SO

Initiate Immediate Supportive Care:
- Oxygen to maintain O_2 sat ≥ 94%
- Transmit/Interpret 12-lead ECG
  - Probable sinus tachycardia if: p waves present/normal, variable R-R interval, infant rate usually < 220/min, child rate < 180/min
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

Unstable →

- Deliver **Synchronized Cardioversion 1J/kg**, repeat dose 2 J/kg
  - If unable to synchronize, deliver **Defibrillation**.

Narrow Complex Tachycardia

SVT

- Vagal maneuvers
- Administer **Adenosine 0.1 mg/kg IV/IO + 10mL flush (max 6mg)**
  - May repeat 0.2 mg/kg (max 12mg) x 1
  - Contraindicated in patients with known Wolff-Parkinson-White (WPW)

Wide Complex Tachycardia

Regular Wide Complex Tachycardia

- Administer **Amiodarone 5 mg/kg IV/IO (max 150 mg)** over 10 min

Irregular Wide Complex Tachycardia

- Administer **Amiodarone 5 mg/kg IV/IO (max 150 mg**) over 10 min

Torsades

- Administer **Magnesium sulfate 50mg/kg IV/IO (max 2g)** over 15 minutes

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest pediatric receiving facility if condition allows.
Provide appropriate receiving facility notification.

Trauma - General

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Blunt Trauma • Penetrating Trauma • Burns	• Non-Traumatic Injury • Pulseless and apneic - refer to Dead on Scene SO

Initiate Immediate Trauma Care:
- Hemorrhage control - refer to Trauma - Hemorrhage Control SO
- Oxygen to maintain O_2 sat ≥ 94%
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS

- Initiate IV NS/LR TKO (if permitted)
- For open chest wound, place occlusive dressing
- For unstable pelvis with hypotension, place pelvic binder or sheet to stabilize pelvis
- For extremity deformity, place in splint and position of comfort
- For potential TBI, refer to Trauma - Traumatic Brain Injury (EPIC-TBI) SO
- Evaluate for increased risk of bleeding - see blood thinner list below
- Maintain spinal motion restriction

↓

ALS

- Obtain IV/IO access, two large bore 16G or 18G preferable
- If SBP < 90 mmHg or HR >120, administer **NS/LR 1L bolus IV/IO**, repeat as indicated
  - Peds: if tachycardia for age with signs of poor perfusion, administer **NS/LR 20 mL/kg bolus IV/IO**
- If potential hemorrhagic shock and within 3 hrs of injury, administer **TXA 30 mg/kg (max 2g) IV/IO bolus.**
- If absent or diminished breath sounds in hypotensive patient, consider tension pneumothorax and perform Needle Decompression
- If significant pain, refer to Pain Management SO
- Avoid hypothermia

Blood Thinner List

Anti-Platelets	Anti-Coagulants
• Salicylate (Aspirin) • Clopidogrel (Plavix®) • Prasugrel (Effient®) • Ticagrelor (Brilinta®) • Dipyridamole (Persantine®) • Dipyridamole/Aspirin (Aggrenox®)	• Enoxaparin (Lovenox®) • Dabigatran (Pradaxa®) • Rivaroxaban (Xarelto®) • Warfarin (Coumadin®) • Apixaban (Eliquis®) • Heparin • Fondaparinux (Arixtra®)

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport to most appropriate receiving center per SAEMS Regional Trauma Triage Protocol
Provide appropriate receiving facility notification.

National Guideline for the Field Triage of Injured Patients

RED CRITERIA
High Risk for Serious Injury

Injury Patterns

- Penetrating injuries to head, neck, torso, and proximal extremities
- Skull deformity, suspected skull fracture
- Suspected spinal injury with new motor or sensory loss
- Chest wall instability, deformity, or suspected flail chest
- Suspected pelvic fracture
- Suspected fracture of two or more proximal long bones
- Crushed, degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Active bleeding requiring a tourniquet or wound packing with continuous pressure

Mental Status & Vital Signs

All Patients
- Unable to follow commands (motor GCS < 6)
- RR < 10 or > 29 breaths/min
- Respiratory distress or need for respiratory support
- Room-air pulse oximetry < 90%

Age 0–9 years
- SBP < 70mm Hg + (2 x age in years)

Age 10–64 years
- SBP < 90 mmHg or
- HR > SBP

Age ≥ 65 years
- SBP < 110 mmHg or
- HR > SBP

Patients meeting any one of the above RED criteria should be transported to the highest-level trauma center available within the geographic constraints of the regional trauma system

YELLOW CRITERIA
Moderate Risk for Serious Injury

Mechanism of Injury

- High-Risk Auto Crash
  - Partial or complete ejection
  - Significant intrusion (including roof)
    - >12 inches occupant site OR
    - >18 inches any site OR
    - Need for extrication for entrapped patient
  - Death in passenger compartment
  - Child (age 0–9 years) unrestrained or in unsecured child safety seat
  - Vehicle telemetry data consistent with severe injury
- Rider separated from transport vehicle with significant impact (eg, motorcycle, ATV, horse, etc.)
- Pedestrian/bicycle rider thrown, run over, or with significant impact
- Fall from height > 10 feet (all ages)

EMS Judgment

Consider risk factors, including:

- Low-level falls in young children (age ≤ 5 years) or older adults (age ≥ 65 years) with significant head impact
- Anticoagulant use
- Suspicion of child abuse
- Special, high-resource healthcare needs
- Pregnancy > 20 weeks
- Burns in conjunction with trauma
- Children should be triaged preferentially to pediatric capable centers

If concerned, take to a trauma center

Patients meeting any one of the YELLOW CRITERIA WHO DO NOT MEET RED CRITERIA should be preferentially transported to a trauma center, as available within the geographic constraints of the regional trauma system (need not be the highest-level trauma center)

Reference: https://saemscouncil.com/wp-content/uploads/2023/04/Trauma-Triage_4.19.23.pdf

Trauma - Hemorrhage Control

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Uncontrolled Bleeding	• None

Monitor for Signs of Shock.
Apply Direct Pressure.

