Klamath County Emergency Medical Services

Standing Orders

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Emergency Medical Services
Standing Orders

ACKNOWLEDGMENTS

Permission to use these Standing Orders has been granted by Klamath County Emergency Medical Services.

MEMO REGARDING STANDING ORDER PROTOCOLS

This memorandum provides the authority for the Emergency Medical Responders (EMRs), Emergency Medical Technicians (EMTs), Paramedics and Registered Nurses (RNs) employed by or providing volunteer services with the following Klamath County EMS Agencies only, to function under their appropriate scope of practice and the written standing orders contained herein:

Bonanza Ambulance
Chiloquin Fire & Rescue
Keno Rural Fire Protection District
Kingsley Field Fire Department
Klamath County Fire District No. 1

These written protocols operate on the principle that the EMRs, EMTs, Paramedics and RNs assume considerable latitude in the decisions regarding assessment and treatment of patients at the scene and during transport. The success of these protocols depends on the training, continuing education, clinical judgment, and personal integrity of all who provide medical services under this agreement.

These protocols shall be in effect March 1, 2020. These protocols supersede and make void any and all protocols written and approved prior to this date. These protocols will remain in effect until revised, amended or revoked; the initial physician's signature below should be no more than 12 months old.

Jake Freid — 04/01/2020

Supervising Physician — Date

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Administrative Rules and Operations Protocols

Section A

Role and Responsibility of Supervising Physician

The supervising physician will fulfill his responsibilities as described in current Oregon Administrative Rules (OAR 847-35-0001, -0020 and -0025). (http://arcweb.sos.state.or.us/pages/rules/oars_800/oar_847/847_035.html) .

These responsibilities shall include:

1. Responsible for the issuance, review and maintenance of medical standing orders within the scope of practice not to exceed the education, scope of practice, training and licensure of EMRs, EMTs and Paramedics. Standing orders shall be reviewed and revised at least annually.
2. Explains the medical standing orders to the EMRs, EMTs and Paramedics such that they understand their responsibilities and do not exceed their scope of practice as defined by OAR 847-35-0030.
3. Responsible for ascertaining that and EMRs, EMTs and Paramedics are currently licensed and in good standing with the Oregon Health Authority.
4. Provides regular review of EMR, EMT and Paramedic practices in person or by an appropriate designee. This review will include one or more of the following:
   a. Direct observation of field performance.
   b. Review of pre-hospital care reports.
   c. Detailed case review and discussion with individual EMRs, EMTs and Paramedics or the appropriate agencies of any problems that may affect the delivery of appropriate medical services.
5. Responsible for coordinating continuing education (at least quarterly.) Topics will include but not be limited to:
   a. Trauma management
   b. IV and interosseous therapy
   c. Airway management
   d. CPR/ACLS
   e. Pre-hospital pharmacology
6. Reports to the Oregon Health Authority and employer any action or behavior by EMRs, EMTs or Paramedic which could be cause for disciplinary action.
7. Suspends or revokes the privilege of any EMR, EMT or Paramedic to operate under his or her license without prior notice if there is any reasonable cause to believe that the EMR, EMT or Paramedic is not adhering to the standards established in the standing orders, or if other serious personal problems exist which interfere with the delivery of appropriate medical care. The supervising physician shall coordinate any such action with the EMR's, EMT's or Paramedic's employer or agency.
8. In the case of an extended absence, the supervising physician may designate a qualified physician to perform the duties of supervising physician.

9. Meet with supervised Paramedics, EMTs and EMRs at least 2 hours every year.

Registered nurses (RNs) operating under these protocols for fixed wing transports must comply with OAR 333-255-080 (2)(3). RNs operating under these protocols for rotary wing aircraft (OAR 333-255-080[4]) or functioning as a paramedic on a ground ambulance (333-255-070[6][d]) shall have (1) current AHA level C or ARC BLS for the Professional, (2) current ACLS, (3) PALS course completion, (4) PHTLS, BTLS TEAM or TNCC course completion (TEAM and TNCC must include training in pre-hospital rapid extrication). RNs must also attend the same yearly required case reviews and skills performance reviews as EMT-Ps.

Personal Protection from Infection Control

1. All patients will be treated using "Standard Precautions" which includes wearing gloves, changing gloves after contact with potentially infective material, removing gloves before driving or touching common surfaces, and washing hands immediately following patient contact.
2. Additional contact precautions (isolation gowns) will be taken if you anticipate that your clothing will have substantial contact with the infected patient, their bodily fluids, or their environmental surfaces.
3. Droplet precautions which include eye protection will be taken for patients that can generate droplets during coughing, sneezing, or the performance of procedures, such as placing an airway.
4. Respiratory precautions which includes the use of a fit-tested NIOSH-approved N95 mask for patients with suspected or known infections transmitted by droplets that remain suspended in the air such as but not limited to:
    a. Measles
    b. Varicella (chicken pox)
    c. Tuberculosis

Standard of Care for Klamath County EMS Personnel

1. A patient is a person who presents with:
    a. An injury or illness, with or without chief complaint; or
    b. A chief complaint of or have a altered level of consciousness, with or without apparent injury or illness; or
    c. A mechanism of injury which raises the index of suspicion for injury.
2. All Klamath County EMRs, EMTs and Paramedics will be expected to conduct themselves in a professional manner.
3. EMRs, EMTs and Paramedics will treat all patients with dignity and respect. Patient's medical information will be treated in a confidential manner.
4. EMS personnel's first priority in the field will be scene safety for themselves, patients and the public. This may include staging a safe distance away until scene is safe. This will include the use of appropriate personal protective equipment.

5. Patients with the most severe or life threatening injuries or illnesses will be treated first, except in the event of a multiple patient scene/mass casualty incident where the field resources are overwhelmed. Patient management will begin with the ABCs and CPR if appropriate. Once adequate life support is established EMS personnel will perform the primary and secondary survey to determine and then treat illness or injury. Treatment and drug standing orders will be followed based on the patient's condition and the EMR's or EMT's level of training and licensure. Patient's condition will be monitored frequently including vital signs (pulse, blood pressure, temperature, and respirations), pulse oximetry, mental status, etc. EMS personnel are expected to use their knowledge, training, judgment and expertise in pre-hospital care when caring for patients under these standing orders. EMRs, EMTs and Paramedics will not exceed their respective scopes of practice as established by Oregon law. When possible and appropriate, pre-hospital personnel will follow the desires and wishes of patients and their families.
6. Patient care will include documentation in a professional and timely manner to facilitate further evaluation and treatment.
7. Differences of opinion and criticism of agencies or personnel will not interfere with patient care. If not quickly, quietly and easily resolvable in the field such matters should be referred to the agencies involved or the supervising physician for investigation, discussion and resolution.

Scope of Practice

EMRs, EMTs and Paramedics shall always function within their scope of practice even if requested to do otherwise. EMRs, EMTs and Paramedics operating under these standing orders have the scope of practice as described in current Oregon Administrative Rules, (OAR)) and are expected to provide this level of care.

