

# **Pre-Hospital Basic and Intermediate Life Support Patient Care Protocols and Procedures**

Walla Walla and Columbia Counties  
Emergency Medical Services



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# General Expectations

## Indication

General approach to patient care and safety of EMS providers in Columbia and Walla Walla Counties.

## Safety

1. Provider safety is our priority, and the responsibility of all EMS providers operating in Columbia and Walla Walla Counties to ensure the safety of ourselves and our crew members.
2. If the scene is not secure, responders shall contact law enforcement. Responders shall not expose themselves to the scene until it is determined SAFE AND SECURE.
3. If the scene becomes unsafe after arrival, units shall discretely contact dispatch for help by utilizing code 10-99. For example: "M3921 to Dispatch, 10-99".
4. Personal protective equipment shall be worn when indicated on all EMS incidents where exposure to high-risk infectious environments is likely.

## Patient Care

1. Perform patient assessment with emphasis on the airway, breathing, and circulation.
2. Monitor and document vital signs, including pulse oximetry, as appropriate. Objectify variability in trending vital signs and overall patient status.
3. Obtain SAMPLE history and other pertinent information related to the patient's condition.
4. Routine oxygen administration on patients without respiratory distress is not always a good practice. Supplemental oxygen should only be applied to keep **oxygen saturation >94%**.
5. All personnel operating in Columbia and Walla Walla Counties shall have adequate knowledge of the medications, procedures, and protocols authorized by the Medical Program Director (MPD).
6. These protocols serve as a starting point for patient care; unique situations encountered in the field are often not supported by a specific protocol. Remember patient and provider safety in every case and make decisions with sound clinical judgment.
7. Dispatch agencies utilize Emergency Medical Dispatch (EMD) to categorize incidents as ALS or BLS, and resources are dispatched based upon that categorization. If, after receiving dispatch information, BLS agencies believe ALS interventions could be needed or would benefit the patient, they can request ALS be dispatched. If BLS agencies arrive on the scene and determine ALS interventions are needed, they will consider rendezvousing with ALS if it would significantly decrease the time for the patient to obtain a higher level of care.

## Documentation

1. All patient care shall be documented according to agency-specific standard operating guidelines.
2. Documentation shall include all pertinent information to the treatment of the patient and any extenuating circumstances where documentation is necessary for future reference.
3. Medical necessity shall be thoroughly documented to justify the need for transport by ambulance and what specific factors indicated the interventions performed.
4. Patient refusals shall be documented to thoroughly illustrate the patient's condition and the steps taken by EMS providers to educate and inform the patient of the severity of their condition and the necessity of evaluation and/or transport. Document all actions and conversations as they occurred chronologically and use quotations if necessary.
5. Patient care reports are considered stand-alone legal documents and must include the lead provider's first and last name, level of certification, and date.

# Scope of Practice

## Indication

To outline the authorized scope of practice for EMS providers in Columbia and Walla Walla Counties in accordance with WAC 246-976-182.

## Considerations

Certified EMS personnel are only authorized to provide patient care:

1. When performing in a prehospital emergency setting or during inter-facility ambulance transport; and
2. When performing for a licensed EMS agency or an organization recognized by the secretary; and
3. Within the scope of care, that is:
  - Included in the approved instructional guidelines/curriculum for the individual's level of certification; or
  - Included in approved specialized training; and
  - Included in state-approved county MPD protocols.
4. If protocols and regional patient care procedures do not provide off-line direction for the situation, the certified person in charge of the patient must consult with their online medical control as soon as possible. Medical control can only authorize a certified person to perform within their scope of practice.
5. All prehospital providers must follow state-approved triage procedures, regional patient care procedures, and county MPD patient care protocols.
6. EMS providers in Columbia and Walla Walla Counties are authorized to provide skills, procedures, and medications in accordance with the [Approved Skills and Procedures for Certified EMS Providers](#) from the Washington State Department of Health.

# EMS Providers and Dispatch

## Indication

To outline the tiered response system and the role of on-scene incident command to assure the most rapid availability of appropriate EMS personnel and ambulance service to ill and injured individuals in Columbia or Walla Walla Counties, as mandated in the Washington Administrative Code for EMS and Trauma Systems (WAC 246-976).

## Dispatch

Selection of the first responding unit shall be based upon jurisdiction, geographic, and response time factors. All responses fulfilling the "Two-Tiered Response" criteria require the nearest available appropriate ambulance to be dispatched simultaneously with the respective district's EMTs.

Walla Walla County Fire District 5 relies on a combination of their paramedics and other trauma verified agencies outside Walla Walla County for ALS support; therefore, coordination with the appropriate dispatch center is important to ensure the appropriate response (Walla Walla County District 3 or Walla Walla County District 6).

## On Scene Incident Command

When a two-tiered response is initiated, the first EMS provider on the scene will be responsible for determining the need for ALS. If their initial assessment is that the patient does not require transport or only requires BLS transport, they will have the option to notify the responding ALS unit or dispatch directly and cancel ALS (see [Cancellation of ALS Unit](#) protocol). If ALS is canceled, the EMS responder responsible for making the decision should identify himself/herself and communicate why ALS is no longer needed. If the first EMS provider determines that ALS support is necessary and they have not been dispatched, contact the dispatch center immediately to have them dispatched. If both BLS and ALS units are at the scene, the senior paramedic shall assume or clearly delegate incident command. If more than one provider agency responds to an emergency, the first EMT to arrive will be in charge until an EMS provider with a higher certification level arrives, or until the EMT in charge transfers control to a later arriving EMT. It is extremely important that someone assumes command of patient care and the responsibilities that implies.

# Hospital Destination

## Indication

To determine the most appropriate hospital destination.

## Considerations

In general, patients with non-life-threatening injuries or diseases will be delivered to the closest hospital of the patient, their family, or their private physician's choice. If the patient does not have a hospital preference, the patient will be taken to the closest and most appropriate facility. Medical Control will be contacted to obtain destination instructions if any uncertainty of where to take the patient develops.

If the patient has a hospital preference, Medical Control can change the destination based on prehospital assessment, trauma triage criteria, and availability of resources at the destination hospital. If Medical Control defers patient acceptance to another facility, the ED physician acting as Medical Control shall contact their counterpart at the other facility to confirm patient acceptance.

If a hospital selected by a patient denies that patient access, the responsible physician must contact another appropriate facility to arrange acceptance. The purpose of this provision is that there be physician-to-physician contact and consensus amongst facilities whenever there is a deviation from the norm. Any head and/or spinal cord injured patient who has significant deterioration in the level of consciousness or localizing neurologic signs thought to be the result of neurologic trauma (including those with a Glasgow Coma Score of less than 13) should be directed to the closest appropriate facility, unless redirected (as in the case of a Mass Casualty Incident).

Under RCW 70.168.015 (23), [Washington State Prehospital Trauma Triage Procedures](#), patients meeting Trauma Triage Criteria Step 1, 2, or 3 will be transported to the closest appropriate facility. Patients meeting Trauma Triage Criteria Step 4, destination will be determined by contacting Medical Control or the hospital of the patient's or their family's choice.



# Infectious Disease Prevention

## Indication

Precautions to prevent the transmission of infectious diseases are especially important in the emergency care setting, where the risk of blood exposure is increased, and the infection status of patients is usually unknown. Universal blood and body fluid precautions should be used for **all** patients to prevent skin and mucous membrane exposure.

## Considerations

The following guidelines should be followed to minimize risk to personnel:

1. Treat all patient contacts as potentially infectious.
2. Handle sharp items with extreme caution. Needles and other sharp objects should be treated as potentially infectious once used. Place disposable items into puncture-resistant containers located as close as possible to the area of use. Do not recap, bend, or purposefully break needles.
3. Wear protective gear when in contact with blood, body secretions, and tissue specimens. As a safeguard, all blood, body secretions, and tissue specimens should be treated as if they were contaminated. EMS personnel shall wear protective disposable gloves with all patient contact during treatment and when cleaning up. Safety glasses are to be worn when spattering is likely, and disposable masks should be worn when signs of rash and fever indicate a communicable disease that may be spread through oral or respiratory secretions (i.e., chicken pox, measles, meningitis, whooping cough, TB).
4. Wash thoroughly as soon as possible after contact with blood or body secretions. Use an antiseptic soap and running water and rinse thoroughly. When running water is not available, scrub with germicidal toilette or foam, and follow with a soap and water wash as soon as possible. When practical, wash thoroughly before and between patient contacts. Change clothing soiled with blood or body secretions. Disposable gowns are recommended when spattering is likely.
5. Use a ventilation device (i.e., BVM, pocket mask, etc.) for cardiopulmonary resuscitation.
6. Personnel suspecting exposure to an infectious disease, or if the mouth, eyes, or an unprotected cut are directly exposed to blood or body secretions, or if a needle stick injury occurs, the affected personnel shall wash thoroughly, follow departmental procedure, and inform their supervisor.

# Treatment Rights / Refusals

## Indication

This protocol is intended for use when treatment or transport is refused by a patient.

## Treatment Rights

It is necessary to obtain patient consent before rendering emergency medical care. Expressed/informed consent must be received from competent adult patients. Implied consent is assumed in the case of life-threatening injury or illness when the patient is unconscious, disoriented, a mentally incompetent adult, or a minor whose parent or legal guardian is unavailable.

A competent adult has the right to refuse treatment.

## Refusals

### Competent Refusal

- EMS may obtain a competent refusal from a patient who is alert, oriented, and understands the explained risks and benefits. Patient or their representative must sign a refusal form.
- For minors, refusals should be completed by the minor's parent or guardian.

### Incompetent Refusal

- An individual will be considered incompetent to refuse treatment by the assessing EMS provider when a medical condition/illness, injury, drugs, or alcohol has impaired the patient's judgment. The incompetent patient should be treated and transported if there is any potential serious threat to life or limb.

### Involuntary Transport

- When a patient is deemed to need transport against his/her will, such as, suicidal, homicidal, or non-emancipated minor patients. Responding personnel will decide if this can be done without Law Enforcement assistance.
- If Law Enforcement is unable to assist and EMS personnel are unable to safely convince the patient to be treated or transported, Medical Control will be contacted, and patient will be left at the scene.
- At no time are EMS personnel to put themselves in danger by attempting to treat or transport a combative or threatening patient that refuses care.

### Patient Left at Scene

- Refer to [Patients Released at Scene](#) protocol.

### Private Vehicle or Police Transport

- EMS may allow the patient to seek further medical care via other means of transportation (private vehicle or Law Enforcement) if, in the providers judgement the patient is stable.

## Documentation Considerations

Thorough documentation of all patient refusals is required. Documentation should include, but is not limited to the following:

- Quotes indicating statements made by the patient or responsible party that support their expressed understanding of your instructions and potential consequences of refusing care against medical advice.
- If the patient refused to sign the refusal form.
- Who, if anyone, that patient was left in care of.
- If Medical Control was contacted, who providers spoke with, and any guidance received.

## Patients Released at Scene

### Indication

This protocol is intended for use when a patient does not desire transport to the emergency department for evaluation and after an assessment and/or treatment by EMS personnel, **does not** have an ongoing emergent medical condition, a high-risk presentation (i.e., extremes of age  $\leq 12$  months or  $\geq 70$  years old, abnormal vital signs, chest pain, shortness of breath, abdominal pain, gastrointestinal or vaginal bleeding, etc.), or social risk factors and is released at scene to follow-up with the patient's regular healthcare provider or a doctor's office or clinic.

### Considerations

1. EMS personnel shall assess the patient for an ongoing emergency medical condition, high-risk presentations, social risk factors, and assess that the patient or their legal representative has the capacity to decline transport.
2. Patients with an ongoing emergency medical condition, high-risk presentation, or social risk factors who do not desire transport to the emergency department shall be handled as refusing transport against medical advice.
3. Patients should be instructed by EMS to follow-up with the patient's medical home or primary care physician. The advice given should be documented on the PCR. The following statement is recommended: "After our assessment, you feel that you do not wish to be transported and you do not require immediate care in the emergency department. You should seek care with your regular healthcare provider or a doctor's office or clinic within 24 hours. If you have worsening or persistent symptoms or change your mind and desire transport, recontact 911".
4. For minors, if the parent or guardian cannot be reached and, in the providers, clinical judgment, the patient is stable, contact Medical Control for guidance.
5. If the patient or the patient's legal representative requests that the patient be transported after assurances that transport is not needed; EMS personnel shall honor the requests and transport to the appropriate receiving facility.

### Documentation Considerations

Thorough documentation of all patients released at scene is required. Documentation should include, but is not limited to the following:

- Patient history, assessment, field interventions or treatment.
- Assessment by EMS that the patient or legal representative is alert and has the capacity to make collaborative decisions with EMS to accept on-scene treatment, understand the need to have capacity for appropriate follow-up, but decline transport.
- Plan for follow-up care with primary healthcare provider or a doctor's office or clinic.
- Quotes indicating statements made by the patient or responsible party that support their expressed understanding of your instructions.
- Who, if anyone, that patient was left in care of.
- Instructions on contacting 911 if they have new, worsening, or persistent symptoms.
- If Medical Control was contacted, who providers spoke with, and any guidance received.

# Death in the Field

## Indications

Criteria to withhold or discontinue life support.

Definition: POLST – Portable Orders for Life Sustaining Treatment

Hypothermic patients, possible drug overdoses, patients of electrocution, lightning, and drowning should have resuscitative efforts begun and transported to the hospital (unless contraindicated by “signs of irreversible death.”

## Management

**Resuscitation may be withheld if any of the following exist:**

- Signs of irreversible death
- Decapitation
- Rigor mortis in a warm environment
- Decomposition
- Evisceration or incineration
- Dependent Lividity – venous pooling in dependent parts of the body
- The patient is verified to be in hospice care
- CPR was never initiated, the patient has a POLST, or Do Not Resuscitate (DNR):
  - READ CAREFULLY** – Some forms may deny advanced resuscitation efforts and artificial ventilation but authorize transport with comfort measures only. Contact Medical Control if needed.

**Trauma Arrest** –Victims of blunt or penetrating force trauma with secondary cardiac arrest and no observable vital signs at the scene have a mortality rate of 100%. Cardiac arrest resuscitation in trauma should only be attempted if the transport has already begun and EMS providers witnessed the loss of vital signs. Contact Medical Control if needed.

Prior to transport and where scene time combined with transport time will exceed six (6) minutes if the patient declines to the point that no vital signs (i.e., pulse/respiration) are present; the patient should be declared dead unless providers elect to attempt resuscitation with orders from Medical Control.

### Procedure:

1. Cover the body with a sheet
2. Contact the appropriate authorities (i.e., Law Enforcement, Coroner, etc.)
3. Secure the scene
4. Do not remove personal property from the body
5. Do not disturb the scene or leave the body unattended
6. Assess the need for chaplain services for family/friends present

## Documentation Considerations

- All patient care/assessment.
- Communication with Medical Control and physician name.
- Time Coroner notified.
- Detailed POLST instructions if applicable.

## Scene Times

### Indication

A general protocol for scene time goals.

### Management

Any time a BLS provider cannot provide a patent airway to a patient within two (2) minutes after the initial patient encounter and initiating emergency medical care, the licensed transporting unit is required to transport the patient immediately, unless there are extenuating circumstances. The incoming ALS unit should be notified of the situation immediately. All extenuating circumstances should be documented appropriately.

**Medical** – Scene times should be **less than 30 minutes** after the initial encounter. If at any time the EMT has been or predicts he/she will be on the scene for more than 30 minutes after the initial encounter, he/she will contact Medical Control for advice on whether the patient should be transported immediately or have further care rendered.

**Trauma** – Scene time should be **10 minutes or less** once extrication has been accomplished and the patient can be removed from the site. In cases of two or more patients, each with varying extrication times, additional transport vehicles should be called early, and patients should be transported as they are extricated.

# Cancellation of ALS Unit

## Indication

Checklist to determine if cancellation of ALS is appropriate.

Once a call is received by an ALS transport unit from dispatch, this unit will respond as rapidly as possible, contact the requesting party or patient, and determine the level of care or treatment required.