↓

Hemorrhage Controlled?

↓

NO

↓

Extremity Wound?

↓

NO

↓

- Apply continued direct pressure
- Pack wound with gauze bandage (plain or with topical hemostatic agent)

YES

↓

- Apply Tourniquet
- If ongoing bleed, apply 2nd Tourniquet more proximally.
- If ongoing bleed, pack wound with gauze gauze bandage (plain or with topical hemostatic agent.

YES

↓

Maintain Direct Pressure
Consider Pressure Dressing
Supportive Care

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport to most appropriate receiving center per SAEMS Regional Trauma Triage Protocol
Provide appropriate receiving facility notification.

Tourniquet (TQ) Protocol

Indications

- Significant hemorrhage
- Arterial bleeding
- Significant venous bleeding
- Extremity bleeding in the tactical environment (RTF functions)
- Any partial or total extremity amputation with or without hemorrhage
- Extremity bleeds where direct pressure and pressure dressings are not feasible due to limited manpower or where the patient has multiple life threatening injuries

Contraindications

- Mild bleeding
- Bleeding that can be controlled with direct pressure or pressure dressings

Procedure

1. Firm, direct pressure to bleeding site
2. Fully expose the injury. Remove clothing as needed
3. Apply TQ to bare skin, approx. 2-3 inches proximal (above wound). TQ should not be placed distal to the knee or elbow
4. If the patient is in extremis, has massive hemorrhage or the tactical situation is unsafe, then the device should be placed high up on the extremity and over the clothing
5. Remove all slack from the strap so that it is snug prior to tightening
6. Tighten TQ until cessation of bleeding. (venous oozing is acceptable)
7. Check for absence of distal pulse (if still palpable, tighten until no longer is)
8. Do not cover the tourniquet with a dressing
9. Note the time the TQ was placed
10. Reassess the wound and TQ each time the patient is moved to ensure it is still tight
11. If bleeding is not controlled with first TQ, apply a second TQ proximally
12. Monitor patient for signs of shock

Special Note

All TQ patients should go to a Level I Trauma facility

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport to most appropriate receiving center per **SAEMS Regional Trauma Triage Protocol**
Provide appropriate receiving facility notification.

Trauma - Thoracic Injury

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Anterior and/or posterior thoracic injuries, such as flail segment, penetrating, or sucking chest wound • S&S of potential tension PTX may include: chest pain, dyspnea, decrease in SpO2, unilateral diminished /absent breath, tachycardia, tachypnea, resistance to BVM ventilations, decompensated shock, traumatic cardiac arrest	• Non-Thoracic Injury

Initiate Immediate Trauma Care:
- Hemorrhage control - refer to Trauma - Hemorrhage Control SO
- Initiate high flow supplemental O2 with NRB, **goal O_2 sat 100%**
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

BLS

- Seal open thoracic wounds with occlusive dressings
- Place patient in position of respiratory comfort if no spinal injury suspected.
- Initiate Rapid transport to trauma center

ALS

- If patient decompensates with respiratory distress, deteriorating level of consciousness, hypotension, or SpO2 less than 92% despite high flow oxygen, perform needle decompression
- Consider needle decompression in trauma code patients with thoracic injuries

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport to most appropriate receiving center per SAEMS Regional Trauma Triage Protocol
Provide appropriate receiving facility notification.

Trauma - Extremity Injury

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Amputation • Potential extremity fracture or dislocation	• Non-Traumatic Injury

Initiate Immediate Trauma Care:
- Hemorrhage control - refer to Trauma - Hemorrhage Control SO
- Oxygen to maintain O_2 sat ≥ 94%
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

BLS

- Evaluate for:
  - Deformity or instability.
  - Neuro status of extremity.
  - Pallor.
  - Pulse.
  - Capillary refill.
  - Degree of bleeding/blood loss, color of the blood, and if it is pulsatile or not.
- Stabilize potential fractures/dislocations.
- Apply splint to limit movement of potential fracture.
  - Reassess distal neurovascular status after any manipulation or splinting.
- Elevate extremity fractures above heart level whenever possible to limit swelling.
- Apply ice/cool packs; do not apply ice directly to skin.
- For Amputation:
  - Transport amputated part(s) wrapped in a dry, sterile dressing.
  - Place in a water tight container or plastic bag.
  - Keep cool, but do not place directly on ice.

ALS

- Obtain IV/IO access, two large bore 16G or 18G preferable
- For Crush Injury:
  - Initiate high flow oxygen
  - Administer 10-15 mL/kg IV/IO fluid bolus prior to extrication if possible
  - Obtain 12-lead ECG to assess for signs of hyperkalemia (e.g. peaked T waves, widened QRS, sine wave, bradycardia). If suspicious, administer hyperkalemia medications - see below

Hyperkalemia Medications

Adults	Peds

• **Calcium Chloride 1g IV/IO** over 5 min, OR **Calcium Gluconate 2g IV/IO** over 5 min
• **Albuterol 5mg nebulized**
• Consider **Sodium Bicarbonate 1 mEq/kg (max 50 mEq) IV/IO** over 5 min
  ◦ CANNOT be administered in same line as calcium
	• **Calcium Chloride 20 mg/kg (max 1g) IV/IO** over 5 min, OR **Calcium Gluconate 100mg/kg (max 2g) IV/IO** over 5 min
	• **Albuterol 5mg nebulized**
	• Consider **Sodium Bicarbonate 1 mEq/kg (max 50 mEq) IV/IO** over 5 min
	  ◦ CANNOT be administered in same line as calcium

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport to most appropriate receiving center per SAEMS Regional Trauma Triage Protocol
Provide appropriate receiving facility notification.