847-035 (http://arcweb.sos.state.or.us/pages/rules/oars_800/oar_847/847_035.html) and

333-265 (http://arcweb.sos.state.or.us/pages/rules/oars_300/oar_333/333_265.html)

Oregon EMT levels are to come in line with the National Registry of EMTs (NREMT). Until this change has completely taken effect, these equivalencies will be used in these Standing Orders:

Old levels	**New levels**
First Responder	Emergency Medical Responder (EMR)
EMT-Basic (EMT-B)	Emergency Medical Technician (EMT)
(none)	Advanced Emergency Medical Technician (AEMT)
EMT-Intermediate (EMT-I)	EMT-Intermediate (EMT-I) (Oregon-specific)
EMT-Paramedic (EMT-P)	Paramedic

Scene Authority

1. **Medical Decisions**: EMRs, EMTs and Paramedics on scene shall cooperate in providing the optimum care for the patient. It is important to recognize and utilize the training and expertise of all available personnel. The highest level EMT or Paramedic on the scene shall be responsible for patient care and transport decisions until released to an EMT or Paramedic of equal or higher level. Upon release for transport, the EMT or Paramedic with the transporting agency shall be responsible for patient care and transport decisions. EMRs may assist with

the patient care during transport. Information regarding the injury or illness, as appropriate for continued medical care, shall be communicated to the transporting EMRs, EMTs or Paramedics.

2. **Medical Professionals on the Scene**: Medical professionals at the scene of an emergency may provide assistance to EMRs, EMTs and Paramedics, and shall be treated with professional courtesy.

   Medical professionals who offer their assistance at the scene should be asked to identify themselves and their level of training. The EMT should request that the medical professional provide proof of his/her identity if he/she wishes to assist with care given to the patient after the arrival of the paramedic unit.

   Physicians are the only medical professionals who may assume control of the care of the patient. The EMT should recognize the knowledge and expertise of other medical professionals and use them for the best outcome of the patient.

   The authority for medical control of paramedic procedures rests with ORS statutes, these written treatment protocols approved by the supervising physician and the receiving hospital's emergency physician when contacted.

   A physician on the scene who is caring for a patient prior to the arrival of a paramedic unit may retain medical responsibility for the patient if he/she so desires. The EMT should advise the physician who wishes to supervise or direct patient care, that the physician must accompany the patient to the hospital to maintain continuity of patient care. The physician on the scene shall have made available to him/her the services and equipment of the paramedic unit, if requested. There should be full documentation of these events, including the physician's name and address.

   If a conflict arises about patient care or treatment protocols, the EMT should call the receiving hospital for assistance.

3. **Disputes on Scene:**

   a. Disagreements about care should be handled in a professional manner so as not to detract from patient care.

   b. Standing orders should be followed whenever possible, and should be the basis for resolving disputes.

   c. If there is an unresolved dispute between EMRs, EMTs, and Paramedics and medical professionals concerning the care of a patient, the receiving hospital may need to be contacted for resolution.

   d. A written incident report should be prepared concerning any dispute arising at the scene and given to the supervising physician for review.

4. **Quick Responder Transport Policy:** Non-transporting first responder agencies, with licensed ambulance capability, may transport patients to local medical facilities under the following conditions:

   a. Any critical or unstable patient who is packaged and ready for transport, and whose clinical condition would likely deteriorate in the judgment of the senior EMT on scene, if there is a significant delay in the arrival of the transporting ambulance.

b. If the patient requires immediate intervention beyond the capabilities of on-scene personnel, the quick responder, whether ALS or BLS may transport immediately.

c. Quick responder's units may transport if requested to by the ASA provider, or if no provider is responding or are under contractual agreement with the ASA provider.

d. In the event of a multiple patient scene or mass casualty incident, any quick responder's unit may transport, if directed to do so by on-scene medical branch director or incident commander.

e. Any BLS responder who transports a patient that might benefit from ALS treatment must request an ALS intercept.

Medical Control

1. **Off-Line Medical Control** - includes the following:

   a. Standing orders approved by the supervising physicians.

   b. Written patient orders and protocols pertaining to a specific transport.

   c. Case review conferences.

   d. Educational programs.

   e. Quality assurance case reviews.

   f. Individual criticism, counseling, or advice concerning the care rendered to specific patients.

   g. Coordination with the directors of local hospitals´ emergency departments.

2. **On-Line Medical Control**

   a. On-line Medical Control refers to direct radio and/or phone communication between pre-hospital care personnel and hospital emergency departments which are staffed 24 hours a day by qualified emergency physicians.

   b. Emergency physicians should be ACLS and ATLS certified and be familiar with the pre-hospital care protocols and the capabilities of local EMS providers.

   c. On-line medical control may override written protocols when appropriate; such as:

      i. Directing medical care for patients within pre-hospital care provider's scope of practice.

      ii. Routing patients to appropriate hospital destination considering the number of patients, patient needs (pediatric, psychiatric, obstetric, trauma) or hospital availability of specialty beds, operating rooms or imaging procedures.

3. **Procedure For Obtaining On-Line Medical Control**

   a. EMRs, EMTs and Paramedics will follow the appropriate standing orders for pre-hospital care. If uncertain of protocol or treatment, contact the emergency physician at the receiving hospital for on-line medical control.

   b. In situations where the patient's condition is judged to be critical or serious, and especially

when there are multiple critically ill or injured patients, early notification of the receiving hospital is mandatory. This will allow proper allocation of medical resources and timely preparation for definitive care.

c. All requests by EMS personnel for medical guidance will be accommodated promptly and reflect an attitude of joint responsibility and cooperation. The on-line emergency physician shall issue treatment and transport instructions based on an objective analysis of the patient's needs and the hospital's capability and proximity. No effort shall be made to obtain institutional or commercial advantage through the use of such transport instructions and hospital assignments. When an emergency department at one hospital is acting as agent for another hospital, information regarding the patients shall be communicated to the receiving hospital in an accurate and timely manner. The transmission of information regarding patient's identity, condition, and treatment shall otherwise remain strictly confidential.

d. All emergency departments and pre-hospital care providers operating under the protocols of these standing orders shall maintain radio communication equipment which meets the standards of the Oregon Health Authority. All first response units will have Med Net 1 (155.340) frequency.

e. Any difficulties or problems that arise within the medical control system shall be communicated to the supervising physicians for clarification or resolution.

f. Medical control should not unnecessarily delay medical or surgical treatment. For patients who fulfill the trauma system criteria, medical control shall be assumed by the facility which will be receiving and caring for the patient.

4. Triage And Transport

The decision concerning which hospital will be receiving the patient will be determined by a consideration of the following regarding Trauma System Entry patients:

a. Patients with an unstable or compromised airway will be taken to the nearest hospital for initial airway management.

b. Trauma system entry patients will have Oregon State trauma bands (green) applied.

c. Whenever possible, keep family members together and transport a parent or other responsible family member along with any pediatric patient.

d. If a qualified physician is present with the patient and wishes to assume responsibility for patient care and accompany the patient, transport will be to the facility indicated by the physician.

e. For patients being transferred from one facility to another, medical control shall be assumed by the transferring facility.

5. EMS Communication Procedures

a. Radio communication should be short and concise providing enough information so that the hospital's emergency personnel will have a good idea of the patient's condition and type of injury or illness. Suggested format of the radio report is:

iii. Unit transporting, person treating and response code of transport.

iv. Patient information including age, sex, and reason for dispatch.

v. Patient status including vitals, history and treatment.

vi. Patient meds and allergies if pertinent to the call.

vii. ETA to hospital

b. Communication with the receiving hospital should be established as soon as practical once transport is begun.

c. This report should relay only essential patient care information. Patient identification (name) information is not appropriate to be given on the med net frequency for emergency transports. Patient initials may be used for direct admission and routine transfer patients.

d. Ambulances responding to the scene of a reported “injury” or “unknown if injury” MVC may be cancelled enroute only after dispatch has received a “non-injury” or “unable to locate” MVC report by a law enforcement, ODOT, or fire unit on scene

6. Klamath County EMS Communication Form

Shall be formatted according to the Agency preference, but shall at least have the following information:

Date; time; Transporting Unit; Transporting EMT and Level; ETA; Pt Age; Pt Sex; Pt Physician; STEMI alert; Trauma System activation; Chief Complaint/ Injury; MCI triage patient status color; Brief narrative for physical findings; Vitals including: B/P ; Pulse; Respirations; LOC; Treatment & Response; and GCS

Patient Non-Transport Protocols - Refusal of Treatment

Patient Defined

Under these Standing Orders, a person is considered a patient in the pre-hospital setting if the responding EMR, EMT, or Paramedic has the duty to act, and the victim meets at least one of the following criteria:

1. Appears ill, or injured to the EMR, EMT or Paramedic; or
2. Has experienced a mechanism to cause injury, whether obvious or hidden; or
3. Shows signs of altered level of consciousness from their baseline mentation; or
4. Requests an assessment, treatment, and/or transport.