## Cancelling Response

Under the following circumstances, ALS transport units may cancel their response after being dispatched:

- A. Dispatch reports back that the original caller has canceled the request for service. Upon such request, the paramedic will make the decision to cancel or continue based on the information provided.
- B. A first-in responding unit reports that no patient is present.
- C. A first-in responding unit with an EMS provider reports to the ALS unit that the patient does not want, and their condition does not warrant contact by an ALS unit.
  - 1. This denial can be due to no need for medical treatment, or that only minor care is needed and can be administered by the first-in units.
  - 2. If the request for cancellation is based on a desire by the patient for private vehicle transport, this should be conveyed to the transport unit. If the first-in unit feels that the ALS transport paramedic should continue for evaluation, this should be conveyed to the responding medic unit.
  - 3. In cases #1 and #2 above, it shall be the discretion of the paramedic on the responding medic unit whether to continue to the scene.
  - 4. If the ALS transport unit does not respond based on #1 and #2 above, the first-in unit canceling the paramedic shall obtain a "Refusal for Treatment or Transport" form signed by the patient or other responsible person stating that based on their own initiative or advice from the first-in unit, they do not desire transport.
  - 5. It is the responsibility of EMS personnel to inform patients of the need for ALS and potential risks using an approved form.

# ALS Ambulance Rendezvous

## Indication

Procedure and considerations for ALS rendezvous.

## Management

The BLS/ILS ambulance may determine the need for ALS ambulance rendezvous at any time. Based on updated information, BLS/ILS personnel, either while enroute or on the scene, may determine that ALS intervention is not needed. The responding ALS ambulance may be notified and given the option to cancel.

- A. Prior to a BLS/ILS ambulance transporting a patient from the scene, the ETA of ALS shall be determined. If ETA is  $\leq 5$  minutes and transport time is  $\geq 10$  minutes, the BLS/ILS ambulance will remain at the scene until ALS arrives. The only exception would be for a major trauma victim or patient without a patent airway (the justification is that it would only be 2 ½ minutes until rendezvous).
- B. Upon rendezvous, the ALS provider will determine the method of transport (BLS/ILS unit versus ALS unit) based on the best interest of the patient's care. Depending on time and patient condition, it may be more appropriate for the ALS personnel to board the BLS unit, assume patient care, and continue the transport as a "BLS unit with a paramedic on board."
- C. Deviation from this procedure shall be reviewed by the responding agencies and the MPD.

## Definitions

- A. ALS – Advanced Life Support as defined in [WAC 246-976-010](#).
- B. Attempted – after identification of the need for ALS intervention, every effort will be made to arrange a BLS/ILS ambulance with ALS ambulance rendezvous.
- C. BLS – Basic Life Support as defined in [WAC 246-976-010](#).
- D. ILS – Intermediate Life Support (Advanced EMT) as defined in [WAC 246-976-010](#).
- E. Rendezvous – a pre-arranged agreed-upon meeting either on the scene, enroute from or another specified location.

# Interfacility Transfer

## Indication

General procedure for transfer of patients from one facility to another by ground ambulance.

## Management

Inter-hospital patient transfers on an emergency basis are initiated when definitive diagnostic or therapeutic needs of a patient are beyond the capacity of one hospital.

Interfacility patient transfers may be initiated when patients need to be moved from long-term care facilities, physicians' offices, or hospital to hospital; for evaluation, diagnosis, or further care.

The patient may be stable or unstable.

Medical treatment is continued and may possibly even be initiated enroute. Written protocols permit the orderly transfer of patients with appropriate continuity of care.

Cobra has mandated policies established by each hospital:

- A. All patients should be stabilized as much as possible before transfer.
- B. EMS personnel must have an adequate summary of the patient's condition, current treatment, possible complications, and other pertinent medical information.
- C. Treatment orders should be obtained by the transporting personnel. Orders should be in writing, and orders given verbally from the physician initiating the transfer must be recorded immediately and signed prior to transport.
- D. Patients requiring BLS transfer may have an IV in place prior to transfer, but it will be saline locked before a transfer is initiated. BLS personnel that have successfully completed an MPD-approved EMT IV Monitor course may transport patients with peripheral IV gravity-fed infusions of normal saline, dextrose, or lactated ringers or a combination of these solutions when it has been determined by the sending physician to be a BLS level transport.
- E. Transfer papers (summary, lab work, x-rays, etc.) shall accompany the patient.
- F. Inquire if receiving hospital, physician and personnel have been notified prior to initiation of transfer to assure adequate space and ability to care for the patient.
- G. Personnel and equipment used to transfer patients shall be appropriate to the treatment needed or anticipated during transfer. In specialized fields not ordinarily handled by EMTs or paramedics, appropriate hospital personnel shall accompany the patient and assume patient care, if allowed by hospital and department policies
- H. While enroute, the patient shall be monitored carefully, and vital signs taken and recorded at a minimum of every 30 minutes. Persons with restraints shall be checked every 15 minutes.

**EXCEPTIONS:** Stable, sedated mental health patients will be monitored closely and will not be awakened to take vital signs. Visual observations will be recorded as above.

All Interfacility transfer patients will have vital signs taken at the beginning of transfer and at the end of the transfer.



# Transport to Alternate Destinations

## Indication

EMS personnel may transport patients in crisis to alternate destinations instead of hospital emergency departments in accordance with RCW 70.168.170. These alternate centers must be capable and willing to accept pre-hospital transports.

## Management

### Intervention Sequence

- Perform assessment following [General Assessment](#) protocol
- Obtain a detailed patient history
- Ensure the patient falls under the inclusion criteria

Inclusion Criteria: Contact Medical Control as needed	Vital Signs (within normal range)
Age: 18-55	Heart Rate: 50-110
Voluntary/willing to go to alternative destination	SBP: 100-190
Cooperative and non-combative	DBP: <110
Normal level of consciousness	Respiratory Rate: 12-24
No serious chronic medical conditions	SPO2: >92%
Not taking medications that require laboratory monitoring	Temperature: 97-100.3 F
Has the ability to care for their self	Blood Glucose: 70-300

**Exclusion Criteria:** If any of the criteria below are present, the patient shall not be transported to an alternate destination and shall be transported to an appropriate emergency department.

New onset of mental illness

Overdose in the last 12 hours

Trauma requiring more than bandaging

Loss of consciousness or seizure in the last 24 hours

Pregnancy

Evidence of acute medical or traumatic problem

Current withdrawal from drugs or alcohol

### Transport Considerations

- Position of comfort is most appropriate

## Special Considerations

Contact the intended facility early to determine if the facility can accept the patient. If the intended facility cannot accept the patient, transport them to the nearest appropriate emergency department.

## Documentation Considerations

Thoroughly document patient history and vital signs (pulse, BP, respirations, pulse oximetry, skin conditions), Medical Control or alternate destination orders.

# General Assessment

## Indication

General assessment protocol for all BLS or ILS EMS personnel operating in the Columbia or Walla Walla Counties EMS systems.

## Management

### Scene Size-Up

Scene safety and body substance isolation per agency exposure control program.

### Primary Patient Assessment

Airway - Breathing – Circulation (ABC's), if there is a POLST form, follow the [POLST](#) protocol, consider ALS response if the patient's condition warrants it.

### Secondary Assessment

Patient and injury specifics; perform a detailed physical examination.

If indicated, EMT IV Technicians and AEMTs may establish IV access.

### Ongoing Assessment

Repeat and record initial patient assessment including time, reassess mental status, maintain an open airway, reassess patient vital signs including time (respiratory, pulse, skin condition, blood pressure), repeat focused assessment of patient complaint or injuries, reestablish patient priorities if needed, and check interventions.

### Transport

Contact Medical Control as needed; continue ongoing assessment and patient care.

**Note:** When "Contact Medical Control" is listed on any protocol, BLS providers have the option to contact the responding ALS unit or the hospital as appropriate.

### Communications

While enroute to the receiving facility, provide an updated patient report (age, sex, chief complaint, assessment findings, vital signs, level of consciousness, pertinent history, treatment provided, patient response, and estimated arrival time). Upon arrival at receiving facility, provide a verbal and written report to staff.

### Clean, Service, and Restock Vehicle

Ensure transport vehicles/ambulances are kept organized, clean, and mechanically functional, safe, and service ready at all times.

# Emergency Medical Responder (EMR) Pharmacology

## Indication

Approved medications for EMS providers in Columbia and Walla Walla Counties certified as EMRs. EMRs are not authorized to administer medications found in the [EMT](#) or [AEMT](#) Pharmacology sections.

Routes of medication administration can be found in the dosage forms in [Appendix A](#).

## Approved for Use

[Acetylsalicylic Acid](#) (Aspirin/ASA)\*

[Glucose Gel](#) (oral solution)\*

[Naloxone](#) (Narcan)\*\*

[Oxygen](#) (O2)

## Patient Prescribed Medications

EMRs may **ASSIST** the patient with the administration of the following Patient Prescribed medications with **PRIOR APPROVAL** from Medical Control.

**Epinephrine Autoinjector** (EpiPen)

[Metered-Dose Inhalers](#) (MDI)

## Special Considerations

Medications noted above with a single or double asterisk (\* / \*\*) require MPD specialized training on administration prior to an EMR being authorized to administer these medications in the field.

At their discretion BLS agencies may carry medications noted with a double asterisk (\*\*). If the medication is determined to be cost-effective and a positive benefit to the jurisdiction. Consider geographic response area, average response and transport times, and mutual aid capabilities.

# Emergency Medical Technician (EMT) Pharmacology

## Indication

Approved medications for EMS providers in Columbia and Walla Walla Counties certified as EMTs. EMTs are not authorized to administer medications found in the [AEMT](#) Pharmacology section.

Routes of medication administration can be found in the dosage forms in [Appendix A](#).

In addition to medications listed in the [EMR](#) Pharmacology section, EMTs may administer the medications listed below.

## Approved for Use

[Activated Charcoal](#) (Actidose/Sorbitol)\*

[Diphenhydramine](#) (Benadryl)\*\*

[Epinephrine 1:1000](#) (Adrenalin)\*

[Nitrous Oxide](#)\*\*

[Ondansetron](#) (Zofran)\*\*

## Patient Prescribed Medications

BLS providers may **ASSIST** the patient with the administration of the following Patient Prescribed medications with **PRIOR APPROVAL** from Medical Control.

[Glucagon](#) (Gluca-Gen)\*

[Nitroglycerine](#) (Nitrostat)

## Special Considerations

Medications noted above with a single or double asterisk (\* / \*\*) require MPD specialized training on administration prior to an EMT being authorized to administer these medications in the field.

At their discretion BLS agencies may carry medications noted with a double asterisk (\*\*). If the medication is determined to be cost-effective and a positive benefit to the jurisdiction. Consider geographic response area, average response and transport times, and mutual aid capabilities.

## Advanced EMT (AEMT) Pharmacology

### Indication

Approved medications for EMS providers in Columbia and Walla Walla Counties certified as AEMTs. Medications on this list, as well as dosage forms (found in [Appendix A](#)) may be substituted for alternatives with written approval from the MPD to help with shortages and backorders.

In addition to medications listed in the [EMR](#) and [EMT](#) Pharmacology sections, AEMTs may administer the medications listed below.

### Approved for Use

[Albuterol Sulfate](#) (Ventolin)

[Dextrose 10%](#) (D-10)

[Dextrose 50%](#) (D-50)

Lactated Ringers (Alternative to NS)

Sodium Chloride 0.9% (Normal Saline)

# Glasgow Coma Scale

## Indication

GCS scale shall be calculated and documented for any patient with decreased LOC.

### Adult and Children

#### Eye Opening

Spontaneous	4
To voice	3
To pain	2
None	1

#### Best Verbal Response

Oriented	5
Confused	4
Inappropriate Words	3
Incomprehensible Words	2
None	1

#### Best Motor Response

Obeys Commands	6
Localizes Pain	5
Withdraws (Pain)	4
Flexion	3
Extension	2
None	1

### Infant and Toddler

#### Eye Opening

Spontaneous	4
To Voice	3
To Pain	2
None	1

#### Best Verbal Response

Smiles, Interacts	5
Consolable	4
Cries to Pain	3
Moans to Pain	2
None	1

#### Best Motor Response

Normal Movement	6
Localizes pain	5
Withdraws (Pain)	4
Flexion	3
Extension	2
None	1

### Glasgow Coma Scale

Assess the patient in each category (eye opening, best verbal response, best motor response) and add the scores from each category. For example: if the patient's BEST verbal response is a string or muffled, incomprehensible words give the patient a 2 for that category. The patient's Glasgow Coma Scale will be the total of all three categories. A Glasgow Coma Scale of 7 indicates coma.

Reassess the patient's score frequently; record each observation, and the time it was made.

# Pain Management

## Indication

To reduce moderate to severe pain in select cases and improve overall patient comfort.

## Management

### Assessment

Onset, Provocation, Quality, Radiation, Severity, Time (OPQRST)

1-10 Numeric Pain Scale

Consider underlying sources of pain

Pain control can be achieved in more ways than medication; utilize various positioning strategies for patient comfort.

### Analgesia

#### Nitrous Oxide

**Adult / Pediatrics:** Self-administered by the patient through inhalation until the pain is relieved or the patient drops the mask or mouthpiece.

## Special Considerations

Consider acute versus chronic pain, the nature of the injury, and all contraindications when evaluating the appropriateness of pain management with nitrous oxide.

Consider the application of supplemental oxygen via nasal cannula at 2-6L to maintain oxygenation when nitrous oxide is not being administered or if patients become light-headed or nauseated.

Fast and non-invasive administration of nitrous oxide application is ideal in rural areas with limited resources or delayed ALS response. Nitrous oxide may be preferred as the frontline medication for isolated orthopedic trauma, active labor pain, severe burns, pediatric patients, and patients sensitive or unfit for narcotic pain relief.

**CAUTION:** Since nitrous oxide is heavier than air, it may accumulate on the ambulance floor. If transport times exceed 15 minutes, nitrous oxide may affect EMS personnel. Utilize exhaust fan and other forms of ventilation if necessary.

# Cardiovascular Emergencies

## Indication

Any medical emergency suspected to be of cardiac origin, such as chest pain.

## Management

### Assessment

Onset, Provocation, Quality, Radiation, Severity, Time (OPQRST)

1-10 Numeric Pain Scale

SAMPLE – Signs and Symptoms, Allergies, Medications, Previous Pertinent History, Last Oral Intake, Events Prior

Vital Signs (pulse, BP, respirations, skin condition, blood glucose)

### Intervention Sequence

Support ABC's

Oxygen for SPO2 <94%

Be prepared to do CPR and attach an AED

If appropriate administer Aspirin

Contact Medical Control to obtain permission to administer the patient's own physician prescribed Nitroglycerin

EMT IV Technicians may establish IV access as indicated

AEMTs may establish IV access; administer NTG as indicated

Transport without delay

### Transport Considerations

Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

Refer to [Washington State Cardiac Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.2](#), [Columbia County Operating Procedure #14](#), or [Walla Walla County Operating Procedure #5.2](#)

Document all interventions and their effect in the MIR

### EMR / EMT Pharmacology

[Aspirin](#) – 324mg PO (4 baby aspirin chewed)

### EMT Pharmacology

[Nitroglycerin](#) – 0.4mg SL tablet (up to 3 doses maximum)

If the patient does not have their own physician prescribed Nitroglycerin, continue with oxygen, and allow the patient to achieve a safe position of comfort.

### AEMT Pharmacology

[Nitroglycerin](#) – SL Tab or Spray 0.4mg, (up to 3 doses maximum)

Nitroglycerin SL is contraindicated if systolic BP <90 mmHg

Consider establishing IV access prior to NTG administration



## 12 Lead ECG Acquisition

### Indication

The purpose of this procedure is to direct the use of the 12-lead ECG to identify ST-elevation myocardial infarction (STEMI) in the field, with the goal of reducing the time to open the occluded artery in an appropriate cardiac catheterization lab.

If agencies carry this equipment, their providers shall complete training for 12-lead ECG acquisition prior to utilizing this protocol and ECG machine.

### Assessment

#### Indications

Chest pain suggestive of cardiac ischemia

- a. Dull central chest pain with dyspnea
- b. Radiation to arms / neck / jaw
- c. Diaphoresis
- d. Nausea / Vomiting
- e. Unexplained syncope or near syncope
- f. Do not delay prompt 12 lead acquisition to perform less critical interventions (i.e., establishing IV access)

#### Contraindications

Do **NOT** perform ECG on these patients

- a. Trauma unrelated to the cardiac origin
- b. Cardiac or respiratory arrest
- c. Any situation in which a delay would compromise patient care

### Management

Prepare all the equipment and prep the skin.