Trauma - Eye Injury

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Blunt or penetrating trauma to the eye • Chemical substance in eye	• Non-eye complaint

Initiate Immediate Trauma Care:
- Oxygen to maintain O2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

↓

BLS

- For penetrating eye injury:
  - Transport with head slightly elevated and BOTH eyes closed or loosely covered
  - If protruding foreign body is present, **STABILIZE object** but **DO NOT remove**
- For corneal burn/abrasion or chemical exposure:
  - Irrigate en route to receiving facility
- For pain control - refer to **Pain Management SO**

↓

ALS

- For corneal burn/abrasion or chemical exposure:
  - Continuous irrigation with water or saline. Consider eye irrigation device to facilitate decontamination - Refer to **Morgan Lens Protocol**
  - For pain, consider **Proparacaine** or **Tetracaine eye drops 1-2 drops** in affected eye(s). Wait 30-60 seconds for anesthetic effect. May reapply as indicated.

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport to most appropriate receiving center per **SAEMS Regional Trauma Triage Protocol**
Provide appropriate receiving facility notification.

Trauma - Spinal Motion Restriction

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Adult or pediatric patient with potential for spinal injury due to blunt traumatic injury	• Adult or pediatric patient with penetrating spinal injury (SMR not indicated)

Apply SMR if ANY of the following are present:

- Any AMS (GCS < 15) including possible intoxication from alcohol or drugs, agitation.
- For Peds: may demonstrate AMS with agitation, apnea, hypopnea, or somnolence (drowsiness).
- Midline neck or back pain and/or tenderness.
- Focal neurologic signs and/or symptoms (ie. weakness, tingling, or numbness).
- Anatomic deformity of the spine.
- Torticollis (self-splinting or painful rotation/tilt of the neck).
- Unreliable interaction including distraction from painful injury or distressing circumstances.
- Communication/language barrier that prevents accurate assessment.
- Lack of cooperation or contribution during exam.

↓

Apply SMR if ANY High-Risk Characteristics or Mechanisms of Injury:

- Meets Field Triage mechanism criteria
- Age > 65
- High Speed MVC or rollover
- Axial load injuries (diving injuries, spearing tackle)
- Sudden acceleration/deceleration, lateral bending forces to neck/torso

↓

If patient does NOT meet any of the above findings, they may be transported **without SMR.** Low risk characteristics include:

- Minor mechanism of injury (e.g. simple rear end collision)
- No neck pain on scene
- No midline cervical tenderness
- Ambulatory on scene at any time

Note: Low risk characteristics have not been studied in pediatric patients and should not be used alone to determine need for SMR.

Pearls

- SMR may be achieved by use of a scoop stretcher, vacuum splint, or ambulance stretcher with the patient safely secured.
  - Long Spine Boards should be restricted to extrication. Minimize time on backboard, as they have low friction surfaces and may result in more spine movement from torso and head slippage.
- SMR cannot be safely performed with a patient in a sitting position.
- If elevation of the head is required, the device used to stabilize the spine should be elevated at the head while maintaining alignment of the neck and torso.

Spinal Motion Restriction (SMR) Protocol

Indications

To apply spinal motion restriction to any patient identified to have a potential spine injury that might benefit from splinting and packaging.

Procedure

1. Provide manual stabilization to restrict gross head movement. The alert patient (s) may be allowed to self-limit movement with or without a cervical collar, especially if already ambulating prior to your arrival.
2. Place appropriate sized cervical collar and/or maintain manual stabilization during assessment.
3. Obtain history and perform careful examination to evaluate for complaints of pain, numbness or tingling as well as cognitive status, GCS, neurologic deficits, spine tenderness, deformity, or painful distracting injury.
4. Extricate patient while limiting flexion, extension, rotation, and distraction of the spine. Tools such as pull sheets, scoop stretcher or slide boards may be used as needed. If the patient is to be transported on a hard device, apply adequate padding to prevent tissue ischemia and increasing patients comfort.
5. Place the patient in the best position to protect the airway.
6. Repeat neurologic examination and regularly assess motor/sensory function.
7. For patients receiving O2, the use of capnography is advised based upon the patient transport and severity of the patient.
8. Document your exam findings prior and post movement and packaging.

Pearls

1. **Long backboards have low friction surfaces and may result in more spine movement from torso and head slippage. They should be restricted to extrication.**
2. If the patient experiences negative effects from a particular SMR method, alternative measure should be implemented.
3. Patients with acute or chronic difficulty breathing: SMR is known to reduce respiratory function as much as 20%.
4. Respiratory compromise is experienced most by geriatric and pediatric patients secured to a long spine board.
5. Exercise caution when applying SR to patients with difficulty breathing and remember to position the patient appropriately.
6. Patients with mental delays are considered unreliable when obtaining information during the assessment
7. Watch for non-movement of the neck and head, especially in the very your patient which is indicative of pain with movement (think nursemaids elbow)
8. Unstable spine fractures and spinal cord injury from penetrating head trauma are extremely rare.
9. Neuro deficits often present at moment of injury.
10. Life threatening conditions and evacuations fro imminent threat take priority.
11. SMR algorithm does not constitute “Clearing “of the spine. The patient needs to be aware of what you’re doing so “involve them in your decision and document it”. Assessment and reassessment are crucial to validate your neurological findings.
12. A complete patient assessment should be performed prior to application and subsequent movement/transfer of patient following SMR procedure.
13. Documentation should be reflective of assessments and care rendered.