The Decision-Maker

According to ORS 109.640 and ORS 109.520, a patient who is a minor of at least 15 years of age can legally give their own informed medical consent without a parent or guardian, (younger if they are legally married or emancipated). Further, according to ORS 109.675 a minor 14 years of age or older may obtain, without parental knowledge or consent, outpatient (emergency) diagnosis or treatment of a mental or emotional disorder or a chemical dependency,

In order to further determine a patient's ability to consent or refuse, their decision making capacity must be evaluated. Assessing the patient's decision making capacity is more complex than just assessing patient's level of consciousness or ability to communicate.

It will be obvious when the patient's capacity as a competent decision maker is completely compromised. However, there is no tool to determine exactly when the patient goes from competent to incompetent because of intoxicants or medical condition. Under these orders, it is the responsibility of the EMR, EMT, or Paramedic, in charge to deduce when the patient cannot make competent decisions and document how they arrived at that decision.

Medical Consent

Under these Standing Orders, a patient, or their legal guardian, must give consent to the EMR, EMT or Paramedic to be evaluated, treated, and/or transported. Consent can be "informed" or "implied" consent.

Informed Consent is permission granted before the treatment based on the patient's understanding of the medical evaluations or interventions to be performed.

Implied Consent is when the patient does not verbalize consent, but takes actions toward consenting, or has a serious emergency condition that keeps them from consenting.

1. Consent is generally implied with the act of calling EMS,
2. During very serious emergency situations the Doctrine of Implied Consent may apply. Under this doctrine the EMR, EMT or Paramedic can assume consent is implied when:
    a. A patient is incapacitated by shock or trauma and unable to give informed judgment, or
    b. A patient has life-threatening or health-threatening disease or injury that requires immediate treatment, and delay would mean death or impairment

Medical Refusal

Under these Standing Orders a patient, (or guardian) with whom competent decision-maker status has been established, may refuse medical evaluation, treatment and/or transport when all of the following conditions are met:

1. The patient is conscious and alert, and has the freedom to act without undue influence from family or friends; and
2. The patient medical condition is stable, and thus not subject to the doctrine of implied consent; and
3. The patient possesses sufficient information about the associated risks and benefits of all treatment options, which include refusal of care; and
4. The patient has the ability to use this information to make a decision, and communicate their choice.

When a patient is determined not to have capacity as a decision-maker, and thus cannot refuse medical care on their own, the following should be done to protect the patient:

1. An attempt should be made to contact the patient's family or friends so they can take control of the patient and arrange for proper medical care.
2. Call for law enforcement to assist in assessing for intoxication and thus helping document the patient's inability to make competent decisions.
3. Contact on-line medical control for advice.

Documenting Refusals

1. The Agency's patient's refusal form must be signed and witnessed and the signed document made a part of the permanent PCR record.
2. The PCR must record how decision-maker status was established including mental status and any other means used to determine the patient's competency.
3. The PCR must include documentation of the circumstances surrounding the patient refusal, and all actions taken by the EMR, EMT, or Paramedic of the attempted medical treatment.

Death in the Field

1. ORS allows an EMT to determine "Death in the Field"; however, the EMT is encouraged to consult Medical Control if any doubt exists.
   a. Trauma codes have a very low statistical save rate. However, if the mechanism of injury doesn't fit a trauma death, such as a minor vehicle crash. Consider if the patient had a medical death that caused the accident. V-Fib should raise your index of suspicion for a medical event.
   b. In a deteriorating trauma patient, no pulse and a viable rhythm may reflect hypovolemia or obstructive shock such as tamponade or tension pneumothorax, and aggressive care should be continued. A narrow complex rhythm (QRS < .12) may suggest profound hypovolemia, and the patient may respond to fluid resuscitation.
   c. Consider the value of delivering a viable organ donor patient to the hospital
2. EMT Basics may withhold resuscitation efforts, or stop efforts started by bystanders, if the patient has no spontaneous pulse or respirations, and any one of the following conditions exist:
   a. Valid "DNR" (POLST);
   b. Decapitation;
   c. Incineration of the face, neck or torso;
   d. The patient has skin discoloration in dependent body parts (dependent lividity);
   e. Any stage of body decomposition or putrifacation;
   f. Pulseless and apneic in a mass casualty incident;
   g. Rigor mortis in a warm environment;
   h. Major blunt trauma patient remains apneic after opening the airway; or
   i. Avulsion or other traumatic removal of any vital body organ.
3. EMT Intermediates and Paramedics, in addition to the above: Online medical control may be contacted prior to withholding or stopping resuscitation in the following circumstances:
   a. PEA and an ETCO2 of 10 or less after 20 minutes of ACLS.
   b. Patient found in asystole, and if after the asystole protocol has been initiated the patient persists in asystole in three separate leads.
4. EMT Intermediates and Paramedics must contact online medical control before withholding or stopping resuscitation efforts in the following circumstances:
   a. Patients aged 50 years or less.
   b. Patient initially found in a viable rhythm then degenerates into a cardiac rhythm incompatible with life.
   c. Refractory V-Fib lasting longer than 5 rounds of ACLS including two antiarrhythmic
5. Under ORS 146.090 the following deaths must be investigated. EMRs, EMTs and Paramedics should be aware of these situations and not let on-scene operations needlessly interfere or hamper the investigations.

a. Apparent homicide, suicide or death occurring under suspicious or unknown circumstances;
b. Resulting from the unlawful use of controlled substances or the use or abuse of chemicals or toxic agents;
c. Occurring while incarcerated in any jail, correction facility or police custody;
d. Apparent accidental or death following an injury;
e. By disease, injury or toxic agent during or arising from employment;
f. Unattended deaths (not under care of a physician within two weeks previous to the death)
g. Related to disease which might constitute a threat to the public health; or
h. A human body disposed of in an offensive manner.

6. When it is determined that the patient is deceased, if not already done, immediately request law enforcement. The body shall not be moved, and any invasive medical equipment such as IV's, IO's, ET tubes, etc. shall not be removed without prior approval from the Medical Examiner, or their deputy.
7. If available, consider chaplaincy for the family. If necessary, the body may be covered in a way that is appropriate in consideration of the weather, public decency and viewing by the family. For a body or bodies still in a vehicle near passing traffic, consider a tarp for the entire vehicle.
8. This section refers to either patients, or dead bodies. One cannot be treated under these standing orders as both at the same time. Dead bodies shall not be transported via ambulance, and care must be taken to avoid this situation.

HIPAA PERMITS DISCLOSURE TO HEALTH CARE PROFESSIONALS & ELECTRONIC REGISTRY AS NECESSARY FOR TREATMENT

Oregon POLST™

Portable Orders for Life-Sustaining Treatment*

Follow these medical orders until orders change. Any section not completed implies full treatment for that section.