Place the four limb leads in accordance with the manufacturer's recommendations. Limb lead electrodes are typically placed on the deltoid area and the lower leg or thigh. Avoid placing limb leads over bony prominences.

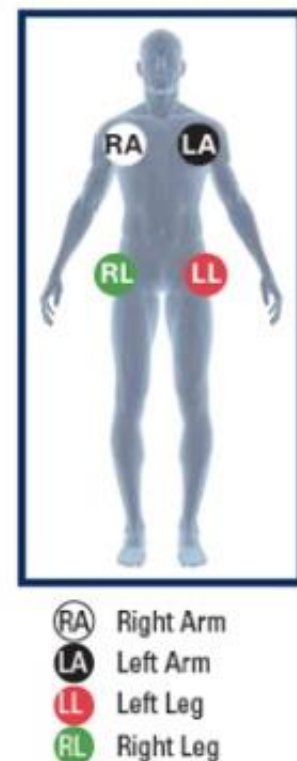
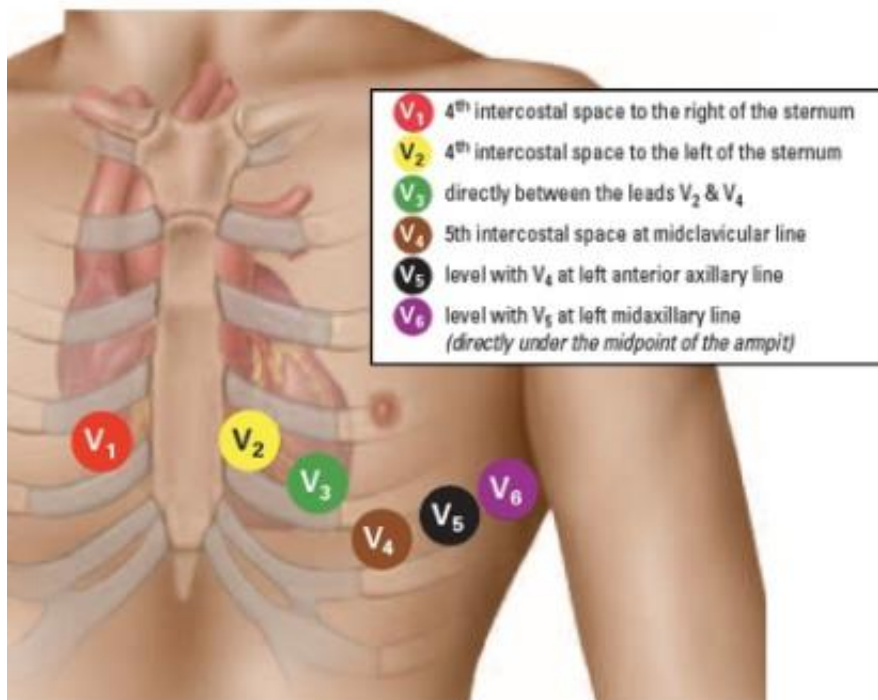
Place the precordial leads (chest or V leads) in accordance with the manufacturer's recommendations. Leads locations are identified as V1 through V6.

- A. Locating the V1 position is critically important because it is the reference point for locating the placement of the remaining V leads. To locate the V1 position:
  1. Place your finger at the notch in the top of the sternum.
  2. Move your finger slowly downward about 1.5 inches until you feel a slight horizontal ridge of elevation. This is the Angle of Louis where the manubrium joins the body of the sternum.
  3. Locate the second intercostal space on the patient's right side, lateral to and just below the Angle of Louis.
  4. Move your finger down two more intercostal spaces to the fourth intercostal space which is the V1 position.

## 12 Lead ECG Acquisition

### Management – Continued

- B. Place V2 by attaching the positive electrode to the left of the sternum at the further intercostal space.
- C. Place V4 by attaching the positive electrode at the mid-clavicular line at the fifth intercostal space. V4 must be placed prior to V3.
- D. Place V3 by attaching the positive electrode in the line midway between V2 and V4.
- E. Place V5 by attaching the positive electrode at the anterior axillary line at the same level as V4.
- F. Place V6 by attaching the positive electrode to the mid-axillary line at a level as V4.
- G. Ensure that all leads are attached.
- H. Turn on the machine.
- I. Record the tracing by following the machine-specific acquisition procedure and function.
- J. Document on the tracing the patient's name and the date and the time the tracing was obtained.



# CPR Assist Devices or Adjuncts

## Indication

Cardiopulmonary arrest with no signs of irreversible death.

The Zoll Auto-Pulse CPR device may be utilized on pediatric patients aged eight or older and/or pediatric patients showing signs of puberty.

## Management

### Assessment

Onset, Provocation, Quality, Radiation, Severity, Time (OPQRST)

SAMPLE – Signs and Symptoms, Allergies, Medications, Previous Pertinent History, Last Oral Intake, Events Prior

Vital Signs (pulse, BP, respirations, skin condition, blood glucose)

### Contraindications

Do **NOT** use device/adjunct on traumatic cardiac arrest patients with major chest trauma.

### Intervention Sequence

Support ABC's

Oxygen for SPO2 <94%

Complete at least one full cycle of high-quality, hands-on CPR with the placement of an AED or manual defibrillator

Place device/adjunct according to manufacturer's recommendation/training

Treat cardiovascular emergencies as indicated; see [Cardiovascular Emergencies](#) protocol

Treat cardiac arrest as indicated; see [Adult Cardiac Arrest](#) or [Pediatric Cardiac Arrest](#) protocols

### Transport Considerations

Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

Refer to [Washington State Cardiac Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.2](#), [Columbia County Operating Procedure #14](#), or [Walla Walla County Operating Procedure #5.2](#)

Document all interventions and their effect in the MIR

## Complications

The use of any CPR device or adjunct will follow the manufacturer's recommendations and training. If any malfunction or damage to the device/adjunct occurs, immediately resume high-quality hands-on CPR, and continue until the normal conclusion of CPR activity is achieved.

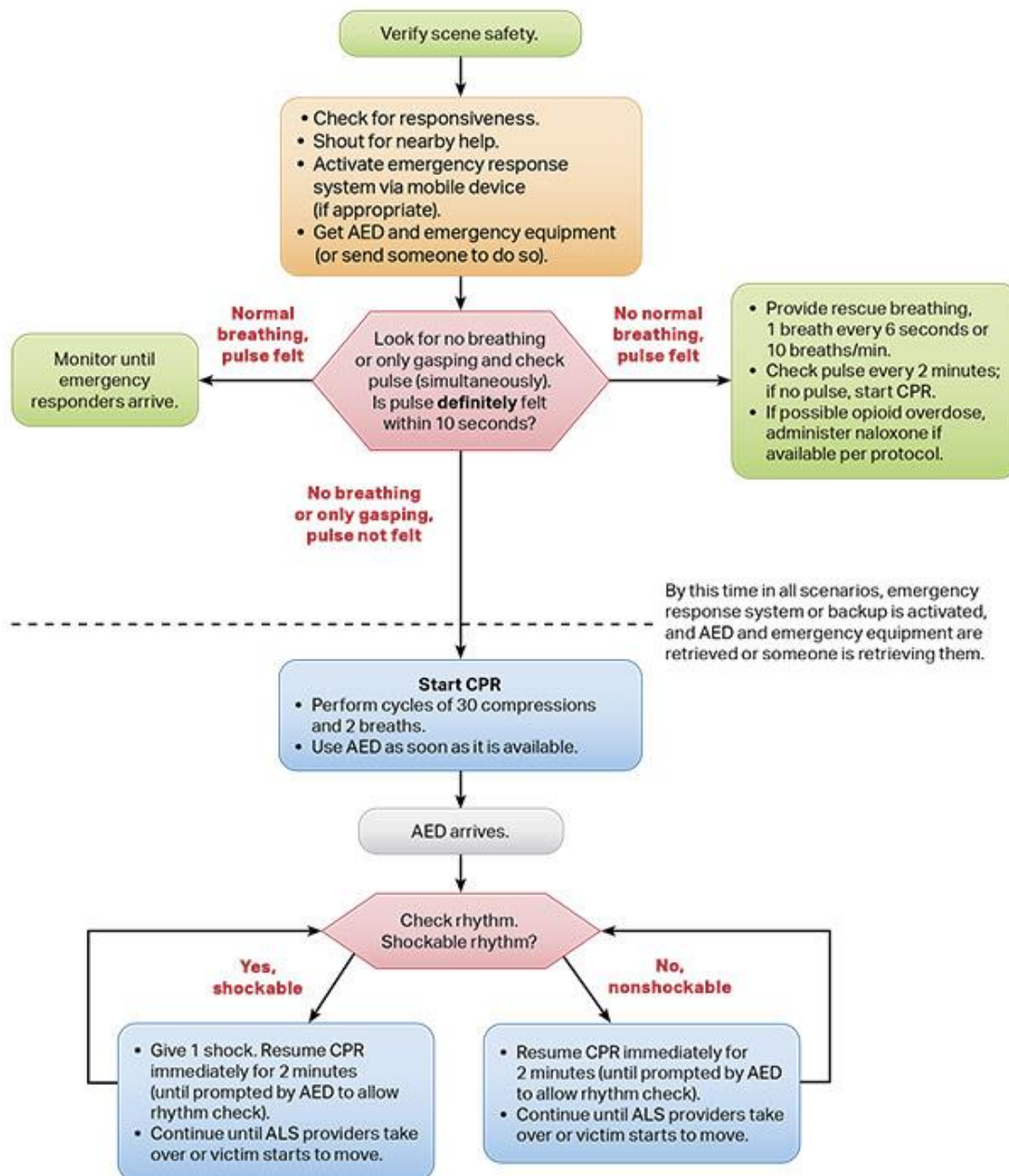
# Adult Cardiac Arrest

## Indication

Cardiopulmonary arrest with no signs of irreversible death. Follow the current American Heart Association Algorithm for BLS Healthcare Provider.

## Management

### Adult Basic Life Support Algorithm for Healthcare Providers



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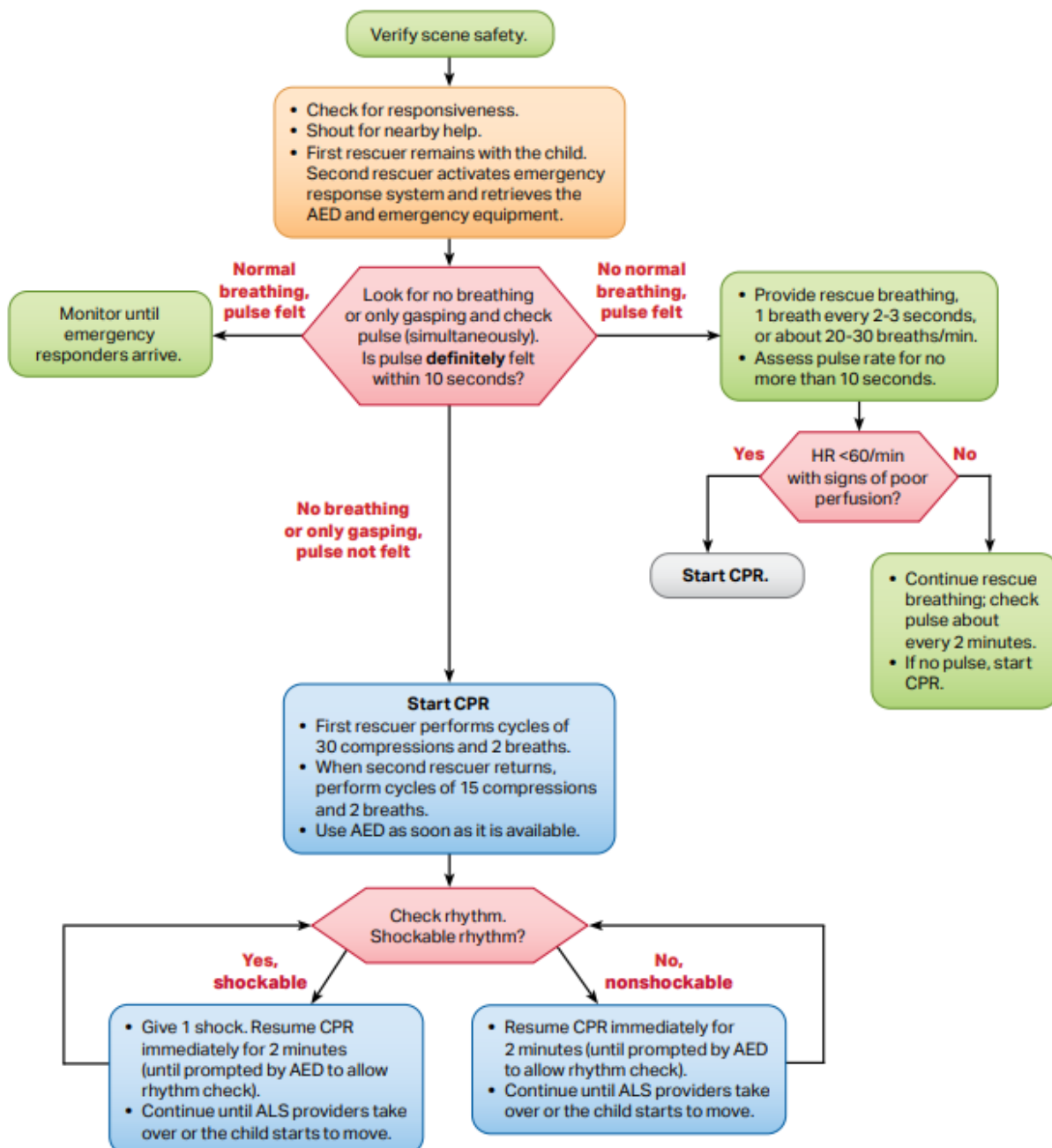
# Pediatric Cardiac Arrest

## Indication

Cardiopulmonary arrest with no signs of irreversible death. Follow the current American Heart Association Algorithm for BLS Healthcare Provider.

## Management

### Pediatric Basic Life Support Algorithm for Healthcare Providers—2 or More Rescuers



# Respiratory Emergencies

## Indication

General approach to respiratory distress of any origin.

## Management

### Assessment

Accessory muscle use, retractions, tripod positioning, inability to speak due to labored breathing, abnormal lung sounds, and history of respiratory pathology.

### Consider Underlying Causes

- Acute MI
- ARDS
- Arrhythmia
- Allergic reaction / anaphylaxis
- Asthma
- COPD / Emphysema
- Congestive Heart Failure
- Croup / Epiglottitis
- Environmental / exposure
- Pneumonia
- Pleurisy
- Pulmonary embolism
- Pneumothorax (spontaneous / traumatic)
- Sepsis

### Pediatric Considerations

FBAO – Do not attempt to visualize the oropharynx. Allow patient to achieve a position of comfort and support ABC's as needed

### Intervention Sequence

- Open and maintain airway with manual maneuvers / OPA / NPA
- Assist breathing with [Continuous Positive Airway Pressure \(CPAP\)](#) as needed
- COPD patients often use the hypoxic drive, determine baseline SpO2 readings and accept <90 and > 85% as normal for these cases
- Move patient to a sitting position to facilitate breathing
- Oxygen as indicated
- AEMTs may administer Bronchodilators as indicated
- Contact Medical Control as needed
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

# Allergic Reaction / Anaphylaxis

## Indication

Respiratory distress is secondary to allergic reaction/anaphylaxis.

## Management

### Assessment

Dyspnea, respiratory rate <10 or >30  
Presence of hives (urticaria) and/or airway/facial swelling (angioedema)  
Audible wheezing inspiratory and/or expiratory wheezing with auscultation  
History of known allergy or exam objectifies anaphylaxis

### Intervention Sequence

Support ABC's  
Oxygen for SPO2 <94%  
Remove the stinger if a bee sting  
Contact Medical Control

#### **Epinephrine for severe cases – DO NOT DELAY**

AEMTs may administer Bronchodilators for bronchospasm and wheezing as indicated  
Vital Signs (pulse, BP, respirations, pulse oximetry, skin condition)  
EMT IV Technicians and AEMTs may establish IV access as indicated  
Observe closely

### Transport Considerations

Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care  
Contact Medical Control as needed

### EMR Pharmacology

#### **Epinephrine Autoinjector (EpiPen)**

If the patient has their own physician prescribed EpiPen available and Medical Control gives permission, you may assist the patient with self-administration.