Special Populations

- Combative patients: avoid methods or interactions that provoke increased spinal motion or agitation
- Peds patients: avoid movements that provoke increased spinal motion. If the choice of SMR is the use of a car seat, ensure that the proper assessment of the patient’s back is performed. Children may require additional padding under the shoulders to avoid excessive cervical spine flexion with SMR.

Trauma - Traumatic Brain Injury (EPIC-TBI)

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Adult or pediatric patient with potential of TBI by mechanism, GCS, or exam	• Non-Traumatic Injury • Pulseless and apneic - refer to Dead on Scene SO

Initiate Immediate Trauma Care:
- Hemorrhage control - refer to Trauma - Hemorrhage Control SO
- Initiate high flow supplemental O2 with NRB, **goal O_2 sat 100%**
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS

- Initiate IV NS/LR TKO (if permitted)
- Measure BP, SpO2, and HR measurement every 3-5 minutes
  - Assess for early signs of shock (e.g. tachycardia, downtrending BP)
- AVOID hyperventilation if BVM is required
  - Adults = 10 breaths/min
  - Infants (0-24 m.o.) = 25 breaths/min
  - Children (2-14 y.o.) = 20 breaths/min
  - Adolescents (15-17 y.o.) = 10 breaths/min
- Obtain blood glucose
- Maintain spinal motion restriction
- Trend neurologic status assessment (GCS)

↓

ALS

- Obtain IV/IO access, two large bore 16G or 18G preferable
- Obtain continuous EtCO2 **(goal 35 - 45)**
- Adults: If SBP < 100 mmHg or other signs of shock, administer **NS 1L bolus IV/IO**, repeat 500 mL IV/IO until SBP > 100 mmHg
- Peds: if hypotensive for age or signs of poor perfusion, administer **NS 20 mL/kg bolus IV/IO**, repeat until hypotension resolves
- If O2 saturation < 90% despite BLS airway, consider advanced airway:
  - Pre-oxygenate with 100% O2 BVM at age appropriate rate
  - AVOID hyperventilation
  - AVOID nasal intubation
  - Consider tension pneumothorax

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport to most appropriate receiving center per SAEMS Regional Trauma Triage Protocol
Provide appropriate receiving facility notification.

Tox / Environmental - Bites and Envenomations

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Bites • Envenomations	• Human bite

Initiate Immediate Supportive Care:
- Oxygen to maintain O2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- Note estimated time of injury
- Remove all accessories from affected extremity

↓

BLS

- Initiate IV (if permitted)
- Initiate transport to hospital with access to antivenom, if feasible
  - **Call Poison Control 800-222-1222** for treatment advice and antivenom locations
- For snake bite:
  - Elevate limb to level of the heart
  - Immobilize affected extremity in extended position and watch for constriction
  - DO NOT place in tourniquet or constricting bands,
  - DO NOT perform incision or suction
  - DO NOT apply cold packs
  - DO NOT give ibuprofen
- For pain control - refer to Pain Management SO

↓

ALS

- Obtain IV/IO access
- If SBP < 90 or MAP < 65, administer **NS/LR 20 mL/kg IV/IO fluid bolus**
  - For ongoing hypotension, administer **Push Dose Epinephrine 10-20 mcg bolus IV/IO every 2 minutes**, or **Epinephrine IV/IO drip 0.05 - 0.3 mcg/kg/min**
- Obtain continuous EtCO2 monitoring
- Obtain 12-lead ECG
- For pain control, fentanyl is preferred over morphine due to histamine release
  - **Fentanyl 1 mcg/kg/dose IN/IV/IO (max dose 100mcg)**, may repeat same dose every 5 min to max total dose 200mcg

Guide to Creating Push-Dose Epi:
Mix 1 mL of 0.1mg/mL cardiac Epi (1:10,000) with 9mL NS --> creates 10mcg/mL concentration.

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport to most appropriate receiving center per SAEMS Regional Trauma Triage Protocol
Provide appropriate receiving facility notification.

Tox / Environmental - Carbon Monoxide / Smoke Inhalation

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Known or potential exposure to carbon monoxide (CO) or smoke from fire, propane or charcoal stoves/heaters, or combustion engines, and recreational enclosed smoking areas	• No suspicion

Verify scene is secure prior to initiating Immediate Supportive Care:
- Don appropriate PPE (e.g., special equipment for low oxygen environments/SCBA)
- Safely remove patient from toxic environment
- Inquire about other possible exposed persons (other inhabitants, neighbors, family member coming home later)
- Initiate high flow supplemental O2 with NRB, **goal O_2 sat 100%**
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- Consider scene/environment monitoring with commercial CO monitors if available.
  - Patient and environmental CO levels are helpful information for hospital personnel.

↓

BLS

- Initiate IV (if permitted)
- Monitor transcutaneous CO levels, if available

↓

ALS

- Obtain IV/IO access
- Obtain continuous SpO2 and EtCO2 monitoring
- Obtain 12-lead ECG
- Acquire blood sample as soon as possible (for later testing at the hospital) *per agency protocol*
- If concern for cyanide toxicity, refer to Tox/Environmental - Cyanide Poisoning SO

Pearls

- Patients may present with non-specific signs and symptoms. Symptoms may include headache (most common), nausea, fatigue, vertigo, lightheadedness, dyspnea/tachypnea, confusion, loss of consciousness, seizure/convulsions, chest pain, tachycardia, or cardiopulmonary arrest.
- ***Maintain a high index of suspicion, or you'll miss it.**
- COHb Severity Level
  - COHb < 20% = Mild
  - COHb 21-40% = Moderate
  - COHb 41-59% = Severe
  - COHb >60% = Fatal

If patient's condition deteriorates, **call Medical Direction Authority**.
If suspicious for smoke inhalation injury, transport to most appropriate receiving center per **SAEMS Burn Triage Protocol**. Otherwise, consider transport to closest facility
Provide appropriate receiving facility notification.