Patient Last Name:	Suffix:	Patient First Name:	Patient Middle Name:

Preferred Name:	Date of Birth: (mm/dd/yyyy)	Gender:	MRN (optional)
	____/____/____	☐ M ☐ F ☐ X	

Address: (street / city / state zip):

A — Cardiopulmonary Resuscitation (CPR): *Unresponsive, pulseless, & not breathing.*

Check One

☐ **Attempt Resuscitation/CPR** ☐ **Do Not Attempt Resuscitation/DNR**

If patient not in cardiopulmonary arrest, follow orders in **B**.

B — Medical Interventions: *If patient has pulse and is breathing.*

Check One

☐ **Comfort Measures Only**. Provide treatments to relieve pain and suffering through the use of any medication by any route, positioning, wound care and other measures. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. ***Patient prefers no transfer to hospital*** *for life-sustaining treatments. Transfer if comfort needs cannot be met in current location.*
Treatment Plan: Provide treatments for comfort through symptom management.

☐ **Limited Treatment**. In addition to care described in Comfort Measures Only, use medical treatment, antibiotics, IV fluids and cardiac monitor as indicated. No intubation, advanced airway interventions, or mechanical ventilation. May consider less invasive airway support (e.g. CPAP, BiPAP). ***Transfer to hospital if indicated.*** *Generally avoid the intensive care unit.*
Treatment Plan: Provide basic medical treatments.

☐ **Full Treatment**. In addition to care described in Comfort Measures Only and Limited Treatment, use intubation, advanced airway interventions, and mechanical ventilation as indicated. ***Transfer to hospital*** *and/or intensive care unit if indicated.*
Treatment Plan: All treatments including breathing machine.

Additional Orders: _____

C — Documentation of Who Was Present For Discussion *See reverse side for add'l info.*

Check All That Apply

☐ Patient
☐ Parent of minor
☐ Person appointed on advance directive
☐ Court-appointed guardian
☐ Surrogate for patient with developmental disabilities or significant mental health condition (Note: Special requirements for completion - see reverse side)
☐ Relative or friend (without written appointment)

Discussed with (list all names and relationship): _____

_____

D — Patient or Surrogate Signature

Signature: ***recommended***	Name (print):	Relationship (write "self" if patient):

This form will be sent to the POLST Registry unless the patient wishes to opt out, if so check opt out box ☐

E — Attestation of MD / DO / NP / PA / ND (REQUIRED)

Must Print Name, Sign & Date

By signing below, I attest that these medical orders are, to the best of my knowledge, consistent with the patient's **current** medical condition and preferences.

Print Signing MD / DO / NP / PA / ND Name: ***required***	Signer Phone Number:	Signer License Number: *(optional)*

MD / DO / NP / PA / ND Signature: ***required***	Date: ***required***	**"Signed" means** a physical signature, electronic signature or verbal order documented per standard medical practice. Refer to OAR 333-270-0030

SEND FORM WITH PATIENT WHENEVER TRANSFERRED OR DISCHARGED
SUBMIT COPY OF BOTH SIDES OF FORM TO REGISTRY IF PATIENT DID NOT OPT OUT IN SECTION D

*Also known as Physician Orders for Life-Sustaining Treatment

HIPAA PERMITS DISCLOSURE TO HEALTH CARE PROFESSIONALS & ELECTRONIC REGISTRY AS NECESSARY FOR TREATMENT

Information Regarding POLST

PATIENT'S NAME: _____

The POLST form is:

- **Always voluntary and cannot be required**
- **A medical order for people with a serious illness or frailty**
- An expression of wishes for emergency treatment in one's current state of health (if something happened today)
- A form that can be changed at any time, with a health care professional, to reflect new treatment wishes
- **NOT an advance directive**, which is ALSO recommended (an advance directive is the appropriate legal document to appoint a surrogate/health care decision maker)

Contact Information (Optional)

Emergency Contact:	Relationship:	Phone Number:

Health Care Professional Information

Preparer Name:	Preparer Title:	Phone Number:	Date Prepared:
PA's Supervising Physician:		Phone Number:	
Primary Care Professional:			

2019

Directions for Health Care Professionals

Completing Oregon POLST™

- Discussion and attestation should be accompanied by a note in the medical record.
- Any section not completed implies full treatment for that section.
- An order of CPR in Section A is incompatible with an order for Comfort Measures Only in Section B (will not be accepted in Registry).
- Photocopies, faxes, and electronically-signed forms are legal and valid.
- Verbal / phone orders from MD/DO/NP/PA/ND in accordance with facility/community policy can be submitted to the Registry.
- For information on determining the legal decision maker(s) for incapacitated patients, refer to ORS 127.505 - 127.660.
- A person with developmental disabilities or significant mental health condition requires additional consideration before completing the POLST form; refer to *Guidance for Health Care Professionals* at www.oregonpolst.org.

Sample

Oregon POLST Registry Information

Health Care Professionals:

(1) Send a copy of both sides of this POLST form to the Oregon POLST Registry unless the patient opts out.

(2) The following must be completed:
- Patient's full name
- Date of birth
- MD / DO / NP / PA / ND signature
- Date signed

Registry Contact Information:

Toll Free: 1-877-367-7657
Fax or eFAX: 503-418-2161
www.orpolstregistry.org
polstreg@ohsu.edu

Oregon POLST Registry
3181 SW Sam Jackson Park Rd.
Mail Code: BTE 234
Portland, OR 97239

Patients:
If address is listed on front page, mailed confirmation packets from Registry may take four weeks for delivery.

MAY PUT REGISTRY ID STICKER HERE:

Updating POLST: A POLST Form only needs to be revised if patient treatment preferences have changed.

This POLST should be reviewed periodically, including when:

- The patient is transferred from one care setting or care level to another (including upon admission or at discharge), or
- There is a substantial change in the patient's health status.

If patient wishes haven't changed, the POLST Form does not need to be revised, updated, rewritten or resent to the Registry.

Voiding POLST: A copy of the voided POLST must be sent to the Registry unless patient has opted-out.

- A person with capacity, or the valid surrogate of a person without capacity, can void the form and request alternative treatment.
- For paper forms, draw line through sections A through E and write "VOID" in large letters if POLST is replaced or becomes invalid.
- If included in an electronic medical record, follow your systems ePOLST voiding procedures.
- Regardless of paper or ePOLST form, send a copy of the voided form to the POLST Registry (required unless patient has opted out).

SEND FORM WITH PATIENT WHENEVER TRANSFERRED OR DISCHARGED, SUBMIT COPY TO REGISTRY

*Also known as Physician Orders for Life-Sustaining Treatment

Evaluate, Treat, and Refer

1. If the patient has a minor or stable medical condition, and transport to the hospital by ambulance is not indicated, then the following protocol may be used to determine the appropriateness of non-transport.
   a. The patient must be of legal age and mentally competent.
   b. The EMT attending the patient has conducted a thorough medical examination and documented all pertinent findings and treatment in a pre-hospital care report.
   c. The patient's condition is medically stable.
   d. The patient agrees with non-transport.
   e. An alternative method of transport to a medical care facility is available to the patient.
2. The following medical and injury conditions mandate consultation with on-line medical control or the patient's personal physician; otherwise EMS transport to a medical facility is indicated:
   a. Unstable vital signs which may include orthostatic hypotension.
   b. Altered consciousness or a history of loss of consciousness, or any acute onset neurological deficit. EXCEPT in the following instances:
      i. Hypoglycemia in patients with Diabetes Mellitus: A patient with diabetes mellitus who is taking insulin has a documented episode of hypoglycemia with an altered level of consciousness which improves significantly with the administration of oral glucose or intravenous dextrose AND the hypoglycemic episode is consistent with the patient's compliance with medications or typical blood sugars.
      ii. Seizure in a patient with a Seizure Disorder: If a patient with a known seizure disorder experiences a seizure that is consistent with his or her normal frequency of seizures or compliance with medications AND the seizure is typical for the patient. In such a case the patient does not necessarily require transport or on-line medical control providing that the patient is left in the care of a competent adult, self or other. The PHCR should contain clear documentation of the event.
   c. Respiratory distress or pulse oximetry less than 90% (room air).
   d. Patients over 40 years old with a complaint of chest pain consistent with heart or lung disease or of abdominal pain.
   e. Severe headache or a high fever (>40 C/104 F) in any age group.
   f. High risk of traumatic injury including such co-morbid factors as vehicular intrusion, injuries to others on scene, distance of fall or other concerns registered by the responding EMRs, EMTs and Paramedics.
   g. No appropriate, timely, alternative means of transport to a medical facility is available.