### EMT Pharmacology

**Epinephrine 0.3mg 1:1000 IM** for adults (30 kg or 66 lbs. and above)

**Epinephrine 0.15mg 1:1000 IM** for pediatric (under 30 kg or 66 lbs.)

If Epinephrine is refused, contact Medical Control and ALS on the patient's status.

**Diphenhydramine 25mg** oral or solution for hives, itching, flushing due to severe reaction

### AEMT Pharmacology

**IV fluid challenge: 20ml/kg** for SBP<100 or suspected anaphylactic shock (adult and pediatric)

**Albuterol Sulfate 2.5mg nebulized** with 6-8 L/oxygen for wheezing

May repeat albuterol every 10 minutes as needed

**Diphenhydramine 25-50mg** IV/IM/IO

**Pediatrics: 1-2mg/kg** or as directed by Medical Control.

## Documentation Considerations

Cause of reaction and vital signs (pulse, BP, respirations, pulse oximetry, skin conditions)  
Medical Control orders (include specific dosing ordered if inconsistent with protocol)  
Interventions and outcomes (improvement, no change)

# Asthma

## Indication

Respiratory distress secondary to asthma with exacerbation.

## Management

### Assessment

- Dyspnea, respiratory rate <10 or >30
- Audible wheezing
- Inspiratory and/or expiratory wheezing with auscultation
- History and exam objectify asthma exacerbation

### Intervention Sequence

- Support ABC's
- Oxygen for SPO2 <94%
- AEMTs may administer Bronchodilators for bronchospasm and wheezing as indicated
- Vital Signs (pulse, BP, respirations, pulse oximetry, skin condition)
- EMT IV Technicians and AEMTs may establish IV access as indicated
- Observe closely

### Transport Considerations

- Transport without delay
- Contact Medical Control

### AEMT Pharmacology

- [Albuterol Sulfate](#) 2.5mg nebulized with 6-8 L/oxygen
- May repeat albuterol every 10 minutes. Discontinue use if the patient develops chest pain or tachycardia increases.



# Chronic Obstructive Pulmonary Disease (COPD)

## Indication

Respiratory distress is secondary to COPD with exacerbation.

## Management

### Assessment

- Dyspnea, respiratory rate <10 or >30
- Abnormal lung sounds
- Accessory muscle use and retractions
- Tripod position
- Pursed lip breathing
- One or two-word answers to questions
- Near syncope
- History and exam indicate COPD/emphysema exacerbation with inspiratory and/or expiratory wheezing, rhonchi with auscultation. Recognize that increased wheezing is associated with underlying COPD may represent CHF, pneumothorax, and/or underlying infection.

### Intervention Sequence

- Support ABC's
- Oxygen for SPO2 <94%
- CPAP - DO NOT DELAY**
- Adjust PEEP to patient comfort and positive response
- EMT IV Technicians and AEMTs may establish IV access as indicated
- Observe closely

### Transport Considerations

- Transport without delay
- Contact Medical Control

### AEMT Pharmacology

- Albuterol Sulfate** 2.5mg nebulized with 6-8 L/oxygen
- May repeat albuterol every 10 minutes. Discontinue use if the patient develops chest pain or tachycardia increases.

# Continuous Positive Airway Pressure (CPAP)

## Indication

Severe respiratory distress and/or impending respiratory failure secondary to the following:

1. Heart failure with acute pulmonary edema
2. Acute hypoxic respiratory failure
3. Acute worsening of COPD (exacerbation with limited air exchange)
4. Status asthmaticus
5. Poor air exchange makes nebulizer treatments ineffective
6. Patient preference to avoid intubation

If agencies carry this equipment, their providers shall complete training for CPAP prior to utilizing this protocol and CPAP equipment.

## Contraindications

Facial deformity (mask leak), hemodynamic instability, inability to clear secretions, inability to tolerate mask, inability to maintain airway or respiratory drive and patients less than 8 years of age.

## Management

### Assessment

Severe difficulty breathing  
Retractions and accessory muscle use  
Pursed lips and one to two-word sentences  
Wet lung sounds  
Evidence of pulmonary edema, including wet cough or spitting up frothy pink sputum.  
Increased fatigue from labored breathing

### Intervention Sequence

Explain therapy to patient  
Request assistance from partner for proper placement of the mask  
Start oxygen  
Place CPAP mask on the patient or have the patient hold mask to their face finding a good seal  
Tighten straps to stop leaks  
Reassess the patient's status every 5 minutes  
Contact Medical Control as needed  
Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

# Supraglottic Device / I-Gel

## Indication

The patient is unconscious and unresponsive without a gag reflex. I-Gel Supraglottic airways are considered advanced airways.

To utilize this protocol, EMTs must have an endorsement on their credential allowing them to place supraglottic airways.

## Contraindications

Spontaneous respirations, intact gag reflex, facial trauma, or distorted airway prevents glottic seal.

## Size Chart

I-Gel Size	Patient Size	Patient Weight (Kg)	Patient Weight (lbs)
Pink - 1	Neonate	2-5	4-11
Blue - 1.5	Infant	5-12	11-26
Gray - 2	Small Pediatric	10-25	22-55
White - 2.5	Large Pediatric	25-35	55-77
Yellow - 3	Small Adult	30-60	66-132
Green - 4	Medium Adult	50-90	110-198
Orange - 5	Large Adult	90+	198+

## Management

### Intervention Sequence

1. Select appropriate size I-Gel, reference chart above.
2. Place a small layer of water-based lubricant onto the I-Gel along the integral bite block, back, sides, and front of the cuff.
3. Inspect carefully and confirm there are no foreign bodies or large amounts of lubricant obstructing the distal opening.
4. Grasp the lubricated I-Gel firmly along the bite block (near the BVM adapter).
5. Position the device so that the I-Gel cuff outlet is facing toward the chin of the patient.
6. Place the patient in the sniffing position with head extended and neck slightly hyperextended.
7. Gently press down on the patient's chin to open the mouth. It is not necessary to insert fingers or thumbs into the patient's mouth during the insertion process.
8. Introduce the leading tip into the mouth of the patient in a direction towards the hard palate.
9. Glide the device downwards and backward along the hard palate with a continuous but gentle push until resistance is felt. Sometimes a feeling of 'give way' is felt before the end point of resistance is met; this is due to the passage of the bowl of the I-Gel through the faucial pillars. It is important to continue with insertion until definitive resistance is met. Do not repeatedly push the I-Gel down or apply excessive force.
10. The tip of the airway should now be in the upper esophageal opening, the cuff should be located against the laryngeal framework (over the glottic opening), and the patient's teeth should be resting on the integral bite block (near the BVM adapter).
11. Apply BVM and ventilate, assess for proper placement.

# Stroke / CVA

## Indication

Positive BE-FAST scan or any neurologic deficit suggesting stroke.

## Management

### Assessment

Determine patient baseline; do not dismiss family or caretaker's inability to describe what is wrong with the patient other than stating, "Something is different today."

### BE-FAST Stroke Evaluation

#### Balance

Does the patient have a sudden loss of balance or coordination

#### Eyes

Is the patient experiencing double vision, or are they unable to see out of one eye

#### Facial Droop

Have the patient show teeth, grimace, or smile; look for asymmetry

#### Arm Weakness

Have the patient close their eyes and hold arms out, look for arm drift

#### Speech Difficulty

Evaluate abnormalities, receptive/expressive aphasia, slurred speech, dysarthria

#### Time (call 911)

How long have the symptoms been present, and when was the patient last seen normal

### Intervention Sequence

Support ABC's

Oxygen for SPO2 <94%

Perform BE-FAST scan without delay

Blood glucose check

EMT IV Technicians and AEMTs may establish IV access as indicated

Transport without delay

Notify receiving facility of the need for CT (Stroke Activation)

Notify receiving facility of patient's last known well time

### Transport Considerations

Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

Refer to [Washington State Stroke Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.3](#), [Columbia County Operating Procedure #15](#), or [Walla Walla County Operating Procedure #5.3](#)

Contact Medical Control as needed

# Abdominal Pain

## Indication

Generalized or localized abdominal pain, acute abdomen.

## Management

### Assessment

- Onset, Provocation, Quality, Radiation, Severity, Time (OPQRST)
- 1-10 Numeric Pain Scale
- Observe for a palpable mass
- Bowel tones / silent abdomen
- Ascites or history of hepatic impairment
- Observe for guarding
- Rebound tenderness
- Distension / rigidity
- Discoloration/signs of internal bleeding
- Rash or signs of underlying infection
- Previous episodes or exacerbation of a chronic condition
- Last menstrual period
- Possibility of pregnancy

### Intervention Sequence

- Support ABC's
- Oxygen for SPO2 <94%
- Focused abdominal exam
- EMT IV Technicians and AEMTs may establish IV access as indicated
- Transport without delay
- Observe closely

### Transport Considerations

- Contact Medical Control as needed
- For patients with severe abdominal pain, consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care
- Position of comfort is most appropriate
- Hypovolemia / Shock see [Shock](#) protocol

# Nausea / Vomiting

## Indication

Nausea and/or vomiting.

## Management

### Assessment

- Duration
- Provocation
- Quantity
- Color, blood tinge
- Esophageal varices
- Cyclic vomiting syndrome
- Question marijuana use

### Intervention Sequence

- Support ABC's
- Oxygen for SPO2 <94%
- Treat hypovolemia/shock as indicated; see [Shock](#) protocol
- EMT IV Technicians and AEMTs may establish IV access as indicated, large-bore IV access if possible when hypovolemia is suspected
- Transport without delay
- Observe closely

### Transport Considerations

- PPE / BSI for crews
- Position of comfort is most appropriate
- Contact Medical Control as needed
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

### EMT Pharmacology

[Ondansetron](#) 4-8mg ODT (oral dissolving tablet) PO

### AEMT Pharmacology

[Ondansetron](#) 4-8mg IM/IO/IV/PO

# Seizure / Convulsions

## Indication

Seizures / convulsions of any type.

## Management

### Assessment

- Duration and description of seizure activity
- Trauma secondary to seizure or fall
- History of seizure disorder
- Medication compliance
- Concurrent illness / febrile seizure
- Drug or alcohol withdrawal symptoms are mistaken as seizures
- Postictal status
- Incontinence

### Intervention Sequence

- Support ABC's
- Oxygen for SPO2 <94%
- Protect from trauma during the seizure
- EMT IV Technicians and AEMTs may establish IV access as indicated
- Blood glucose check; see [Hypo/Hyperglycemia](#) protocol
- Transport without delay

### Transport Considerations

- Contact Medical Control as needed
- Position of comfort is most appropriate
- Remove excess clothing of febrile patients
- Consider the need to transport patients with first-time seizures to determine the cause
- Consider rendezvous with ALS if seizure activity persists, and it would significantly decrease the time for the patient to obtain a higher level of care

# Psychiatric / Behavioral Emergencies

## Indication

Mentally unstable patients who exhibit signs of potential harm to themselves or others; patients with suicidal thoughts or actions.

Be alert, the patient's behavior may change rapidly, and the scene could become unsafe.

## Management

### Assessment

- Assess neurological status

- Consider causes of behavior history

- Flat affect

- Delusions

- Hallucinations

- Speech patterns

- Suicidal ideation

- Level of cooperation

- Appropriateness of answers

**Do not dismiss medical complaints from patients with a psychiatric disorder**

### Intervention Sequence

#### **SCENE SAFETY – PROTECT YOURSELF AND YOUR CREW**

If the patient is a danger to self or others, request CRT evaluation

#### **Suicidal Thoughts or Actions:**

- Do not leave the patient alone

- Remove any dangerous objects

- Verbal coaching and encouragement of the patient to seek help is often difficult; remember patient advocacy and compassion

#### **Violent Patients:**

- Consider your own safety and limitations of the situation

- If needed, restrain the patient in lateral recumbent position or supine as needed

- Extreme cases of excited delirium, such as patients on PCP, may result in cardiac arrest

- Never stay alone with a psychiatric patient

- Request law enforcement assistance immediately

## Special Considerations

Transport orders written by a county mental health professional must accompany patients transported to area facilities.

Emergencies arising during transport should be treated according to protocols.

Restraints may be used during transport but must be checked every 15 minutes to ensure circulation is not compromised.



# Physical Restraint

## Indication

Violent or excited delirium patients, whose behavior requires immediate physical restraint for provider and patient safety.

## Management

### Assessment

Controlling the patient and provider safety takes precedence over any other intervention.

Support ABC's as best as possible.

If the scene becomes unsecure and you can leave, back out and wait for law enforcement. If for some reason backing out is not an option or your way out of the scene is obstructed, restraints may be deployed.

### Intervention Sequence

Deploy restraints as quickly as possible

Coordinate efforts with multiple responders on scene to improve overall safety and efficiency of the restraint process

Once control of the patient has been accomplished, switch over to soft restraints, especially if the patient is to be transported on the stretcher and if transport time is long

### Transport Considerations

Circulation must be checked every 15 minutes and documented

In situations where the patient is under arrest and handcuffs are applied by law enforcement:

The patient will not be cuffed to the stretcher

A law enforcement officer shall accompany the patient in the ambulance if the handcuffs are to remain applied

A law enforcement officer may elect to follow the ambulance in the patrol car if the patient has been restrained with restraints other than handcuffs

# Hypotension / Shock

## Indication

Hypotension with signs and symptoms of shock.

## Management

### Assessment

- Decreased LOC/GCS
- HR > 120 bpm, SBP < 90 mmHg
- Delayed capillary refill or cool/moist skin
- Extreme thirst
- Traumatic injuries present
- Identify the underlying cause of shock
- Orthostatic vital sign or postural syncope
- Vomiting, diarrhea, or suspected blood loss
- History of CHF or renal disease

### Hypovolemic Shock:

- SBP < or equal to 90 mmHg with tachycardia (if not on beta-blockers)
- Elevate legs (shock position)
- Administer high concentration oxygen
- Keep patient warm

### Septic Shock:

- Observe for hypotension, tachycardia, tachypnea, and fever with a suspected or known source of infection.**
- Septic shock is a medical emergency; expedite transport

### Cardiogenic Shock:

- Observe for signs and symptoms of heart failure
- See [CPAP](#) protocol as indicated

### Neurogenic Shock:

- Observe and trend blood pressures in patients with suspected CNS injury

### AEMT Pharmacology

- Fluid challenge: 20ml/kg** for SBP < 90

- Pediatrics: 20ml/kg**

### Transport Considerations

- Contact Medical Control without delay
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

# Vaginal Bleeding

## Indication

Vaginal bleeding of any cause.

## Management

### Assessment

- Trauma or sexual assault involved
- Placenta abruption (may be dark in color with severe pain)
- Placenta Previa (bright red blood and usually painless)
- Spontaneous miscarriage
- Uterine fibroids
- Rupture of ovarian cyst

### Intervention Sequence

- Support ABC's
- Oxygen for SPO2 <94%
- SBP <90 mm Hg, see [Shock](#) protocol
- EMT IV Technicians and AEMTs establish large-bore IV access
- Keep patient warm
- Transport without delay

### Transport Considerations

- If ALS care is needed, consider rendezvous if it would significantly decrease the time for the patient to obtain a higher level of care
- Contact Medical Control without delay
- If bleeding is associated with childbirth, see [Active Labor](#) protocol
- Preserve tissue fragments (if possible)

## Documentation Considerations

- Estimated blood loss
- Presence of tissue
- Color of blood
- Gravid / Para
- Last menstrual period
- Possibility of trauma or assault

# Active Labor: Assisting Delivery

## Indication

Active labor with precipitous delivery.