Tox / Environmental - Conducted Electrical Weapons

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Direct contact discharge of conducted electrical weapon • Distance two-barbed dart discharge of conducted electrical weapon	• No exposure

Verify scene is secure prior to initiating Immediate Supportive Care:
- Oxygen to maintain O2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS

- Wound care as indicated
- May remove barbed dart(s) if they are NOT in a high-risk area with increased injury risk to bone, nerves, blood vessels, or an eye
  - High-Risk Areas
    - Face
    - Neck
    - Hand
    - Bone
    - Groin
    - Spinal Column

↓

ALS

- Obtain 12-lead ECG
- For pain, refer to Pain Management SO
- For agitation, refer to Behavioral Emergency SO

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Tox / Environmental - Cyanide Poisoning

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Occupational or smoke exposures (e.g., firefighting) • Industrial or laboratory accidents • Natural catastrophes • Suicide and murder attempts • Chemical warfare and terrorism	• No suspicion

Verify scene is secure prior to initiating Immediate Supportive Care:
- Don appropriate PPE (e.g., special equipment for low oxygen environments/SCBA)
- Safely remove patient from toxic environment
- Inquire about other possible exposed persons (other inhabitants, neighbors, family member coming home later)
- Initiate high flow supplemental O2 with NRB, **goal O_2 sat 100%**
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

↓

BLS

- Initiate IV (if permitted)
- If respiratory failure or impending failure, initiate BVM ventilation
- If indicated, expose patient, then cover to protect against hypothermia
- Call **Poison Control 800-222-1222** for treatment advice as indicated

↓

ALS

- Obtain IV/IO access
- Obtain continuous SpO2 and EtCO2 monitoring
- Obtain 12-lead ECG
- Administer **Hydroxocobalamin (Cyanokit®) 70mg/kg (max dose 5 g) IV/IO** over 15 min, may repeat x1
- If concern for compounding carbon monoxide toxicity or smoke inhalation injury, refer to Tox/Environmental - Carbon Monoxide/Smoke Inhalation SO

↓

Tox-Medic

- Administer **Sodium nitrite 6 mg/kg (max dose 300 mg) IV/IO** over 5 min, may repeat x 1 at half-dose if signs of poisoning reappear
  - Hold if hypoxemic or hypotensive
- Administer **Sodium thiosulfate 250 mg/kg (max dose 12.5 g) IV/IO** over 10 min, may repeat x 1 at half-dose if signs of poisoning reappear

Pearls

- Patients may present with non-specific signs and symptoms. Symptoms may include arrhythmia, cardiovascular collapse, loss of consciousness, seizures, apnea, or cardiopulmonary arrest

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Tox / Environmental - Dermal Chemical Burns

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Exposure to chemical that causes caustic injury to skin, eyes, and mucous membranes	• No Exposure

Verify scene is secure prior to initiating Immediate Supportive Care:
- Don appropriate PPE
- Safely remove patient from exposure
- Remove the patient's clothing, if necessary
  - Contaminated clothing should preferably be placed in impermeable bags
  - Carefully brush off solid chemicals and/or blot off liquid chemicals prior to flushing with copious amounts of water
- Oxygen to maintain O2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS

- Initiate IV (if permitted)
- Flush affected area with copious amounts of body temperature water or NS
- Take measures to minimize hypothermia
- Calculate the estimated total body surface area involved. Refer to Burn Estimation Charts.
- For hydrofluoric acid exposure:
  - Apply generous amounts of **Calcium Gluconate, 2.5% topical gel**

↓

ALS

- Obtain IV/IO access
- Obtain continuous SpO2 and EtCO2 monitoring
- Obtain 12-lead ECG
- For hydrofluoric acid exposure:
  - Monitor for wide complex tachycardia due to risk of hyperkalemia and hypocalcemia
  - Administer **Calcium Gluconate 100 mg/kg (max dose 2g) IV/IO** over 5 min, or **Calcium Chloride 20 mg/kg (max dose 1g) IV/IO** over 5 min
  - Administer **Albuterol 5mg Nebulized**
- For eye injury, refer to Trauma - Eye Injury SO

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport to most appropriate receiving center per **SAEMS Burn Triage Protocol**. Otherwise, consider transport to closest facility
Provide appropriate receiving facility notification.

Tox / Environmental - Drowning

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Drowning • Drowning Event	• No Exposure

Verify scene is secure prior to initiating Immediate Supportive Care:
- Remove patient from water as soon as possible
- Remove wet clothing
- Oxygen to maintain O2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS

- Initiate IV (if permitted)
- If respiratory failure or impending failure, initiate BVM ventilation. Consider PEEP valve 5-10 cm H2O to support oxygenation
- Consider possible spine injury - refer to **Trauma - Spinal Motion Restriction SO**
- Consider hypothermia - refer to **Tox/Environmental - Hypothermia SO**

↓

ALS

- Obtain IV/IO access
- Obtain continuous SpO2 and EtCO2 monitoring
- Obtain 12-lead ECG
- If pulseless and apenic - refer to **Cardiac Arrest SO**

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport to most appropriate receiving center per **SAEMS Regional Trauma Triage Protocol**
Provide appropriate receiving facility notification.