Guidelines for Transporting ALS and BLS

BLS Guidelines

1. If only BLS providers are on scene, the personnel on scene will perform a primary and secondary evaluation, treatment and transport in the accordance with their agency standards and their specific scope of practice within these standing orders.
2. If both BLS and ALS providers are on scene, the patient will be jointly evaluated by both ALS and BLS providers and if both providers agree that the patient care meets the BLS criteria, then patient care can be performed by a BLS provider. If care is initiated by an advanced EMT, the transfer of patient care from ALS to BLS will follows the procedures outline below in the "ADVANCED LIFE SUPPORT (ALS) to BASC LIFE SUPPORT (BLS) GUIDELINES" of this section.
3. Where EMTs licensed at the proper level are not on scene for patients whose condition requires advanced care, initial BLS transport will not be reasonably delayed, and ALS personnel will be activated as per the agency's protocol.
4. Any patient requiring change of care from the EMT-B to the EMT-P and/or EMT-I, after the patient was deemed appropriate for BLS Transport by both ALS and BLS providers, will be reported to the supervising physician.

ALS Guidelines

1. All outside requests for ALS assistance from BLS response personnel should occur after initial patient contact and evaluation by the responding agency.
2. EMT Basic; Use the following criterion to determine when to call for outside assistance Advanced Life Support (ALS) personnel.
3. EMT Intermediate; For criterion "a" through "e", initiate EMT Intermediate treatment protocol then determine the need for Paramedic based on criterion below.
    a. Hypovolemic Shock
    b. Respiratory Distress
    c. Unconsciousness
    d. Cardiogenic Shock
    e. Trauma with altered mentation
    f. Impending child birth or immediate post delivery
    g. Seizures
        i. 2 or more without clearing post-ictal
        ii. Witnessed active Grand Mal lasting longer than 5 minutes.
    h. Critical Burns
        iii. Greater than 20% total body surface.
        iv. Facial and/or oral burns
        v. Inhalation injury

4. The following conditions alone do not represent an initial need for ALS care unless they lead to a criteria listed above:
    a. Grand Mal Seizures followed by post-ictal
    b. Dystonic Reaction
    c. Stroke
    d. DNR
    e. Pain Management
    f. Nose Bleed
    g. Hypothermia
    h. Hypertensive
    i. Near Drowning
    j. Nausea/Vomiting
    k. Snake Bite
    l. Spine Trauma
    m. Syncope
5. If you are in doubt about a specific condition that is not addressed above, never hesitate to request ALS.

Transfer of Care from ALS to BLS Guidelines

1. Care of a BLS patient may be transferred from an advanced EMT, (Paramedic or EMT-Intermediate), to an EMT- B. A BLS patient must have been evaluated by both an EMT- B and an advanced EMT. Further, both the advanced and the basic EMT must agree that the patient needs transport, but the patient condition does not meet ALS criteria listed above, and does not need any of the following treatment under these standing orders:
    a. IV or IO access.
    b. ALS procedure (Such as, but not limited to advanced airway, cardiac monitoring and/or chest decompression.)
    c. ALS medication – (For patients with severe pain and or nausea, for which the standing orders state should be treated by ALS medications, will not have treatment withheld from them in order to be considered stable.)
2. When a patient's care has been transferred from a Paramedic or EMT- I to an EMT-B, the EMT-B as the primary care provider must provide documentation in the PCR that the patient was evaluated and determined BLS in the SOAP (narrative) portion. This documentation must include that the patient was jointly evaluated and both EMT- B and Paramedic or EMT- I, (names listed) agreed that the patient was deemed to meet the BLS treatment criteria at the time of patient evaluation.
3. If the patient condition changes so that the patient requires ALS care will be transferred to an EMT-I or Paramedic without delay.

Documentation and Medical Record Requirements

1. All contacts with patients who are ill or injured must be documented on a pre-hospital care report, whether hand-written or computer-generated
2. All Pre-Hospital Care Report (PHCR) entries are to be dated and timed appropriately. Times are to be recorded as accurately as possible, however the EMT's primary concern is patient care, which will take precedence over timekeeping. Times should represent the course and duration of events. Times may vary from those of other clocks, which are not regularly and continuously time-synchronized.
3. The pre-hospital care form provides written documentation of patient condition and treatment for medical and legal purposes. It also adds to the continuity of patient care after arrival to the hospital.
4. Pre-hospital care reports are to be filled out completely with all pertinent information. The report is a record that reflects on you and the profession as a whole, so be concise, write legibly, spell correctly and use accepted terminology and abbreviations.
5. A patient's refusal of care or transport, transfer to another agency or person, on-line medical control communications, deviations from these standing orders or determination of death in the field will be documented on the pre-hospital care report.
6. In compliance with state regulations a complete pre-hospital care report must be left at the receiving hospital unless the patient's emergency department's nurse or physician receives an appropriate verbal report and gives verbal release, in which case a completed PHCR must be provided to the receiving hospital within 12 hours or the end of your shift, whichever is sooner.
7. If a non-treating EMT does not agree with the care given, it is that EMT´s responsibility to discuss his or her reservations with his or her partner and resolve the problem. If the problem cannot be resolved, the non-treating EMT or paramedic shall write out a report documenting his or her reservations about the call. If there were any problems on the call with personnel or equipment which affected the patient outcome, fill out an incident report and forward to the supervising physician.
8. Pre-hospital care reports should be done in the SOAP format, or a consistent format that includes the following:

<u>SUBJECTIVE</u>

- Chief Complaint (why 911 was activated)
- History of Event or Mechanism of Injury (What happened prior to call)
- Relevant Past Medical History
- Significant and Pertinent Negatives

<u>OBJECTIVE</u>

- General Appearance, including scene description
- Vital Signs
- Head to Toe Exam
- Skin; Head, eyes, ears, nose, throat; Heart; Chest; Abdomen; Extremities; Spine;
- Neurological including level of consciousness or Glasgow coma score

ASSESSMENT

- What you think the patient's problem is based on your subjective and objective findings.

PLAN

- Protocols followed, on-line medical communications or deviations from these standing orders.
- Date and time interventions and changes in a patient's condition.

ALL CURRENT MEDICATIONS SHOULD BE BROUGHT TO THE EMERGENCY DEPARTMENT WITH THE PATIENT.

Equipment and Supplies

1. The minimum equipment and supplies are those required by the Oregon Health Authority, Emergency Medical Services Section for all Basic and Advanced Life Support Ambulances.
2. In addition, the supervising physician may require additional equipment and supplies in accordance with treatment protocols included in the standing orders. It shall be the responsibility of the supervising physician to provide pre-hospital providers with a rationale for employing equipment that exceeds the minimum standards of the Oregon Health Authority.
3. All transporting vehicles covered by these standing orders shall carry a copy of these standing orders.