## Management

### Assessment

Previous vaginal births, pregnancy complications, C-sections, and prenatal care received

Frequency of contractions, notable edema, or hypertension

### Intervention Sequence

Support ABC's

Oxygen for SPO2 <94%

SBP < or equal to 90 mmHg; see [Shock](#) protocol

EMT IV Technicians and AEMTs establish large-bore IV access if time and resources permit

Keep patient warm

#### Active Labor without Crowning:

1. Left lateral position
2. Transport without delay
3. Consider ALS rendezvous

#### Active Labor with Crowning:

1. Prepare for immediate delivery on the scene if delivery is imminent
2. Open OB kit and don PPE
3. Control delivery and support head with rotation
4. If the cord is wrapped around the neck, slip the cord over the head and shoulder; if unable, clamp the cord 2 inches apart, and cut the cord
5. As head delivers, bulb suction mouth and nares
6. Guide head upward to deliver the lower shoulder, then downward to deliver the upper shoulder
7. Control delivery of trunk and legs, do not drop the baby
8. Bulb suction mouth and nose again

#### Active Labor with Abnormal Presentation:

1. Contact Medical Control without delay
2. Foot, hand, or cord presentation: elevate hips, place the mother in knee-chest position or extreme Trendelenburg position
3. Buttocks breech, support legs, and trunk
4. Arms before the head, lower body to help head pass, as hairline appears, raise body by ankles upward and the shoulder should deliver
5. Prevent cord compression by gently lifting the head and body off the cord with a gloved hand, observing the cord for pulsations
6. If delivery is delayed and the baby is attempting to breathe, form a V with your fingers to hold the vaginal wall away from the baby's face

### Transport Considerations

Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

Contact Medical Control without delay

## Active Labor: Post-Partum Care

### Indication

Post-partum care for a newborn.

### Management

#### Assessment

Normal fetal heart rate: 120-160

Assess **APGAR** score at 1 and 5 minutes post-delivery

Indicator		0 Points	1 Point	2 Points
A	Activity (muscle tone)	Absent	Flexed arms and legs	Active
P	Pulse	Absent	Below 100 bpm	Over 100 bpm
G	Grimace (reflex irritability)	Floppy	Minimal response to stimulation	Prompt response to stimulation
A	Appearance (skin color)	Blue; pale	Pink body, Blue extremities	Pink
R	Respiration	Absent	Slow and irregular	Vigorous cry

#### Intervention Sequence

Suction mouth, nostrils, and then clamp and cut the cord, support ABC's of mother and baby

Warm, dry, and stimulate baby; assess for cry, meconium, and acrocyanosis

Note the exact time of birth

Transport without delay

Massage fundus of mother

Place baby to the breast to promote placental delivery

#### Active Bleeding during delivery >250m

**AEMT: Fluid challenge: 20ml/kg IV, consider second line**

#### Transport Considerations

Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

Contact Medical Control without delay

# Altered Mental Status

## Indication

Unresponsive patients with decreased level of consciousness of known or unknown cause.

## Management

### Assessment

Decreased AVPU / LOC / GCS  
Unusual odors on breath (alcohol, ketoacidosis)  
Observe patient for medic-alert tags, needle track marks, evidence of trauma  
Observe the environment for signs of overdose  
Consider postictal state from seizure  
Check pupils for reactivity, equality, and size

Consider possible causes of altered mental status (**AEIOU/TIPS**)  
**(Also consider other causes not listed)**

Alcohol, acidosis, arrhythmias  
Epilepsy, endocrine, environmental, electrolytes  
Infection  
Overdose, opiates, oxygen (hypoxia)  
Uremia (toxemia, renal disease)  
Trauma, tumor  
Insulin (hypo/hyperglycemia)  
Psychosis, poisoning  
Stroke, seizure, syncope

### Intervention Sequence

Support ABC's  
Oxygen for SPO2 <94%  
Blood glucose check; see [Hypo/Hyperglycemia](#) protocol as indicated  
SBP <90; see [Shock](#) protocol  
If unresponsive with respiratory depression and suspected opiate overdose, see [Overdose: Sedatives/Hypnotics](#) protocol

### Transport Considerations

If ALS care is needed, consider rendezvous if it would significantly decrease the time for the patient to obtain a higher level of care  
Keep patient warm

## Documentation Considerations

Glasgow Coma Scale  
Pupils  
Signs of drug use or trauma

# Syncope

## Indication

Syncope with collapse, unconsciousness with or without return of consciousness.

## Management

### Assessment

- Witnessed or unwitnessed
- LOC/GCS
- History of anxiety
- Respiratory rate, hyperventilation, carpal-pedal spasms
- Diabetic/blood glucose
- Cardiac
- Vasovagal response
- Hypovolemia
- Vasodilation
- Arrhythmias
- Fatigue
- Heart Disease
- Heat Stroke / environmental factors

### Intervention Sequence

- Support ABC's
- Oxygen for SPO2 <94%
- Identify and correct reversible causes
- SBP < or equal to 90 mmHg; see [Shock](#) protocol
- SBP > 90mmHg supportive measures

### Transport Considerations

- Patient in a position of comfort
- Monitor LOC for changes in mentation
- Keep patient warm
- Contact Medical Control as needed
- If ALS care is needed, consider rendezvous if it would significantly decrease the time for the patient to obtain a higher level of care

## Documentation Considerations

- Activity prior to the change in LOC
- Seizure activity
- Medications and recent changes in medications
- Drug use
- Hyperventilation syndrome

# Hypoglycemia

## Indication

Patients with a decreased LOC secondary to a low blood sugar.

## Management

### Assessment

Altered LOC, weakness, fatigue, or stroke-like symptoms

Tachycardia, profound diaphoresis, seizure/postictal

Known history of insulin-dependent or diet-controlled diabetes

Pregnancy, consider gestational diabetes

**Blood glucose less than or equal to 60 mg/dL in adults is considered low and is likely to cause serious signs and symptoms requiring intervention**

### Intervention Sequence

Support ABC's, oxygen for SPO2 <94%

Vital signs, blood glucose check before and after treatments

Treat hypoglycemia if indicated by signs and symptoms

### Transport Considerations

It may be indicated to transport patients who are not sure why their glucose dropped to a level that required EMS intervention

Position of comfort, preferably lying on their side as the patient may vomit

If ALS care is needed and AEMT providers are unavailable, consider ALS rendezvous if this would significantly decrease the time for the patient to obtain a higher level of care

### EMR / EMT Pharmacology

If the patient is alert enough to swallow and manage their own airway and follow commands, administer oral glucose or a sugar-containing drink, encourage the patient to eat carbohydrate and protein-containing food to sustain blood sugar and support normalization.

[Oral Glucose Gel](#) – One complete tube (15 grams of glucose)

### EMT Pharmacology

Consult with Medical Control prior to administration of Glucagon. If contact with Medical Control cannot be achieved and the patient's blood glucose level is < 40mg/dl, administer:

[Glucagon - Patient Prescribed Medication](#) 1mg IM

### AEMT Pharmacology

IV established with patient **NOT ALERT** and oral glucose contraindicated:

**Adult:** [Dextrose 10% or 50%](#) 25g IV or IO

**Child:** [Dextrose 25%](#) 4 ml/kg IV or IO

**Infant:** [Dextrose 12 ½](#) 4 ml/kg IV or IO

IV not established:

[Glucagon](#) 1mg IM; if there is no improvement with Glucagon, consider Dextrose IO route.

## Documentation Considerations

Compliance with insulin regimen, provider recommendations to follow up with their doctor.



# Hyperglycemia

## Indication

Patients with signs and symptoms of hyperglycemia.

## Management

### Assessment

- Altered LOC
- Fruity odor on breath (ketones)
- Irregular or deep breathing (Kussmaul pattern)
- Visual disturbances
- Seizure activity
- Weakness, fatigue
- Tachycardia, tachypnea
- Intractable nausea and vomiting
- Polyuria, polyphagia, polydipsia
- Known history of insulin-dependent diabetes
- Poor compliance with insulin administration

### Intervention Sequence

- ABC's, support ventilation as necessary
- Blood glucose check and vital signs
- Treat symptomatically; see [Nausea / Vomiting](#) protocol
- Transport without delay

### Transport Considerations

- If ALS care is needed, consider rendezvous if it would significantly decrease the time for the patient to obtain a higher level of care
- Contact Medical Control as needed

### AEMT Pharmacology

If the patient exhibits signs and symptoms of hypovolemia or ketoacidosis, consider aggressive fluid resuscitation. Blood glucose levels >400mg/dL, consider a second large-bore IV line or single large bore line on pressure bag.

**Adult fluid challenge: 20ml/kg, monitor for improvement.**

**Pediatric: 20ml/kg**

## Documentation Considerations

- Blood glucose.
- Compliance with insulin regimen, provider recommendations to follow up with their doctor for education and/or adjustment of their diabetes management plan.

# Hypothermia

## Indication

Prolonged exposure to cold weather with associated signs and symptoms of hypothermia.

## Management

### Assessment

- Duration and nature of exposure
- Mechanisms of heat loss
- Decreased LOC/GCS, altered mental status, confusion
- Fatigue
- Skin color changes: cyanosis or mottling
- Core body temperature

### Intervention Sequence

- Support ABC's
- Oxygen for SPO2 <94%
- Take body temperature
- Keep patient warm and offer reassurance
- Actively rewarm until core body temperature > 35 degrees Celsius / 95 degrees Fahrenheit, may consider using hot packs, multiple blankets, and radiant heat sources such as warming beds and use high heat in patient compartment ambulance heating system

**AEMT:** Consider **warmed IV fluid challenge 20ml/kg**; IV fluid should be at least 43 degrees Celsius

For cardiac arrest, determine core body temperature measurement during resuscitation:

**<30 degrees Celsius / 86 degrees Fahrenheit: Limit to 3 shocks, actively rewarm**  
**>30 degrees Celsius / 86 degrees Fahrenheit: Continue with unlimited shocks**

### Transport Considerations

- Contact Medical Control as needed
- Consider the need for transport to a trauma center if trauma is a component of the incident, such as a vehicle rollover into a cold body of water
- Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5](#)
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

# Hyperthermia

## Indication

Patients with an elevated body temperature are suspected of heat exhaustion or heat stroke, causing serious signs and symptoms.

## Management

### Assessment

- Duration and nature of exposure
- Decreased LOC/GCS, altered mental status, confusion
- Fatigue
- Skin color changes: flushing, red
- Diaphoresis or dry, hot skin
- Core body temperature

### Intervention Sequence

- Support ABC's
- Oxygen for SPO2 <94%
- Move patient to cool environment (shade, air-conditioned house, cool ambulance)
- Take off any excess clothing
- Take body temperature (normal temp is 98.6 F/ 35 C)

### Cooling Measures:

- Apply moist dressings
- Apply cool packs to arm pits and groin
- If available, spray down the patient with mist and fan to cause evaporation and cooling
- SBP<90 mm Hg, see [Shock](#) protocol
- Blood glucose check
- Transport without delay
- AEMT:** Consider **cooled IV fluid challenge 20-30ml/kg**; ideally, IV fluid should be no warmer than room temperature.
- Monitor the patient's response to IV fluids closely; BP will usually return to normal quickly. Do not overload patient

### Transport Considerations

- Contact Medical Control as needed
- Guard against lowering body temperature too low; you do not want the patient to shiver
- Be prepared for seizure activity
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

# Overdose and Poisoning

## Indication

General management of patients with confirmed or suspected overdose and poisoning.

## Management

### Assessment

#### Internal Contamination:

What was ingested?

Time of consumption?

Amount consumed?

#### External Contamination:

What was the patient exposed to?

Chemical burns?

Contact with mucous membranes, mouth, or eyes?

Consider contraindications for flushing with water due to possible reactions:

(Not limited to this list)

1. Phosphorus
2. Sodium metal
3. Phenol
4. Hydrochloric acid
5. Sulfuric acid
6. Ammonia
7. Hydrogen cyanide

### Intervention Sequence

Support ABC's

Oxygen for SPO2 <94%

Remove contaminated clothing

Gross DECON of patient

Flush contaminated skin and eyes with copious amounts of water

If the patient is not alert, see [Altered Mental Status](#) protocol and [Overdose:](#)

[Sedatives/Hypnotics](#) protocol as indicated

Contact Medical Control as needed

Transport without delay

If ALS care is needed, consider rendezvous if it would significantly decrease the time for the patient to obtain a higher level of care

## Special Considerations

### Contact Poison Control: 1-888-222-1222

If time permits, providers may contact poison control while enroute to the incident and request patient care recommendations based on dispatch information. Request HAZ-MAT response if indicated, notify the hospital of HAZ-MAT activation without delay. Contact Medical Control as indicated for additional management recommendations and specific treatments.

# Overdose: Carbon Monoxide Poisoning

## Indication

Prolonged exposure to carbon monoxide with or without signs and symptoms.

## Management

### Assessment

- Duration and nature of exposure
- Decreased LOC/GCS, altered mental status, confusion
- Mild headache, CNS disturbances
- Dyspnea/respiratory failure
- Fatigue
- Nausea and/or vomiting
- Ataxia
- Syncope
- Seizures
- Incontinence
- Skin color may be bright red

### Intervention Sequence

- ABC's
- Oxygen - HIGH FLOW 15L/min NRB mask**
- EMT IV Technicians and AEMTs may establish IV access as indicated
- Transport without delay
- Observe closely for signs of deterioration
- Treat symptomatically

### Transport Considerations

- Contact Medical Control without delay
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

## Special Considerations

- Do not expose crews to CO
- Position patient to facilitate breathing
- Consider air transport if indicated
- Notify receiving hospital of the possible need for a hyperbaric chamber
- Carboxyhemoglobin levels of 15-40% will usually show variable signs and symptoms of mild to moderate severity. Carboxyhemoglobin levels >40% usually leave the patient significantly altered and in severe distress.
- REMEMBER- SPO2 monitors do not distinguish CO from oxygen.** For a patient with carboxyhemoglobin levels of >20%, the best possible TRUE SpO2 will be 80% (as 20% of the hemi-receptor sites are bound by CO), and yet your cardiac monitor will read 100%.

# Overdose: Sedatives / Hypnotics

## Indication

General management of suspected or confirmed overdose of any medications, drugs, or other substances known to cause sedation or respiratory depression.

## Management

### Assessment

#### Opiate / Narcotic Overdose:

- CNS & respiratory depression
- Drowsiness / Coma
- Nausea / Vomiting
- Pinpoint pupils
- Cyanosis and bradycardia

#### Barbiturate Overdose:

- CNS and respiratory depression
- Confusion, stupor, coma, ataxia, headache
- Hypotension and poor peripheral perfusion
- Cardiovascular collapse
- Hypothermia / Hyperthermia

### Intervention Sequence

- Support ABC's
- Oxygen for SPO2 <94%
- EMT IV Technicians and AEMTs may establish IV access as indicated
- Blood glucose check
- Consider Naloxone
- Document medication patient took

### EMR Pharmacology

**Adult: 2mg [Naloxone](#), IN**, repeat as needed to restore respiratory drive up to 10mg, be prepared to restrain combative patients. If there is no positive change, continue with airway management as indicated and maintain provider safety.

### EMT Pharmacology

**50g [Activated Charcoal](#)** if the airway is protected and the patient is conscious and cooperative with providers to drink the contents of the tube, consult MCC for appropriateness of administration.

**Adult: 0.4-2mg [Naloxone](#), IM or IN**, repeat as needed to restore respiratory drive up to 10mg, be prepared to restrain combative patients. If there is no positive change, continue with airway management as indicated and maintain provider safety.

## Overdose: Sedatives / Hypnotics

### Management – Continued

**SPECIAL DIRECTIVE FOR EMRs and EMTs:** Providers are allowed to administer the patient's or law enforcements Naloxone if they choose. It is not mandatory that BLS agencies purchase and carry this medication; however, if they choose to, an EMR may administer the agency's medication as well.

#### AEMT Pharmacology

**Adult:** 0.4-2mg [Naloxone](#) IV, IM, or IN; repeat as needed to restore respiratory drive up to 10mg, be prepared to restrain combative patients. If there is no positive change, continue with airway management as indicated and maintain provider safety.

**Pediatric:** 0.01mg/kg; refer to Broselow tape as necessary

# Trauma: General Approach

## Indication

Patients involved in any traumatic incident with sustained injuries.