Tox / Environmental - Hydrocarbon Poisoning

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Known or potential hydrocarbon toxicity with ventricular dysrhythmias	• No exposure

Verify scene is secure prior to initiating Immediate Supportive Care:
- Don appropriate PPE (e.g., special equipment for low oxygen environments/SCBA)
- Safely remove patient from toxic environment
- Initiate high flow supplemental O2 with NRB, **goal O_2 sat 100%**
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS
- Initiate IV (if permitted)
- If respiratory failure or impending failure, initiate BVM ventilation
- Confirm exposure, amount, and duration
- Call **Poison Control 800-222-1222** for treatment advice as indicated

↓

ALS
- Obtain IV/IO access
- Obtain continuous SpO2 and EtCO2 monitoring
- Obtain 12-lead ECG
- If seizure - refer to Seizure SO

↓

Tox-Medic
- In setting of known huffing or prolonged exposure to causative agents with tachyventricular dysrhythmia:
  - Administer **Propranolol 0.01 mg/kg (max dose 1 mg) IV/IO** over 2 min, may repeat x 1 in 5 min

Pearls
- Signs and symptoms of hydrocarbon toxicity poisoning may include:
  - Rapid onset of CNS depression and seizures
  - Chemical pneumonitis
  - Cardiac dysrhythmias are less common but can include PVCs or fatal dysrhythmias such as ventricular tachycardia and Torsades de Pointes (TdP).
- Causative agents include:
  - Aliphatic hydrocarbons: Methane, ethane, propane, butane, hexane, cyclohexane, etc.
  - Aliphatics from pine include turpentine, pine oil, pine tar, etc.
  - Aromatic & Substituted Aromatic Hydrocarbons: Benzene, aniline, phenols, etc.
  - Other substituted hydrocarbons include halogenated hydrocarbons, etc.
  - Accidental exposure is more often in younger children and deliberate exposure, often from inhalation (i.e. huffing).
- ***AVOID EPINEPHRINE AND ALBUTEROL (lowers ventricular fibrillation threshold)**

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Tox / Environmental - Hydrogen Sulfide Poisoning

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Known or potential hydrogen sulfide poisoning	• No exposure

Verify scene is secure prior to initiating Immediate Supportive Care:
- Don appropriate PPE (e.g., special equipment for low oxygen environments/SCBA)
- Safely remove patient from toxic environment
- Initiate high flow supplemental O2 with NRB, **goal O_2 sat 100%**
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS
- Initiate IV (if permitted)
- If respiratory failure or impending failure, initiate BVM ventilation
- If indicated, expose patient, then cover to protect against hypothermia
- Confirm exposure, amount, and duration
- Call **Poison Control 800-222-1222** for treatment advice as indicated

↓

ALS
- Obtain IV/IO access
- Obtain continuous SpO2 and EtCO2 monitoring
- Obtain 12-lead ECG

Pearls
- Hydrogen sulfide should be suspected in patients with rapid loss of consciousness particularly in an enclosed space, collapse of previously healthy worker, multiple sudden death victims, and if rotten egg odor is detected. The odor threshold is low <0.3ppm but olfactory fatigue with prolonged exposure results in extinction of odor recognition.
- Signs and symptoms of sulfide poisoning may include:
  - May report “rotten egg” odor
  - Mucous membrane and upper airway irritation
  - Non-Cardiogenic Pulmonary Edema (late onset)
  - Rapid collapse
  - Rapid olfactory overload
- Causative agents include:
  - Decaying organic matter
  - Petroleum refining
  - Mining
  - Pulp/Paper factories
  - Sewage
  - Hot asphalt fumes
  - Septic systems.

If patient’s condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Tox / Environmental - Hyperthermia

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Heat Exposure • Heat Cramps • Heat Exhaustion • Heat Stroke	• Fever from infectious or inflammatory conditions • Malignant hyperthermia • Neuroleptic malignant syndrome

Initiate Immediate Supportive Care:
- Move patient to cool area and shield from heat/sun
- Remove as much clothing as practical and loosen restrictive garments
- Oxygen to maintain O2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS

- Initiate IV (if permitted)
- If alert and oriented, give small sips of cool liquids
- If altered, remember to check blood glucose level
- Administer **NS/LR 20 ml/kg IV bolus,** reassess hemodynamic and pulmonary status every 500ml
- If temperature > 104° F (40° C) or AMS, begin active cooling:
  - Mist exposed skin with tepid water while fanning patient (most effective)
  - Apply truncal ice packs (less effective than evaporation)
  - Rotate ice water-soaked sheets or towels
  - Shivering should be treated as soon as possible

↓

ALS

- Obtain IV/IO access
- Obtain continuous SpO2 and EtCO2 monitoring
- Monitor for arrhythmia and cardiovascular collapse
- Airway management as indicated

Pearls
- **Heat Cramps:** minor muscle cramps with normal temperature
- **Heat Exhaustion:** painful muscle cramps, nausea/vomiting, salt and water depletion leading to tachycardia, hypotension, elevated body temperature
- **Heat Stroke:** altered mental status, body temp typically >104°F, fainting or loss of consciousness, decreased sweating

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Tox / Environmental - Hypothermia

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Cold Exposure • Frostbite • Non-environmental causes (e.g. Hypothyroidism)	• No exposure

Initiate Immediate Supportive Care:
- Oxygen to maintain O2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS

- Initiate IV (if permitted)
- If altered, remember to check blood glucose level
- If **frostbite:**
  - Protect area from pressure or friction (do not rub)
  - Do NOT attempt rewarming until no longer at risk for refreezing
- If **mild hypothermia**:
  - Remove wet clothing (cut away, do not pull off)
  - Wrap patient in warm blankets
  - Keep vehicle warm
- If **moderate or severe hypothermia:**
  - Apply truncal warm packs (watch for surface burns)
  - Administer **NS/LR 20 ml/kg IV bolus,** reassess hemodynamic and pulmonary status every 500mL