Time on Scene

The purpose of this section is to set scene time limitations.

1. If at any time an EMT cannot provide or protect a patent airway to a patient, he/she is required to transport the patient immediately.
2. If at any time an EMT has been on the scene for more than thirty (30) minutes after patient encounter, and initiating emergency medical care, he/she is required to document the reason why on the pre-hospital care form.
3. For **TRAUMA** cases, time spent on the scene should be ten (10) minutes or less after extrication has been accomplished and the patient can be moved away from the site.
4. When more than 3 patients are involved, the 10 minute scene rule begins when late arriving units receive their patient.
5. Establishing an IV line in the field should not delay transport unless there is an immediate need for parenteral therapy; e.g., hypoglycemia, seizures, narcotic overdose, cardiac arrest or unstable dysrhythmias.

Ambulance Response

1. Ambulances will be driven in a manner consistent with public safety and the patient's condition as judged by the attending EMR or EMT.
2. Lights and siren responses or transports may be appropriate if the transport time is significantly reduced and must be carefully balanced by the increased risk to the patient, EMRs, EMTs, Paramedics and general public of motor vehicle crashes associated with such responses.

Continuous Quality Improvement Plan

1. With the goal of providing a high level of patient care, it is important that all areas of pre-hospital care be monitored and improved upon where possible. With this in mind, all agencies shall participate in the Klamath County Continuous Quality Improvement Plan.
2. This plan provides a mechanism for review of selected pre-hospital care, with emphasis on critical care cases with high risk issues and procedures on a continuous basis. Conducting reviews of focused topics allow for intensive scrutiny of select topics, for a limited time.
3. When a potential issue is identified, it will be brought to the attention of the supervising physician and appropriate corrective action implemented. Hospital data may also be obtained to provide additional information. Each agency's QI plan will be reviewed at least annually.
4. **Quality Assurance (retrospective) Reviews** (review forms in Section T)
    a. Field Delivery
    b. Needle Decompression
    c. Intraosseous Infusion
    d. Cricothyrotomy (needle or percutaneous)
    e. Cath Alert
    f. Rapid Sequence Intubation (RSI)
    g. Major MPS/MCI – involving more than 2 agencies
    h. Pre-hospital death in field
    i. Random Review 3/100 (minimum 3 per month per agency)
    j. As designated by the supervising physician:
        i. Endotracheal Intubation
        ii. Trauma System Activation
        iii. Non-Transport
        iv. Code 3 transport to Sky Lakes Medical Center
        v. Contact with Medical Control
        vi. Defibrillation/Cardioversion
        vii. Prolonged scene time (greater than 30 minutes)

k. In addition to patient care report reviews, the supervising physician may also utilize several other methods to monitor the EMS system for Quality Assurance.
    i. Direct observation of EMR or EMT field performance.
    ii. Monitoring and or review radio communications.
    iii. Conducting post-run interviews.
    iv. Conducting periodic case conferences.
    v. Investigation of complaints.

5. **Quality Improvement** (prospective) Review **a**s designated by the supervising physician.
    a. IV Starts
    b. RSI
    c. Spinal Immobilization
    d. Seizure
    e. Poisoning/Overdose

6. **Case Review Conferences** will be held in the county at 4-8 week intervals. These will consist of case presentations and discussion, lecture/discussions or guest presentations relevant to EMS field work. Cases and topics for discussion will be selected by the supervising physician with input and suggestions from EMS and hospital personnel. Cases suggested for physician review or presentation at case review should be so designated and left with the supervising physician or flagged as such by the documenting EMT

Continuing Education and Conference Standards

1. Continuing educational activities for EMRs, EMTs and Paramedics shall meet or exceed the minimum requirements of the Oregon Health Authority. Local programs for EMRs, EMTs and Paramedics shall include:
    a. Case Review Conferences.
    b. Multi-Disciplinary Trauma Conferences.
    c. Special EMS Conferences organized by the Emergency and/or Education Departments of each hospital or by local EMS agencies.
2. As one of the state requirements for Oregon relicensure (OAR 847-035-0025-3), each EMT or EMR affiliated with a Klamath County EMS agency must have 2 hours contact per year (4 hours/2 year EMT relicensure cycle) with your agency's supervising physician. This contact time with your agency's supervising physician can be accomplished through Case Reviews, drill nights, EMS classes, EMS meetings, and other activities as designated by and provided by your agency's supervising physician.

Standing Order Review and Revision

1. There shall be at least an annual review of these standing orders by the supervising physicians with input from all concerned parties. A committee composed of the supervising physicians and other interested parties may be formed periodically for recommending revisions to the Standing Orders.
2. Education programs to update EMS providers as to pertinent changes in and additions to the standing orders shall be organized by the supervising physicians within a reasonable period of time after release of any revisions to the standing orders.

Inter-hospital Transfer Protocol

1. Policy - A patient is identified for inter-hospital transfer when an attending physician determines that more appropriate facilities or services are available, and consent for the transfer has been obtained from the patient or the family.
2. Procedure -
    a. The patient's sending (transferring) physician must contact the physician receiving the patient and the receiving hospital.
    b. The patient must be stabilized to the best of the sending hospital's ability prior to transfer.
        i. Patient is assured of an adequate airway and ventilation.
        ii. Control of hemorrhage has been initiated.
        iii. Patient's spine and fractures have been appropriately stabilized.
        iv. An adequate access route for fluid administration is established and appropriate fluid therapy has been initiated.
    c. Responsibility for arrangements and details of the transfer, including transportation, are those of the sending physician at the sending hospital. The receiving physician will be involved with the details of such a transfer to insure optimum care of the patient.
    d. Proper equipment and trained personnel will be utilized to handle the problems specific to the patient's condition.
    e. Instructions will be given to the personnel transferring the patient by the sending physician or nursing staff.
    f. It is essential that a written record accompany the patient during the transfer including:
        i. Patient information.
        ii. History of injury or illness.
        iii. Patient condition: vital signs, pertinent physical findings and neurological status.
        iv. Treatment rendered, including medications and fluids.
        v. Diagnostic findings: including laboratory, ECG, CT scan and x-ray films.
        i. Pre-hospital report.

g. Medical Control during an inter-hospital transfer shall rest with the transporting unit's medical control or the receiving physician. In the event of a serious deterioration in the patient's condition the nearest appropriate medical facility will be utilized.

Use of Helicopter for Patient Transports

1. Aeromedical evacuation should be used when available and when it will decrease total patient transport time by 10-15 minutes or more.
2. The decision to use the aeromedical resource for transport rests with the ground EMS personnel. This decision may be made in conjunction with aeromedical personnel if necessary.
3. Only the highest medically trained EMS person on scene can cancel the helicopter and must document the reason on the patient care report.
4. Any person on scene working for a government sponsored agency can place the helicopter on standby or launch the helicopter. (Police, Fire, EMS, Forest Service, etc.) It is preferred that non-medical personnel place the helicopter on standby only first. If no EMS medical personnel arrive within ten minutes to perform a medical assessment and in their best judgment an air ambulance is needed, then the helicopter may be launched.
5. If any discrepancy or confusion exists on whether to launch/ use aeromedical transport, call medical control.

Trauma Considerations

1. Burns > 30% of total body surface area
2. Burns to the face with potentially impending airway obstruction
3. Full Trauma Activation. (based on current protocols) Patient must have pulse.
4. Discretionary Trauma (based on current protocols)

Medical Considerations

1. Respiratory arrest patient, subglottic airway or BMV, with spontaneous pulse.
2. STEMI confirmed by 12-lead EKG interpreted by EMT-P or Medical control
3. Localizing neurologic deficit indicative of CVA (onset less than 3 hrs prior) with normal blood sugar.
4. Any serious medical problem with unstable vital signs requiring rapid treatment or immediate surgery.