## Management

### Assessment

- MOI - Mechanism of Injury
- Isolated or multisystem involvement
- Obvious signs and symptoms of pain and disability
- Suspected internal injuries based on presentation, mechanism, although underlying injuries may be present with no clinical signs and symptoms
- Trauma is rarely isolated to one system or body region, suspect and search for multiple injuries

**Placement of an advanced airway and controlled ventilation should be considered if any of the following parameters are met (yet not limited to):**

- Decreased LOC / GCS <8 (CNS injury / shock)
- Airway swelling, inability to manage secretions patient is aspirating
- Uncontrolled airway with trismus (lock jaw)
- Respiratory rate < 10 > 29
- Obvious signs of fatigue or impending respiratory failure
- Seizures secondary to trauma
- SPO2 <90% despite therapy

### Intervention Sequence

- Support ABC's, oxygen for SPO2 <94%
- TREAT LIFE THREATS IMMEDIATELY** (uncontrolled bleeding, etc.)
- Apply direct pressure to uncontrolled bleeding, utilize wound packing techniques, hemostatic dressings, and tourniquets as indicated
- Conduct a rapid trauma exam and expedite transport for unstable patients
- Keep patient warm and offer reassurance
- Pain control as indicated, see [Pain Management](#) protocol as indicated
- See [Shock](#) protocol as indicated
- Provide a detailed patient report to receiving facility (i.e., injuries, vital signs, etc.)
- NOTE – It is important to provide a detailed patient report as the criteria for a Trauma Team Activations are different between prehospital and hospital. Prehospital providers must utilize the [Washington State Trauma Triage Tool](#); however, hospitals may activate it at varying levels based on hospital-specific [Trauma Clinical Guidelines](#).**

### Transport Considerations

- Contact Medical Control as needed
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care
- Consider the need for transport to a trauma center
- Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#).



# Trauma: Spinal Cord Injury

## Indication

Signs and symptoms of spinal cord injury.

## Management

### Assessment

MOI - Mechanism of Injury

Decreased LOC/GCS

Suspected spinal cord involvement due to mechanism: significant injury above clavicles

Obvious signs and symptoms of neurologic disability such as paralysis, weakness, numbness, tingling in extremities (paresthesia), point tenderness over spine.

Trauma is rarely isolated to one system or body region, suspect, and search for multiple injuries.

### Intervention Sequence

Support ABC's

Oxygen for SPO2 <94%

Trauma exam with emphasis on neurological status

Consider the need for spinal precautions, see [Spinal Precaution](#) protocol

Keep patient warm and offer emotional support for patients experiencing paralysis

Repeat neurological exams to monitor changes; see [Shock](#) protocol as indicated

### Transport Considerations

Contact Medical Control as needed

Consider the need for transport to a trauma center

Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#)

# Trauma: Spinal Precautions

## Indication

Care for patients with suspected spinal column injury.

“Spinal immobilization” once described the practice of securing a patient supine on a rigid back board with the use of adjuncts such as head blocks, various straps, tape, buckles, etc. to “splint” the spinal column and protect from further injury due to manipulation of the spine. Substantial evidence exists that indicates these practices result in more harm than good. Frequently documented outcomes include patient agitation, claustrophobia, increased pain, unnecessary radiography, pressure sores and tissue ischemia, aspiration, and respiratory compromise.

**This practice is NOT APPROVED for any routine application in Walla Walla and Columbia Counties.**

**Backboard Indications:** Rigid backboards (including scoop stretcher) are only to be used as extrication and transfer tools to move patients, such as from a vehicle or area of entrapment to the stretcher. Additionally, they may be useful in mass casualty incidents and physically carrying multiple patients.

**One Exception:** Critical trauma patients may be left on a backboard during transport if CPR is anticipated after beginning transport (provides additional hard surface to maximize CPR quality).

## Management

### New Focus of Traumatic Spinal Care: “Limited Spinal Motion”

#### **Consider patients at risk for spinal injury based on the criteria below:**

Altered level of consciousness, drug or alcohol intoxication, inability to communicate, spinal column pain and/or tenderness, neurologic complaints (numbness, tingling, or motor weakness), anatomic deformity of the spine, distracting injury (injuries so severely painful that neck examination is unreliable), multisystem traumas, long bone fractures, and crush injuries, provider’s clinical judgement suggests spinal precautions are indicated.

#### **Intervention Sequence**

**If any one of the above conditions exists, perform “Limited Spinal Motion”:**

1. Measure and apply appropriately sized cervical collar
2. If patient is placed on a backboard during extrication from a vehicle, place backboard on the edge of the stretcher and coordinate a slow and controlled transfer to the soft stretcher and minimize unnecessary manipulation of the spine
3. Allow patient to assume position of comfort on soft stretcher mattress
4. Encourage limited movement to the patient and assist with padding of void spaces such as below knees or against hips with towels and blankets as needed
5. Promote patient comfort with positioning, utilize pain control medications as indicated

**Limited spinal motion may be omitted if**

1. Normal neurological exam in cooperative patient
2. Fully alert and oriented
3. Absence of communication barrier, intoxication, or emotional condition
4. Absence of neck/back pain or tenderness with exam
5. Absence of distracting injuries

# Trauma: Athletic / Sports Injury

## Indication

Care for patients with possible spinal injuries during athletic / sports events.

## Management

### Assessment

- Nature of injury
- Consider chief complaints such as neck or back pain; see [Spinal Precaution](#) protocol
- Assess neurologic status (PMS distal to injury)
- Localized injury to extremities
- Pain or tenderness to palpation
- Memory loss or signs of concussion

### Intervention Sequence

#### Lying Supine

- Remove face mask from helmet if necessary for airway control
- Keep patient still
- Assess and support ABC's
- If necessary, prepare jersey and shoulder pads for removal
- Cut jersey from centerline to arms
- Cut center laces of shoulder pads
- Perform trauma exam
- Move each extremity through a voluntary range of motion
- Splint fractures as indicated; see [Trauma: Orthopedic](#) protocol
- Determine if the patient requires cervical spine immobilization
- Move patient to long backboard for transfer to the stretcher

### Transport Considerations

- Contact Medical Control as needed
- Consider the need for transport to a trauma center
- Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#)
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

## Special Considerations

If an athlete can ambulate to the sideline under their own power, a more extensive examination by a medical professional should be performed either on the sideline or in the locker room before the athlete resumes participation. Coordinate the patient's care with sports trainers, school athletic directors, and anyone else responsible for implementing athletic protocols specific to concussions or other sports-related injuries.

# Trauma: Facial

## Indication

Patients involved in any traumatic incident with sustained injuries to the face.

## Management

### Assessment

MOI - Mechanism of Injury  
Assess for obstruction of airway and breathing  
Evaluate for changes before and after treatment  
Obvious signs and symptoms of pain and disability  
Airway and respiratory effort before and after treatment  
Fontanels in infants

### Intervention Sequence

#### Active Bleeding:

Apply direct pressure  
Use pressure points if needed  
Dress wounds

#### Broken or Missing Teeth:

Remove any dislodged teeth from the mouth  
If you find any intact missing teeth:  
1. Pick them up by the crown (protect the root)  
2. Place it in normal saline or milk for transport to the hospital  
3. If transport time > 20 minutes from receiving hospital, contact Medical Control

#### Impaled Cheek:

Remove impaled object if it is obstructing adequate breathing

#### Fractured Mandible:

Apply Kerlex bandage to secure mandible  
Do not compromise the airway

#### Fractured Maxilla:

Maintain airway  
Apply cold pack

### Transport Considerations

Contact Medical Control as needed  
Consider the need for transport to a trauma center  
Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#)  
Cervical spine immobilization as needed  
Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

# Trauma: Head Injury

## Indication

Trauma to the head with associated signs and symptoms.

## Management

### Assessment

- MOI - Mechanism of Injury
- Decreased LOC / GCS
- Agitation or combative behavior
- Loss of short-term memory
- Obvious signs of trauma, bleeding, deformity
- Note any fluid from the ears or nose
- Observe for Cushing's Triad indicating increased ICP/intracranial hemorrhage:
  1. Bradycardia
  2. Hypertension
  3. Irregular respiratory pattern

### Intervention Sequence

- Active scalp bleed - apply direct pressure
- Support ABC's
- Oxygen for SPO2 <94%
- SBP <90 mm Hg, see [Shock](#) protocol
- SBP > than 90 mmHg, supportive care
- Keep patient warm
- Consider cervical spine immobilization
- Preventing secondary brain injury from hypoxia and hypotension is the goal with head injuries
- NPA is contraindicated
- Transport without delay

### Transport Considerations

- Contact Medical Control without delay
- Consider the need for transport to a trauma center
- Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#)
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

# Trauma: Eye Injury

## Indication

Patients involved in any traumatic incident with sustained injuries to eye.

## Management

### Assessment

MOI - Mechanism of Injury

Assess for obstruction of airway and breathing

If the management of an eye injury is complicated by the presence of contact lenses (i.e., chemical burns), contact lenses may need to be removed

### Intervention Considerations

#### Impaled Object:

Do not remove an impaled object from the eye

Dress the affected eye(s) and secure the object in place as best as possible

Patch the unaffected eye

Offer reassurance and orientation as needed

Encourage the patient to limit eye movements

#### Corneal Abrasion:

Gently irrigate with normal saline

Patch both eyes

#### Non-Penetrating Foreign Body:

Inspect the inner surface of upper and lower lids and conjunctive

Irrigate gently with copious amounts of normal saline

#### Chemical Burn:

Flush affected eye(s) with normal saline or water until the patient is asymptomatic, being careful not to expose the unaffected eye.

#### Blunt Force Trauma:

Elevate the head of the stretcher to 40 degrees

Look for a blowout fracture of orbit and hyphemia

### Transport Considerations

Contact Medical Control as needed

Consider the need for transport to a trauma center

Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#)

Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

# Trauma: Chest

## Indication

Patients involved in any traumatic incident with sustained injuries to the chest.

## Management

### Assessment

- MOI - Mechanism of Injury
- Consider cervical spine precautions
- Assess lung sounds

#### Sucking Chest Wound:

- Apply occlusive chest seal
- Monitor closely for tension pneumothorax

#### Penetrating Injury:

- Check for entrance and exit wounds
- Injury instrument
- Size, shape, caliber
- Distance from muzzle

#### Motor Vehicle Accident:

- Details of vehicle and scene
- Condition of steering wheel and windshield
- Rollover or ejection
- Fatality in the same vehicle
- Airbag or seatbelt use

#### Flail Chest Injury:

- Splint / stabilize injury as best as possible
- Assist ventilations with positive pressure as needed
- Consider pain control to help with breathing quality

### Intervention Sequence

#### ASSESS BREATHING AND LUNG SOUNDS WITHOUT DELAY

- SBP <90 mm Hg, see [Shock](#) protocol
- Transport without delay

### Transport Considerations

- Contact Medical Control without delay
- Consider the need for transport to a trauma center
- Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#)
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

# Trauma: Abdominal

## Indication

Patients involved in any traumatic incident with sustained injuries to the abdomen.

## Management

### Assessment

- MOI - Mechanism of Injury
- Consider internal bleeding
- Blunt force or penetrating
- Consider associated quadrants of injury and underlying anatomy
- Auscultate 4 quadrants
- Inspect and palpate quadrants for distention and tenderness
- Observe for guarding, pain
- Ecchymosis and seatbelt contusions

#### Penetrating Injury:

- Check for entrance and exit wounds
- Injury instrument
- Size, shape, caliber
- Distance from muzzle

#### Motor Vehicle Accident:

- Details of vehicle and scene
- Condition of steering wheel and windshield
- Rollover or ejection
- Fatality in the same vehicle
- Airbag or seatbelt use

#### Evisceration:

- Cover the exposed tissue with a sterile dressing soaked in saline
- Do not reduce or attempt to reinsert abdominal contents

### Intervention Sequence

- SBP <90; see [Shock](#) protocol
- Transport without delay

### Transport Considerations

- Contact Medical Control without delay
- Consider the need for transport to a trauma center
- Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#)
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care



# Trauma: Orthopedic

## Indication

Patients involved in any traumatic incident with sustained fractures, sprains, strains, and dislocations.

## Management

### Assessment

- MOI - Mechanism of Injury
- Obvious signs and symptoms of pain and disability
- Deformity, angulated extremities
- Evaluate for crepitus and muscle spasms
- Assess for distal pulses and sensation

### Intervention Sequence

- Cervical spine immobilization as indicated
- SBP <90 mm Hg, see [Shock](#) protocol
- Stabilize/splint injury; immobilize the joint above and below the injury
- Apply cold pack as indicated for swelling and pain control

### Transport Considerations

- Contact Medical Control as needed
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care
- Consider the need for transport to a trauma
- Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#)

## Loss of Circulation: Realignment of Fracture

Fractures may result in loss of distal circulation; this is a critical finding, and depending on transport time, it may be necessary to consider alignment with gentle traction. Contact Medical Control if needed for assistance.

# Trauma: Pelvis

## Indication

Patients involved in any traumatic incident with suspected pelvic fracture.

## Management

### Assessment

MOI - Mechanism of Injury  
Blunt force trauma at the waist or lower back  
Obvious signs and symptoms of pain and disability  
Signs and symptoms of hypovolemic shock  
Painful palpation  
Difficulty or inability to move legs  
The feeling of lost rigidity and instability with palpation of hip joints

### Intervention Sequence

SBP <90 mm Hg, see [Shock](#) protocol  
Transport without delay

**Pelvic Stabilization, consider one of the following applications:**

1. **Commercial Pelvic Binder (preferred stabilization method)** individual agencies are approved to carry and deploy any of the following devices:
  - A. **T-Pod System (Trauma Pelvic Orthotic Device)**
  - B. **SAM Pelvic Sling**
  - C. **Any other MPD approved device**
2. **Pelvic Sheet Wrap (if commercial device not available)**  
Wrap sheet around pelvis and secure ends to maintain compression and stabilization during transport.

### Transport Considerations

Contact Medical Control without delay  
Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care  
Consider the need for transport to a trauma  
Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#)

## Documentation Considerations

Time pelvic binder applied  
Blood pressure changes before and after treatment

# Trauma: Amputation

## Indication

Any loss of limb including fingers, hands, feet, legs, or arms.

## Management

### Assessment

- Uncontrolled bleeding
- Pressure bandage or tourniquet
- Blood exposure; protect yourself and your crew

### Intervention Sequence

#### **TREAT LIFE-THREATENING HEMHORRAGE IMMEDIATELY**

- Apply bulky trauma dressings and tourniquet as necessary
- SBP <90 mm Hg, see [Shock](#) protocol

**Stump:** cover with a moist sterile dressing, then cover with dry dressing and pressure wrap

**Severed Portion:** wrap in sterile dressing moistened with NS or sterile water and seal in plastic bag on ice; assure there is no direct contact with ice

### Transport Considerations

- Contact Medical Control without delay
- These are time-sensitive injuries, limit scene time as much as possible, expedite transport
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care
- Consider the need for transport to a trauma center
- Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#)
- Active trauma system for any amputation above wrist or ankle
- Keep patient warm

## Documentation Considerations

- Note time of amputation and mechanism involved
- Bleeding disorders or anticoagulant therapy
- Location of amputation
- Estimate total blood loss

# Trauma: Burns

## Indication

General management for burn patients.

## Management

### Assessment

**Thermal:** Remove from the environment, evaluate for singed nostrils and soot around the mouth

**Chemical:** Brush off and or dilute chemical without exposing the rescuer

**Electrical:** Make sure the victim is de-energized

### Intervention Sequence

#### STOP THE BURNING PROCESS

Support ABC's

Evaluate the degree of burn and percentage of body surface area (TBSA) involved using the rule of 9's

Dress burns with dry sterile dressings and prevent unnecessary cooling and keep warm

**Critical Burns:** Any degree of burn with 20% TBSA or greater, or including hands, feet, genitalia, or circumferential burns, are considered critical, activate the trauma system

High risk for hypothermia: apply sterile burn sheets placed below and on top of the patient, followed by warm blankets, minimize contact of broken skin with sources of infection

3<sup>rd</sup> degree burns greater than 10% of body surface area

Respiratory injury (burns to the mouth or throat)

**Electrical Burns:** Monitor for arrhythmias, anticipate seizure activity, suspect internal injuries

### Transport Considerations

Contact Medical Control without delay

Position of comfort

Consider air medical transport for remote incidents and/or expedited transport to the burn center

Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

Consider the need for transport to trauma.

Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#)

# Near Drowning

## Indication

General management for victims of near drowning.