↓

ALS

- Obtain IV/IO access
- Obtain continuous SpO2 and EtCO2 monitoring
- Monitor for arrhythmia and cardiovascular collapse
- Airway management as indicated
- If Cardiac Arrest:
  - If V.fib/pulseless VT, defibrillate x 1; consider holding further defibrillations
  - Early transport to closest facility unless:
    - Temperature monitoring available with >90°F/32°C and continued pulseless and apneic
    - Chest too stiff for CPR
    - Frozen with ice in the airway
    - Valid DNR
    - Any lethal injury incompatible with life
    - Any avalanche burial > 35 min AND airway obstructed by snow

Pearls

- **Mild Hypothermia (90-95 °F / 32-35 °C):** Conscious, alert with progressive loss of intellectual function and development of confusion as temperature decreases, shivering present, general loss of fine then gross motor function
- **Moderate Hypothermia (82-90 °F / 28-32 °C):** Conscious, confused or minimally responsive, shivering present, poor motor function, risk of atrial fibrillation
- **Severe Hypothermia (< 82°F / <28 °C):** Unconscious, unresponsive, no shivering, cardiovascular instability, progression to ventricular dysrhythmia, muscular rigidity
- ***Because field temperature measurements may be imprecise, the recognition of each stage is more important than exact categories

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Revised 01/26

Tox / Environmental - Methemoglobin Toxicity

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Known or potential methemoglobinemia	• No suspicion

Verify scene is secure prior to initiating Immediate Supportive Care:
- Initiate high flow supplemental O2 with NRB, **goal O_2 sat 100%**
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS
- Initiate IV (if permitted)
- If respiratory failure or impending failure, initiate BVM ventilation
- If indicated, expose patient, then cover to protect against hypothermia
- Confirm exposure, amount, and duration
- Call **Poison Control 800-222-1222** for treatment advice as indicated

↓

ALS
- Obtain IV/IO access
- Obtain continuous SpO2 and EtCO2 monitoring
- Obtain 12-lead ECG

↓

Tox-Medic
- For severe methemoglobinemia:
  - Administer **Methylene Blue 1 mg/kg (max dose 100mg) IV/IO** over 5 min
    - Do not administer if known glucose-6-phosphate dehydrogenase (G6PD) deficiency

Pearls
- Signs and symptoms of methemoglobinemia may include:
  - Mild or moderate methemoglobinemia: Cyanosis without altered mental status, chest pain, or dyspnea
  - Severe methemoglobinemia: Cyanosis with altered mental status, chest pain, or dyspnea.
- Causative agents include:
  - Amyl nitrite
  - Isobutyl nitrite
  - Sodium nitrite
  - Topical anesthetics
  - Aniline
  - Nitrobenzene

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Tox / Environmental - Organophosphate Poisoning

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Known or potential exposure to organophosphates • Known or potential exposure to nerve agent • Known or potential exposure to carbamates	• No exposure

Verify scene is secure prior to initiating Immediate Supportive Care:
- Decontaminate as indicated
  - When wet decontaminating, avoid hypothermia
- Initiate high flow supplemental O2 with NRB, **goal O_2 sat 100%**
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS

- Initiate IV (if permitted)
- If respiratory failure or impending failure, initiate BVM ventilation
- If indicated, expose patient, then cover to protect against hypothermia
- Confirm exposure, amount, and duration
- Call **Poison Control 800-222-1222** for treatment advice as indicated

↓

ALS

- Obtain IV/IO access
- Obtain continuous SpO2 and EtCO2 monitoring
- Obtain 12-lead ECG
- Administer **Atropine 0.1 mg/kg (max dose 2 mg) IV/IO**, may repeat twice every 3-5 min until dyspnea resolves or easy to ventilate
  - Clinical improvement should be based upon the drying of secretions, improved respiratory effort and improved oxygenation.

↓

Tox-Medic

- Administer **Pralidoxime (2-PAM) 50 mg/kg (max 2 g) IV/IO** over 10-15 min
  - Reconstitute with 20cc sterile water
  - Consider 2-PAM drip for severe cases after initial dose
  - Caution: sudden-onset apnea may occur in infants

Pearls

- Signs and symptoms may include:
  - D - Diarrhea
  - U - Urination
  - M - Miosis (pinpoint pupils)/Muscle weakness
  - B - Bronchospasm/Bronchorrhea
  - B - Bradycardia
  - E - Emesis
  - L - Lacrimation/Laryngospasm
  - L - Lethargy
  - S - Salivation/Sweating/Seizures
- Nerve agents typically require lower doses of atropine than insecticide OPs/Carbamates.

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Revised 01/26

Tox / Environmental - Opioid Poisoning / Overdose

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Known or potential opioid use, overdose, or misuse	• Suspected other cause (e.g. head injury, hypoxia, or hypoglycemia)

Initiate Immediate Supportive Care:
- Oxygen to maintain O2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

↓

BLS

- Administer **Naloxone 4 mg/0.1 mL IN**, or **Naloxone 2 mg/0.4 mL IM auto-injector in thigh**
  - May repeat as indicated
- If respiratory failure or impending failure, initiate BVM ventilation
- Identify medication taken, noting immediate release vs. sustained release formulations, time of ingestion, and quantity
- Bring pill container(s) to hospital if possible, or take pictures with photography equipped, agency-owned device
- Assess for other etiologies of decreased level of consciousness including hypoxia, hypoglycemia, hypotension, and traumatic head injury
- Monitor for recurrent respiratory depression and decreased level of consciousness
- Recommend transport to hospital
- If patient refuses transfer, with or without receiving naloxone, **call Arizona Opioid Assistance and Referral (OAR) Line at 888-688-4222**

↓

ALS

- Obtain IV/IO access
- Administer **Naloxone 0.4 - 2 mg IV/IM/IN/IO**, repeat if indicated
- Obtain continuous SpO2 and EtCO2 monitoring
- Obtain 12-lead ECG
- Consider **NS/LR 20 mL/kg IV/IO fluid bolus**

Pearls

- Signs and symptoms may include:
  - Decreased level of consciousness
  - Coma
  - Respiratory depression
  - Miosis
  - Hypothermia
  - Hypotension
  - Bradycardia
  - Bradypnea

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.