Contraindications and Precautions

1. In most cases, patients that are undergoing CPR should not be transported by helicopter.
2. In all cases, patients who are exposed to hazardous materials, and have not been decontaminated, will not be transported by helicopter.

Medical control is available 24 hours a day for questions or concerns when and if air transport is appropriate for the patient's condition. Consider putting the helicopter on STANDBY then contacting on-line medical control for advice.

Equipment List for a Non-Transporting EMS Unit

The following is a list of the minimum equipment suggested for a non-transporting EMS unit responding to EMS calls. The equipment is divided according to EMT service provided.

F/R	EMT B	EMT I	EMT P
4/4s	Everything to the left	Everything to the left	Everything to the left and
AED	1 cc syringes and	Assorted needles	2.5-8.0 ET tubes
Ammonia inhalant	Alcohol preps	ECG monitoring	3” 14 ga needle
B.V.M.	Broselow tape	IO kit	5cc-50cc syringes
B/P cuff	Capnometry	IV multi sets	ET secure ties
(regular, small,	CBG kit	IV needles	ET suction catheters
large)	supraglottic airway	IV tourniquets	Flutter valve
Back Board	Activated Charcoal	Nebulizer set	Macintosh blades (sizes 0-4)
Bite stick	Aspirin (ASA)	Razors	Manual defibrillator with pacemaker
Blankets	Epinephrine 1:1,000	Veni guards	Electrodes battery and paper
Burn kit	Oral glucose	Albuterol	Miller blades (sizes 0-4)
C-collars		Amiodarone	N/G-O/G tubes
Emergency blanket		Atropine	Spare ET bulbs/batteries
Emesis basin or bag	**Optional**	D50 (50% dextrose)	Stylet
EMS gloves	CPAP	Diphenhydramine	Acetaminophen
Hand disinfectant		Epinephrine 1:10,000	Adenosine
Head bed		Glucagon	Calcium Gluconate
Hot & cold packs		Ipratropium Bromide	Dopamine
Kling		Lidocaine 2%	Furosemide
K-Y jelly		Naloxone (Narcan)	Haloperidol
Nasal cannula		Nitro spray	Ondansetron
Non-rebreather		Normal saline	Oxymetazoline (Afrin)
O_2 regulator		**Optional:**	Sodium Bicarbonate
OB-kit w/blanket		Lidocaine	
Occlusive dressing		EZ-IO	**Optional**
Pocket mask		Morphine	Percutaneous Cricothyrotomy
Portable suction		Fentanyl	Transport Ventilator
Ring cutter			Diazepam (Valium)
Safety glasses			Magnesium Sulfate
Set of NPAs			Morphine
Set of OPAs			
Soft restraints			

F/R	EMT B	EMT I	EMT P	
Splints			**RSI**	
Sterile water			Etomidate	
Stethoscope			Midazolam (Versed)	
Surgi pads			Succinylcholine	
Tape			Vecuronium	
Thermometer				
Trauma pads				
Trauma shears				
Triage Tags			Etomidate	
Triangular bandages			Midazolam (Versed)	Required of all
			Succinycholine	agencies
			Vecuronium	performing RSI

Klamath County Radio Frequencies

The Klamath County Emergency Services radio channels and frequencies shall allow them to communicate with Klamath County 9-1-1 on FireCom, their mutual aid partners, Sky Lakes Medical Center on the State Medical Network or MEDNET and the local Fire Defense Board Tactical Channel for their area of the County.

Klamath County EMS Approved Abbreviations

A-fib atrial fibrillation
AAA abdominal aortic aneurysm
ABD abdomen
AMA against medical advice
ASA aspirin
BBB bundle branch block
bm bowel movement
BP blood pressure
BS breath sounds
BT bowel tones
BVM bag valve mask
°C Celsius/centigrade
CA carcinoma
CABG coronary artery bypass graft
cc cubic centimeter
C/C chief complaint
CHF congestive heart failure
CHI closed head injury
cm centimeter
cms circulation, movement & sensation
CO carbon monoxide
C/O complains of
CO_2 carbon dioxide
COA conscious, oriented, alert
CBG capillary blood glucose
COPD chronic obstructive pulmonary disease
CP chest pain or cerebral palsy
CSF cerebral spinal fluid
CPR cardiopulmonary resuscitation
CT computerized tomography
CVA cerebral vascular accident
D/C discontinue
dig digoxin
DM diabetes mellitus
DOA dead on arrival
DOE dyspnea on exertion
DTs delirium tremens
Dx diagnosis
EBL estimated blood loss
ECG electrocardiogram
EJ external jugular
ET endotracheal
ETOH ethyl alcohol
f, ♀ female
°F Fahrenheit
FB foreign body
Fe iron
FHT fetal heart tones
fib fibrillation
Fr French
Fx fracture
ga gauge
GCS Glasgow coma score
G_P_ gravida/parity
GI gastrointestinal
gm gram
grav pregnancies/gravida
GSW gunshot wound
GU genitourinary
GYN gynecological
HEENT Head, Eyes, Ears, Nose, Throat
H_2O water

H&P history & physical
HTN hypertension
Hx history
IDDM insulin dependent diabetes mellitus
IM intramuscular
IO intraosseous
irreg irregular
IV intravenous
J joules
JVD jugular venous distention
kg kilogram
lb pound
LLQ lower left quadrant
L/min liters per minute
LMP last menstrual period
LOC level or loss of consciousness
LUQ left upper quadrant
m, ♂ male
MAE moves all extremities
mcg microgram
meq milliequivalent
mg milligram
$MgSO_4$ magnesium sulfate
MI myocardial infarction
min minute(s)
misc miscellaneous
ml milliliter
mm millimeter
MOI mechanism of injury
MS multiple sclerosis
MVC motor vehicle crash
N/A not applicable
N&V nausea and vomiting
Na sodium
NaCl sodium chloride
NC nasal cannula
NG nasogastric
NKDA no known drug allergies
N/V/D nausea, vomiting, diarrhea
neg negative
NIDDM non-insulin dependent diabetes mellitus
NPA nasopharyngeal airway
NPO nothing by mouth
NRB non-rebreather
NS normal saline
NSR normal sinus rhythm
NTG nitroglycerin
N_2O nitrous oxide
OG orogastric tube
OPA oropharyngeal airway
oz ounce
O_2 oxygen
P pulse or heart rate
PAC premature atrial contraction
para number of deliveries
PAT paroxysmal atrial tachycardia
PE physical exam
peds pediatrics
PERL pupils equal & reactive to light
PCRF pre-hospital care report form
PMH past medical history
po by mouth
pr per rectal
prn as needed
prox proximal
PSVT paroxysmal supraventricular tachycardia
pt patient
PTA prior to arrival
pulm pulmonary
PVC premature ventricular contractions
PVD peripheral vascular disease
R respirations
RLQ right lower quadrant
R/O rule out
RSI rapid sequence intubation
RUQ right upper quadrant
RX prescription or treatment
rxn reaction
SpO_2 pulse oximetry
SL sublingual