## Management

### Assessment

- Duration of submersion
- Temperature of water
- Complaints of breathing difficulty
- Traumatic injuries sustained
- Any reported LOC
- Height of fall or dive

### Intervention Sequence

- Remove victim from water without endangering self or others. This may need to be performed by a trained rescuer with the appropriate equipment, coordinated with Sherriff's Office, Dive Rescue, Coast Guard, or any other agency involved in the rescue as necessary.
- Cervical spine immobilization as indicated
- Support ABC's
- Oxygen for SPO2 <94%
- SBP <90 mm Hg, see [Shock](#) protocol
- Remove wet clothing
- Prevent further heat loss; use heat packs as needed
- Keep warm and follow [Hypothermia](#) protocol as indicated
- Support respiratory effort
- Observe for pulmonary edema

### Transport Considerations

- Contact Medical Control as needed
- Recovery position
- All near-drowning victims should be examined by a physician
- Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

# Sexual Assault

## Indication

Any incident in which sexual assault is confirmed or suspected by patient or reporting party.

## Management

### Assessment

- Scene and evidence protection
- Nature of assault and associated complaints or injuries

### Intervention Sequence

- Offer reassurance and emotional support
- Involve law enforcement on all incidents in which assault is suspected; if law enforcement is not automatically dispatched, ensure they are notified as final jurisdiction will rest on law enforcement where the assault took place
- Do not allow the patient to bathe, change clothes, or use the restroom
- Do not cut or remove the patient clothes
- If the patient is adamant about urinating, supply the patient with a specimen collection basin (disposable urinal), and encourage the patient not to wipe
- Transport to the nearest appropriate facility

### Transport Considerations

- Position of comfort
- Protect patient modesty
- Contact Medical Control as needed

## Documentation Considerations

- Detailed description of patient complaints, history, and scene.
- All actions taken including preservation of evidence and coordination with law enforcement.
- Destination and thorough report to receiving facility.

# Taser Dart Removal

## Indication

Patients that have been tased by law enforcement.

Unlike other forms of penetrating foreign bodies, taser barbed darts are approximately ¼" and safe to be removed by EMS personnel when requested by law enforcement.

## Contraindications

Do not remove barbs in the field if they involve the eye, face, neck, breast, or groin. Patients with darts in these areas should be transported to the hospital to have them removed by a physician.

## Management

### Assessment

The patient must be in law enforcement custody, and EMS personnel should ensure the patient is adequately restrained

Assess the patient to determine if there are any other medical problems or injuries present

Obtain vital signs

### Intervention Sequence

Explain the process to the patient

Ensure the wires are disconnected from the gun, or the wires have been cut

Push on the body part in which the barbed dart (straight #8 fishhook) is imbedded and simultaneously pull the dart straight out

Clean and dress the puncture area as needed

Dispose of darts appropriately

## Special Considerations

If the patient does not have any other presenting injuries or illness, the patient may be left in the custody/care of law enforcement.

If the patient needs to be transported to the hospital, follow the [Physical Restraint](#) protocol.

## Documentation Considerations

Detailed description of patient complaints, injuries, and vital signs.

All actions taken including preservation of evidence and coordination with law enforcement.

# Abandoned Newborn

## Indication

For newborn babies abandoned or brought to the fire station.

Additional information and forms can be found on the Washinton State Department of Children, Youth & Families [website](#).

## Contraindications

### If the baby is older than 72 hours:

- Explain to parent/person the need to contact CPS (Child Protective Services)

- Attempt to obtain a complete medical history.

- Ask parent to complete [Child's Medical and Family Background Report](#) and [Family Ancestry Chart](#)

- Provide Safety of Newborn Children – Letter to Birth Parent

- Advise the parent/person that the fire department will transport the newborn to appropriate hospital and CPS will be notified.

## Management

### Intervention Sequence

- Attempt to obtain a complete medical history.

- Ask parent to complete [Child's Medical and Family Background Report](#) and [Family Ancestry Chart](#)

- Provide Safety of Newborn Children – Letter to Birth Parent

- Advise the parent/person that the fire department will transport the newborn to appropriate hospital and CPS will be notified.

## Special Considerations

If this is a medical emergency, immediately treat the baby and transport it to the appropriate facility and treat it per patient care protocols.

## Documentation Considerations

- Parent unwilling to provide information

- Date and time of birth, if available

- APGAR

- Any prenatal care

- Complications during pregnancy and birth

- Parental medical history

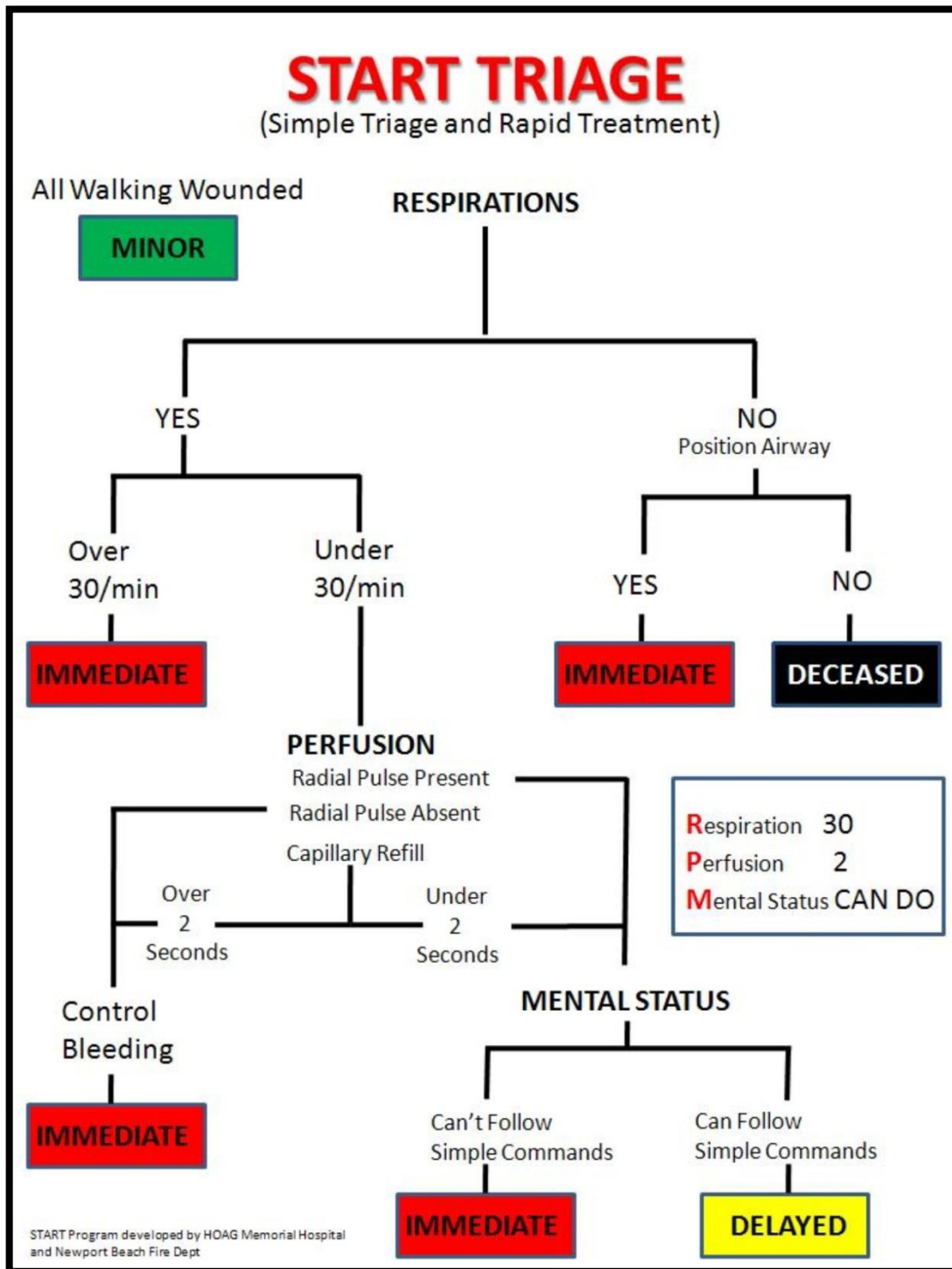
- Ethnic background



# Start Triage Algorithm

## Indication

Mass casualty incidents (MCI) or any large-scale incident where the number of patients outnumbers available resources.



# Tourniquet Application

## Indication

To control bleeding when life-threatening limb hemorrhage is not controlled with direct pressure or other simple measures. Traumatic amputation has occurred.

## Management

### Assessment

Signs and symptoms for the use of a tourniquet may include:

- Spurting/ steady flow or oozing blood
- Bright red or dark red blood with uncontrolled bleeding
- Separated or displacement of a body part or tissue
- Shock

### Intervention Sequence

1. Expose the extremity by removing clothing in proximity to the injury
2. Place the tourniquet directly over the exposed skin at least 2" proximal to the injury  
Note: Tourniquets should only be applied over long bones (humerus or femur); lower leg or wrist application will not compress vasculature effectively
3. Twist tourniquet windlass rod until bleeding stops
4. Secure tourniquet in place
5. Record time and date of application on the patient where it can easily be seen

### Transport Considerations

Contact Medical Control without delay

Position of comfort

Consider rendezvous with ALS if it would significantly decrease the time for the patient to obtain a higher level of care

Consider the need for transport to a trauma

Refer to [Washington State Trauma Triage Destination Procedure](#), [South Central Region Patient Care Procedure #5.1](#), [Columbia County Operating Procedure #7](#), or [Walla Walla County Operating Procedure #5.1](#)

## Special Considerations

The tourniquet is effectively applied when there is the cessation of bleeding from the injured extremity, indicating total occlusion of the vasculature. Any preexisting distal pulse should be absent after tourniquet application as well.

# Nasal Atomizer

## Indication

If no IV access is available, certain medications may be considered for administration intra-nasally through a mucosal atomization device (MAD).

## Management

### Intervention Sequence

1. Aspirate the proper volume of medication into the syringe plus 0.1 ml of medication should be drawn up to account for the dead space within the atomizer.
2. Twist off/remove the syringe from the needleless device.
3. Attach the atomizer tip via the Luer lock mechanism, twist it into place.
4. Using your free hand to hold the crown of the head stable, place the tip of the atomizer snugly against the nostril aiming slightly up and outward (toward the top of the ear on the same side)
5. Briskly compress the syringe plunger to deliver half the medication into the nostril.
6. Ideally, ½ml per nostril should be given, but up to 1 ml per nostril can be given. There will be some runoff. If you need more than 2 ml total, consider titration with the second dose given in 5 minutes or switch to IO administration. Additionally, it would be ideal to give half the dose of the medication per nostril.

### Approved Pharmacology for Intra-Nasal:

#### [Naloxone](#)

Opiate overdose

Altered mental status with respiratory depression

## EZ-IO

### Indication

AEMTs or EMT IV Technicians: vascular access is needed, and peripheral access has failed. IO access is indicated if the patient exhibits one or more of the following:

1. Altered mental status (GCS of 8 or less)
2. Respiratory compromise
3. Hemodynamic instability

### Contraindications

1. Fracture of the tibia or femur
2. Previous orthopedic procedures (IO within 24 hours, knee replacement)
3. Pre-existing medical condition (tumor near-site or peripheral vascular disease).
4. Infection at the insertion site
5. Inability to locate landmarks and find tibial plateau with needle

### IO Size Chart

IO Needle Color	Patient Size	Patient Weight (Kg)
Pink	Children	3-39
Blue	Adult	40+
Yellow	Bariatric	Excessive tissue

### Management

**SPECIAL DIRECTIVE:** The primary insertion site to be utilized is the proximal tibia; however, if providers are unable to utilize the primary insertion site and have received MPD-approved training, they may utilize the proximal humerus as an alternate insertion site.

### Intervention Sequence

1. Locate insertion site and cleanse using aseptic techniques (anterior tibia 1-3 cm below the tibial tuberosity).
2. Prepare EZ-IO driver and needle set
3. Stabilize the leg, position the driver at the insertion site with the needle at a 90-degree angle to the surface of the bone
4. Power the needle set through the skin until you feel the needle tip encounter the bone, then continue to apply firm, steady pressure through the cortex. Stop when the needle flange touches the skin or a sudden decrease in resistance is felt.
5. Remove the driver from the needle set.
6. Confirm placement
7. Connect primed EZ-connect
8. Flush or bolus the EZ-IO catheter rapidly with 10 ml of NS
9. Administer the infusion or medications
10. Dress the site and secure the tubing, apply the EZ-IO wrist indicator
11. If unsuccessful or subcutaneous swelling occurs: stop IV, remove needle and cover the wound.
12. Make a second attempt in the other leg.
13. Humeral head as an alternative site for access may be used if the provider has received appropriate training and all other attempts have failed.

## Appendix A - Pharmacology

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## Appendix A – Pharmacology

### Acetylsalicylic Acid (Aspirin/ASA)

#### Classification / Actions

1. Platelet aggregator inhibitor / anti-inflammatory agent
2. Proven highly effective in reducing mortality following myocardial infarction

#### Indications

New chest pain

#### Contraindication

1. GI bleeds
2. Hemorrhagic CVA
3. Active ulcer disease
4. Asthma

#### Side Effects

1. Heartburn
2. GI bleeding
3. Nausea
4. Vomiting
5. Wheezing
6. Prolonged bleeding

#### Administration

##### Precautions

Can cause gastrointestinal upset and bleeding

##### Dosage Form

Baby Aspirin – chewable 81 mg tablets

##### Routes of Administration

EMR – PO

EMT – PO

AEMT – PO

##### Application

Used as one part of the [Cardiovascular Emergencies](#) protocol

#### Dosages

##### Adult

324 mg PO (4 tablets)

## Appendix A – Pharmacology

### Activated Charcoal (Actidose)

#### Classification / Actions

1. Adsorbent / Suspension
2. Activated Charcoal binds to the products in the gastrointestinal tract

#### Indications

1. Poisoning or overdose
2. Used when inducing vomiting is contraindicated

#### Contraindication

Should not be administered before or together with Ipecac

#### Side Effects

1. Constipation
2. Nausea
3. Vomiting
4. Abdominal cramping
5. Abdominal bloating
6. Diarrhea from Sorbitol

#### Administration

##### Precautions

Do not administer to unconscious patients

##### Dosage Form

1. 50 grams Activated Charcoal with sorbitol
2. Need to mix product within the bottle (charcoal will be at the bottom)

##### Routes of Administration

EMT – PO  
AEMT – PO

#### Dosages

##### Adult

50 gram tube (ideally 1g/kg)

##### Pediatric

25 – 50 grams

## **Appendix A – Pharmacology**

### **Albuterol Sulfate (Ventolin)**

#### **Classification / Actions**

1. Sympathetic agonist
2. Bronchodilator
3. Sympathomimetic (Beta 2 selective)

#### **Indications**

1. Bronchial asthma
2. Reversible bronchospasm associated with chronic bronchitis and emphysema
3. COPD with exacerbation
4. Respiratory distress with wheezing
5. Anaphylaxis (for wheezes)

#### **Contraindication**

1. Known hypersensitivity of albuterol
2. Tachycardia (relative)

#### **Side Effects**

1. Tachycardia
2. Anxiety
3. Dizziness
4. Headache
5. Nervousness
6. Chest pain
7. Nausea
8. Vomiting
9. Tremors
10. Hypertension
11. Arrhythmias

#### **Administration**

##### **Dosage Form**

Dose vials containing 2.5 mg in 3 ml capsule

##### **Storage**

1. Room temperature
2. Protect from sunlight

##### **Routes of Administration**

AEMT – Metered Dose Inhaler or Nebulizer

#### **Dosages**

##### **Adult**

2.5 mg Albuterol via oral nebulizer. May repeat as needed

##### **Pediatric**

2.5 mg



## Appendix A – Pharmacology

### Dextrose 10% (D-10)

#### Classification / Actions

1. Carbohydrate
2. 10% dextrose in water, it supplies supplemental glucose to the brain in cases of hypoglycemia
3. Elevates blood glucose levels rapidly