Tox / Environmental - Radiation Exposure

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Known or potential exposure radiation or contaminated radioactive source	• Exposure to normal dose of ionizing radiation from medical imaging studies and therapeutic medical procedures

Verify scene is secure prior to initiating Immediate Supportive Care:

- Don appropriate PPE
- Safely remove patient from toxic environment
- Decontamination should not delay stabilization of limb- or life-threatening traumatic injuries
- Place contaminated towels, wastewater, and body fluids in secured containers denoted for radioactive waste materials
- Initiate high flow supplemental O2 with NRB, **goal O_2 sat 100%**
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

B L S

- For skin contamination:
  - Remove clothing and wash the skin with wet gauze, skin wipes, or soap and water
  - Collected wastewater, if possible
- For inhalation contamination:
  - Administer oxygen as appropriate
  - Maintain airway as needed
- Prevent hypothermia
- For compounding traumatic injuries - refer to Trauma - General SO
- Upgrade to ALS as appropriate - refer to ALS/BLS Criteria SO

Pearls

- Signs and symptoms are typically delayed (hours to days) but may include:
  - Nausea
  - Vomiting
  - Diarrhea
  - Headache
  - Confusion
  - Altered level of consciousness
- Most patients will be asymptomatic initially. Early nausea and vomiting is a poor prognostic indicator. All body fluids from patients receiving systemic radiation therapy (particularly radioactive iodine) carry a potential risk of minor exposure, usually to primary caregivers and family members. Use Body Substance Isolation techniques, personal protective equipment (PPE), and Universal Precautions when caring for these patients.
- Standard PPE does not protect against penetrating radiation from a radioactive source; it only mitigates contamination. Limit radiation exposure effectively by limiting time around, maintaining distance from , and using effective shielding against the source. Turnout gear and paper coveralls can be potentially adequate PPE to prevent contamination.

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport to most appropriate receiving center per SAEMS Regional Trauma Triage Protocol, or consider transfer to **Burn Center** for cases of severe radiation exposure.
Provide appropriate receiving facility notification.

Tox / Environmental - Riot Control Agents

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA

• Exposure to:
  ○ Chloroacetophenone (CN or Mace)
  ○ Chlorobenzylidene Malononitrile (CS or tear gas)
  ○ Oleoresin capsicum (OC or pepper spray)
  ○ Harassing agents
  ○ Incapacitating agents
  ○ Chemical crowd control agents
  ○ Lacrimators
	• Exposure to chlorine, phosgene, ammonia, other hazardous materials, or chemical warfare agents

Verify scene is secure prior to initiating Immediate Supportive Care:

- Don appropriate PPE
- Safely remove patient from contaminated environment into fresh air if possible
- Remove contaminated clothing, but avoid removing over the head
- Remove contact lenses if appropriate
- Oxygen to maintain O2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated

↓

BLS

- Decontaminate eye exposure with stream of plain water for 10 - 15 min
  - Baby shampoo can be used for washing spray from around the eye area
- Irrigation with water or saline may initially facilitate resolution of symptoms, but can spread contamination to unaffected areas
  - Washing the affected area with hand soap, shampoo, or dish soap can break up the oil-based product
- For persistent eye pain, refer to **Trauma - Eye Injury SO**
- Upgrade to ALS as appropriate - refer to **ALS/BLS Criteria SO**

If patient's condition deteriorates, **call Medical Direction Authority**.
Transport to most appropriate receiving center per **SAEMS Regional Trauma Triage Protocol**.
Provide appropriate receiving facility notification.

Tox / Environmental - Stimulant Toxicity

Administrative/Standing Orders

RETURN TO TABLE OF CONTENTS

INCLUSION CRITERIA	EXCLUSION CRITERIA
• Cocaine • Amphetamines • MDMA (Ectasy) • Phencyclidine (PCP) • Synthetic Cathinones (Bath Salts) • Other Stimulant Use	• No exposure

Initiate Immediate Supportive Care:
- Oxygen to maintain O2 sat ≥ 94%
- Complete primary and secondary survey as indicated
- Vital signs including FSBG and temperature as indicated
- ALS cardiac monitor or EMT cardiac monitor (non-interruptive) if available

↓

BLS

- Initiate IV (if permitted)
- Assess for chest pain and difficulty breathing
  - Increased risk for acute coronary syndrome due to coronary artery vasospasm - refer to Chest Pain SO

↓

ALS

- Obtain IV/IO access
- Obtain continuous SpO2 and EtCO2 monitoring
- Obtain 12-lead ECG
- If hemodynamically unstable, dehydrated, or hyperthermic:
  - Administer **NS/LR 20 mL/kg IV/IO fluid bolus**
- For agitation, refer to Behavioral Emergency SO
  - Benzodiazepines are preferred over Ketamine in this population

If patient's condition deteriorates, **call Medical Direction Authority**.
Consider transport to closest facility.
Provide appropriate receiving facility notification.