#### Indications

1. Hypoglycemia
2. Blood sugar of less than 60

#### Contraindication

1. Known hypersensitivity
2. Intracerebral bleeding
3. Hemorrhagic CVA/Stroke

#### Side Effects

Can cause tissue necrosis and phlebitis at the injection site

#### Administration

##### Precautions

1. Watch for signs of infiltration
2. Check blood sugar prior to and after administration
3. Have the patient eat something after they have resumed their normal LOC if they are not being transported to the hospital (relatively short-acting)

##### Dosage Form

1. 10% in 250ml NS

##### Routes of Administration

EMT with IV Endorsement – IV  
AEMT – IV / IO

#### Dosages

##### Adult

D10 (10% in 250 mls NS) up to 25 grams

##### Pediatric

5ml/kg of D10 up to 250ml

## Appendix A – Pharmacology

### Dextrose 50% (D-50)

#### Classification / Actions

1. Carbohydrate
2. 50% dextrose in water, it supplies supplemental glucose to the brain in cases of hypoglycemia
3. Elevates blood glucose levels rapidly

#### Indications

1. Hypoglycemia
2. Blood sugar of less than 60

#### Contraindication

1. Known hypersensitivity
2. Intracerebral bleeding
3. Hemorrhagic CVA/Stroke

#### Side Effects

Can cause tissue necrosis and phlebitis at the injection site

#### Administration

##### Precautions

1. Watch for signs of infiltration
2. Check blood sugar prior to and after administration
3. Have the patient eat something after they have resumed their normal LOC if they are not being transported to the hospital (relatively short-acting)

##### Dosage Form

1. 25 grams in 50 ml preloads
2. 2.5 grams in 10 ml preloads (D25 for infants)

##### Routes of Administration

AEMT – IV / IO

#### Dosages

##### Adult

25 grams in D50, IV/IO

##### Pediatric

4mg/kg of D25, IV/IO

##### Infants

4ml/kg D12 ½

## Appendix A – Pharmacology

### Diphenhydramine Hydrochloride (Benadryl)

#### Classification / Actions

Antihistamine

Histamine is released into the body after exposure to an antigen in which the body has already been exposed to. Histamine acts on two different receptors – H1 and H2

H1 – when stimulated causes broncho-constriction and constriction of the gut

H2 – when stimulated, causes peripheral vasodilation and secretion of gastric acids

A potent antihistamine that blocks H1 and H2 receptors and has strong antiemetic effects

#### Indications

Anaphylaxis

Extra pyramidal symptoms

Intractable nausea and vomiting

#### Contraindication

It should not be used in the management of lower respiratory diseases such as asthma

#### Side Effects

Hypotension

Headache

Palpitations

Tachycardia

Drowsiness

Confusion

Disrupted coordination

#### Administration

##### Precautions

Sedation effects can be enhanced by alcohol, depressants, narcotics, and other antihistamines

##### Dosage Form

25mg tablet/capsule or oral solution

##### Routes of Administration

EMT – PO

AEMT – IM / IV / IO / PO

##### Application

It may be used as one part of the [Allergic Reaction / Anaphylaxis](#) protocol

#### Dosages

##### Adult

Anaphylaxis / EPS

25 mg

## **Appendix A – Pharmacology**

### **Epinephrine 1:1,000 (Adrenalin)**

#### **Classification / Actions**

1. Sympathetic agonist
2. Naturally occurring catecholamine
3. Potent alpha and beta-adrenergic stimulant that affects beta receptors more profoundly
4. Effects include increased heart rate, cardiac contractile force, systemic vascular resistance, electrical activity within the myocardium, and an increase in blood pressure and automaticity
5. Causes bronchodilation due to effects on the beta 2 receptors
6. The onset of action within 90 seconds and is of short duration

#### **Indications**

Anaphylaxis

#### **Contraindication**

1. Epiglottitis
2. Tachycardia
3. Known coronary artery disease
4. Hypertension
5. Pregnancy (except when the patient is having anaphylaxis)

#### **Side Effects**

1. Tachycardia
2. Hypertension
3. V-Fib
4. V-Tach
5. Angina
6. Headache
7. Anxiety
8. Tremors
9. Nausea

#### **Administration**

##### **Precautions**

1. If the patient has their own physician prescribed EpiPen available and Medical Control gives permission, EMRs may assist with administration.
2. It should be protected from light
3. 1:1,000 is primarily administered IM to ensure a steady and prolonged action
4. Blood pressure, pulse, and ECG should be constantly monitored

## **Appendix A – Pharmacology**

### **Epinephrine 1:1,000 (Adrenalin) - Continued**

#### **Dosage Form**

1 mg in 1 ml vial

#### **Routes of Administration**

EMR – EpiPen

EMT – IM

AEMT – IM

#### **Dosages**

##### **Adult**

0.3 mg IM

##### **Pediatric**

0.15 mg IM

## Appendix A – Pharmacology

### Glucose Gel (Oral Solution)

#### Classification / Actions

1. Carbohydrate
2. 40% Dextrose
3. Elevates blood glucose levels
4. Type of sugar that the body readily absorbs

#### Indications

1. Hypoglycemia patients (conscious)
2. A blood sugar of less than 60

#### Contraindication

1. Known hypersensitivity
2. Intracerebral bleeding
3. Hemorrhagic CVA
4. Unconsciousness

#### Side Effects

1. Increase in salivation
2. Increase in blood sugar

#### Administration

##### Precautions

1. Must have a gag reflex and be conscious
2. Check blood sugar prior to and after administration
3. Have the patient eat something after they have resumed their normal LOC if they are not being transported to the hospital (relatively short-acting)

##### Dosage Form

A tube that contains 15 grams of glucose

##### Routes of Administration

EMR – Oral Only  
EMT – Oral Only  
AEMT – Oral Only

#### Dosages

##### Adult

One complete tube orally, preferably inside the cheeks. May administer a second tube after 15 minutes.

##### Pediatric

Same as an adult except not recommended in children under two years of age.

## Appendix A – Pharmacology

### Glucagon (Gluca-Gen)

#### Classification / Actions

1. Hormone
2. Glucagon is a protein secreted by the alpha cells of the pancreas
3. Causes a breakdown of the stored glycogen to glucose in the body
4. It is only effective if there is glycogen stored in the body
5. The onset of action is 5 to 20 minutes, and blood sugar is less than 60

#### Indications

1. Hypoglycemia
2. Used when an IV cannot be established
3. Beta-blocker overdoses

#### Contraindication

Known hypersensitivity

#### Side Effects

None

#### Administration

##### Precautions

1. Check blood sugar prior to and after administration
2. Have the patient eat something after they have resumed their normal LOC if they are not being transported to the hospital (relatively short-acting)

##### Dosage Form

Medication needs to be mixed (reconstituted)

- a. Draw up and inject sterile saline into the vial with the powder
- b. Shake until mixed completely, then draw back up into the syringe

##### Routes of Administration

EMT – IM  
AEMT – IM

#### Dosages

##### Adult

1 mg IM

##### Pediatric

0.1 mg/kg up to 1 mg

## Appendix A – Pharmacology

### Metered Dose Inhaler (MDI)

#### Classification / Actions

1. Carbohydrate
2. 40% Dextrose
3. Elevates blood glucose levels
4. Type of sugar that the body readily absorbs

#### Indications

1. The patient exhibits signs and symptoms of breathing difficulty
2. The patient has a physician prescribed MDI

#### Contraindication

1. Decreased level of consciousness
2. The MDI is not prescribed for the patient
3. The patient has taken the maximum allowed dose prior to your arrival
4. Do not assist the patient with his/her MDI if the medication is Serevent (Salmeterol)

#### Side Effects

1. Tachycardia
2. Nervousness
3. Headache
4. Dizziness
5. Cough

#### Administration

##### Precautions

1. **Prior authorization from Medical Control REQUIRED**
2. Ensure the six (6) rights of medication administration are met
  - a. Right Patient – Does the name on the prescription match your patient's?
  - b. Right Medication – Check the prescription label, is the medication expired?
  - c. Right Dose – What is the dosage on the prescription label? Verify the strength and dose.
  - d. Right Time – Per the prescription label, how often can the medication be taken? Has the patient already taken any?
  - e. Right Route – How does the prescription label say to take the medication
  - f. Right Documentation – Ensure you document the above, as well as the patient's reaction to the medication (improved, stayed the same, declined).

##### Routes of Administration

EMR – Aerosolized Medication  
EMT – Aerosolized Medication  
AEMT – Aerosolized Medication

#### Dosages

Per prescription label



## **Appendix A – Pharmacology**

### **Naloxone (Narcan)**

#### **Classification / Actions**

Used to reverse the effects of narcotics (opiate-based)

#### **Indications**

1. Coma of unknown origin
2. Altered level of consciousness
3. Pinpoint pupils
4. Reversal of respiratory depression caused by the following narcotics:
  - a. Morphine
  - b. Demerol
  - c. Heroin
  - d. Paregoric
  - e. Dilaudid
  - f. Codeine
  - g. Percodan
  - h. Fentanyl
  - i. Methadone
  - j. Nubain
  - k. Darvon
  - l. Talwin
  - m. Stadol

#### **Contraindication**

Known hypersensitivity to the drug

#### **Side Effects**

1. Hypotension
2. Nausea
3. Vomiting
4. Hypertension
5. Ventricular arrhythmia
6. Withdrawal symptoms in the addicted patient (seizures, violent behavior)

#### **Administration**

##### **Precautions**

1. Very short half-life
2. The patient may become violent after administration
3. Consider restraints prior to administration
4. It should be titrated to the patient's respiratory status, not level of consciousness
5. Ventilate as needed with 100% O<sub>2</sub>

## **Appendix A – Pharmacology**

### **Naloxone (Narcan) - Continued**

#### **Administration**

##### **Dosage Form**

1. 0.4 mg in 1 ml vials or ampules
2. 2mg pre-load syringes

##### **Routes of Administration**

EMR – IN / Autoinjector  
EMT – IM / IN  
AEMT – IM / IN / IV / IO

#### **Dosages**

##### **Adult**

0.4 mg to 2 mg  
May repeat as needed up to 10 mg

##### **Pediatric**

0.01mg/kg  
May repeat as need up to 2 mg

## Appendix A – Pharmacology

### Nitroglycerin (Nitrostat)

#### Classification / Actions

1. Nitrate
2. A potent smooth muscle relaxant that reduces cardiac work and dilates coronary arteries
3. Causes vasodilation which reduces preload and afterload

#### Indications

Chest pain of suspected cardiac origin

#### Contraindication

1. Hypotension
2. Head trauma
3. Patients with an increase in intracranial pressure (ICP)
4. Recent administration of Viagra or other erectile dysfunction medication
5. Patients in shock
6. Aortic Stenosis

#### Side Effects

1. Headache
2. Fainting
3. Nausea
4. Vomiting
5. Dizziness
6. Hypotension
7. Weakness
8. Dry mouth
9. Tachycardia

#### Administration

##### Precautions

1. EMTs may only assist with administration of a patient's own physician prescribed Nitroglycerin. Contact Medical Control **PRIOR** to administering the patient's Nitroglycerin.
2. If available, perform a 12 lead prior to administration
3. AEMTs have IV in place prior to administration
4. Closely monitor blood pressure
5. Do not administer to a patient with systolic blood pressure less than 90
6. Light sensitive. Check dates; Nitro deteriorates rapidly

## **Appendix A – Pharmacology**

### **Nitroglycerin (Nitrostat) - Continued**

#### **Administration**

##### **Dosage Form**

1. 0.4 mg sublingual spray
2. 0.4 mg sublingual tablets

##### **Routes of Administration**

EMT – Sublingual (Patient Prescribed)  
AEMT – Sublingual

#### **Dosages**

##### **Adult**

0.4 mg sublingually, up to 3 doses, 2 to 5 minutes apart, if blood pressure remains above 90 systolic.

## **Appendix A – Pharmacology**

### **Nitrous Oxide (N<sub>2</sub>O / Nitronox)**

#### **Classification / Actions**

1. Analgesic / Anesthetic gas
2. CNS depressant with analgesic properties
3. Blended 50/50 mix of nitrous and oxygen that has a potent analgesic effect

#### **Indications**

1. States of anxiety; including hyperventilation
2. Burns
3. Musculoskeletal pain secondary to fractures, sprains, dislocations
4. Often ideal for pediatrics requiring pain control and won't tolerate invasive procedures

#### **Contraindication**

1. Head trauma
2. Abdominal pain
3. Patients that cannot comprehend verbal instructions
4. Patients severely intoxicated or under the influence of other drugs
5. COPD patients
6. Patients with thoracic injuries suspected of having a possible pneumothorax

#### **Side Effects**

1. Headache
2. Confusion
3. Nausea /Vomiting
4. Dizziness
5. Hallucinations
6. Altered mental status

#### **Administration**

##### **Precautions**

Administer in well-ventilated areas

##### **Dosage Form**

Stored in 2 tank system that mixes the gases (Nitrous / O<sub>2</sub>)

##### **Routes of Administration**

EMT – Patient self-administers through a mouthpiece on-demand regulator

AEMT – Patient self-administers through a mouthpiece on-demand regulator

#### **Dosages**

##### **Adult / Pediatric**

Self-administered

## Appendix A – Pharmacology

### Ondansetron (Zofran)

#### Classification / Actions

Anti-emetic, anti-nausea

Blocks serotonin type 3 receptors in the CNS to prevent activating the vomiting center

Onset unknown, peak 6 – 20 minutes

#### Indications

Nausea

Vomiting

Gastroesophageal reflux (dry heaves)

Prophylaxis for side effects of pain medications (Fentanyl)

#### Contraindication

Sensitivity to the drug

Use cautiously in those with hepatic impairment

#### Side Effects

Headache

Sedation

Malaise

Fatigue

Dizziness

Fever

Anxiety

Agitation

Diarrhea

Constipation

Chest pain

Hypotension

Bronchospasm

Dysuria

Rash

Pruritus

#### Administration

##### Precautions

Given slowly over 2 minutes if given IV

For ODT route, this medication is dissolved on the top of the tongue

##### Dosage Form

4mg or 8mg oral disintegrating tablet or 2ml single dose vial

##### Routes of Administration

EMT – PO

AEMT – IM / IV / IO / PO

## Appendix A – Pharmacology

### Ondansetron (Zofran) – Continued

#### Application

It may be used as part of the [Nausea / Vomiting](#) protocol

#### Dosages

##### Adult/Pediatric

4mg, up to a max of 8mg

Children <12 years old or <40kg, consult with Medical Control.

## Appendix A – Pharmacology

### Oxygen (O<sub>2</sub>)

#### Classification / Actions

1. Gas
2. Oxygen is an odorless, tasteless, colorless gas necessary for life
3. It enters the body through the respiratory system and is carried to the cells of the body through hemoglobin in the red blood cells
4. Oxygen is required for the breakdown of glucose into a usable energy form
5. The onset of action is immediate
6. Reduces the size of infarcted tissue during an AMI
7. Increases oxygen saturation in the bloodstream

#### Indications

1. Hypoxia
2. Chest pain
3. Any respiratory difficulty
4. During active labor
5. Major trauma and medical events

#### Contraindication

Use with caution for COPD patients

#### Side Effects

None

#### Administration

##### Precautions

1. Do not use near open flames or other heat sources
2. Use caution when administering to a COPD patient as their respiratory drive has been compromised

##### Dosage Form

1. Stored in pressurized tanks
2. The tank will have a regulator with a flowmeter

##### Routes of Administration

EMR – Nasal cannula, non-rebreather, or bag valve mask  
EMT – Nasal cannula, non-rebreather, bag valve mask, or CPAP  
AEMT – Nasal cannula, non-rebreather, bag valve mask, or CPAP



## Appendix A – Pharmacology

### Oxygen (O2) - Continued

#### Dosages

##### Adult/Pediatric

1. Low flow O2
  - a. Patients with oxygen saturations greater than 94% or COPD patients
2. High flow O2
  - a. Trauma with suspected blood loss
  - b. Oxygen saturations below 95%
  - c. Smoke, carbon monoxide, or toxic gas inhalation
  - d. Respiratory distress
  - e. Unresponsive patients
  - f. OB patients with known or suspected complications

Delivery Method	Liters Per Minute	Percentage of Oxygen Delivery
Nasal Cannula	1 to 6 liters/minute	24 – 44 %
Non-Rebreather	6 to 15 liters/minute	60 – 95%
Bag Valve Mask	10 to 15 liters/minute	40 – 90%