S.O.A.P. subjective, objective, assessment, plan
SOB shortness of breath
SQ subcutaneous
ST sinus tachycardia
stat at once, immediately
STEMI ST elevation MI
kg kilogram
lb pound
LLQ lower left quadrant
L/min liters per minute
LMP last menstrual period
LOC level or loss of consciousness
LUQ left upper quadrant
m, ♂ male
MAE moves all extremities
mcg microgram
meq milliequivalent
mg milligram
$MgSO_4$ magnesium sulfate
MI myocardial infarction
min minute(s)
misc miscellaneous
ml milliliter
mm millimeter
MOI mechanism of injury
MS multiple sclerosis
MVC motor vehicle crash
N/A not applicable
N&V nausea and vomiting
Na sodium
NaCl sodium chloride
NC nasal cannula
NG nasogastric
NKDA no known drug allergies
N/V/D nausea, vomiting, diarrhea
neg negative
NIDDM non-insulin dependent diabetes mellitus
NPA nasopharyngeal airway
NPO nothing by mouth
NRB non-rebreather
NS normal saline
NSR normal sinus rhythm
NTG nitroglycerin
N_2O nitrous oxide
OG orogastric tube
OPA oropharyngeal airway
oz ounce
O_2 oxygen
P pulse or heart rate
PAC premature atrial contraction
para number of deliveries
PAT paroxysmal atrial tachycardia
PE physical exam
peds pediatrics
PERL pupils equal & reactive to light
PCRF pre-hospital care report form
PMH past medical history
po by mouth
pr per rectal
prn as needed
prox proximal
PSVT paroxysmal supraventricular tachycardia
pt patient
PTA prior to arrival
pulm pulmonary
PVC premature ventricular contractions
PVD peripheral vascular disease
R respirations
RLQ right lower quadrant
R/O rule out
RSI rapid sequence intubation
RUQ right upper quadrant
RX prescription or treatment
rxn reaction
SpO_2 pulse oximetry
SL sublingual
S.O.A.P. subjective, objective, assessment, plan
SOB shortness of breath

SQ subcutaneous
ST sinus tachycardia
stat at once, immediately
STEMI ST elevation MI
SVT supraventricular tachycardia
SZ seizure
T temperature
tsp teaspoon
Tx traction or treatment
URI upper respiratory infection
UTI urinary tract infection
vag vaginal
vo verbal order
V/S vital signs
WNL within normal limits
WPW Wolff-Parkinson-White
x multiplied by
y/o years old
Δ change
@ at
↑ increase
↓ decrease
1° primary
2° secondary
Ψ psych

Klamath County Quality Assessment/Improvement Review Forms

These review forms are on the following pages:

Field Procedures
Major MPS/MCI involving more than 2 agencies
Random Review
Pre-Hospital death in field

Klamath County Emergency Medical Services
Quality Assessment/Improvement

Field Procedures

☐ Field Delivery

☐ Needle Decompression

☐ Intraosseous Infusion

☐ EZ-IO Intraosseous

☐ Cricothyrotomy

☐ Rapid Sequence Intubation (RSI)

☐ Cath Alert

Agency: _____

Run # _____

Reviewer _____

Review Date: ____/____/____

To Supervising Physician?

Yes

No

For Case Review? Yes No

Teaching Point? _____

Criteria	Acceptable	Not Acceptable	Not Applicable	Comment (required if Not Acceptable or Not Applicable)
Agency data & boxes complete?	☐	☐	☐	
SOAP chart complete?	☐	☐	☐	
Appropriate indication?	☐	☐	☐	
Procedure followed correctly?	☐	☐	☐	
Procedure successful? Yes No	☐	☐	☐	# attempts _____
Patient response charted?	☐	☐	☐	
Standing Orders followed?	☐	☐	☐	

Comments, Concerns & Suggestions:

Klamath County Emergency Medical Services
Quality Assessment/Improvement

MPS/MCI involving more than 2 agencies

Agency: _____ Reviewer _____

Run # _____ Review Date ____/____/____

To Supervising Physician? Yes No

For Case Review? Yes No

Teaching Point: _____

Criteria	Acceptable	Not Acceptable	Not Applicable	Comment (required if Not Acceptable or Not Applicable)
MCI declared & announced?	☐	☐	☐	
ICS established & appropriate?	☐	☐	☐	
Triage appropriate?	☐	☐	☐	
Treatment appropriate?	☐	☐	☐	
Transport appropriate?	☐	☐	☐	
Communications adequate?	☐	☐	☐	
Standing Orders followed?	☐	☐	☐	

Comments, Concerns & Suggestions:

Klamath County Emergency Medical Services
Quality Assessment/Improvement

Random Review

Agency: _____ Reviewer _____

Run # _____ Review Date ____/____/____

To Supervising Physician? Yes No

For Case Review? Yes No

Teaching Point: _____

Criteria	Acceptable	Not Acceptable	Not Applicable	Comment (required if Not Acceptable or Not Applicable)
Agency data & boxes complete?	☐	☐	☐	
Scene time appropriate?	☐	☐	☐	
SOAP chart complete?	☐	☐	☐	
Appropriate vital signs?	☐	☐	☐	
Assessment & Plan appropriate?	☐	☐	☐	
Patient response charted?	☐	☐	☐	
Report signed?	☐	☐	☐	
Standing Orders followed?	☐	☐	☐	

Comments, Concerns & Suggestions:

Klamath County Emergency Medical Services
Quality Assessment/Improvement

Pre-Hospital Death in the Field Review

Agency: _____ Reviewer: _____

Run # _____ Review Date: _____

To Supervising Physician? ❒ Yes ❒ No

For Case Review? ❒ Yes ❒ No

Teaching Point: _____

Criteria (circle all applicable)	Acceptable	Not Acceptable	Not Applicable	Comment(required if Not Acceptable or Not Applicable)
Trauma Death Blunt trauma OR Penetrating head wound AND Pupils fixed & dilated?	❒	❒	❒	
Dead on Arrival (DOA) Decapitation? Rigor mortis? Decomposition? Dependent livido?	❒	❒	❒	
Do Not Resuscitate POLST form? On-line medical control?	❒	❒	❒	
Resuscitation ceased On-line medical control?	❒	❒	❒	

Comments, Concerns & Suggestions:

Patient Care Protocols

Section B

Abdominal Pain

Subjective

Pain can be gradual or rapid in onset, sharp, dull, colicky or constant with or without radiation. It may change with time or position. Guarding may be present. Nausea, vomiting, diarrhea, constipation, bloody emesis, bloody stools, urinary problems, abnormal menstrual cycle (late, spotting), fever, and dyspnea can occur. Past medical history, trauma, abnormal ingestions, medications, past surgeries, last menstrual cycle.

Objective

Diaphoresis, dyspnea, pallor, jaundice, hypotension, orthostatic BP changes, tachycardia. Normal, hypoactive, hyperactive or absent bowel sounds. Abdominal inspection can show distention, rigidness, bruising or a pulsatile mass. Emesis: type and amount, if visualized.

Assessment

Causes of pain may include peptic ulcers, appendicitis, diverticulitis, kidney stones, pelvic inflammatory disease, ectopic pregnancy, pancreatitis, cholecystitis, pyelonephritis, ovarian cyst, hepatitis, cancer, abdominal aortic aneurysm, peritonitis or bowel obstruction. Abdominal pain may be of cardiac origin.

Treatment

EMR **EMT**	• Oxygen • Position of comfort • Nothing to eat or drink
AEMT	• One or two large bore IVs with crystalloid • If unable to establish IV consider IO • In suspected abdominal aortic aneurysm do not increase systolic BP above 90 mmHg
EMT- I **Paramedic**	• Cardiac monitor • Morphine or Fentanyl

Abdominal Trauma

Subjective

History of mechanism of injury: blunt or penetrating. Onset of symptoms from time of event. Abdominal pain, difficulty breathing, vomiting up blood. History of abdominal surgery. Blunt: speed of motor vehicle crash, steering wheel damage; passenger restraints; type of weapon if used; type of fall or blast. Penetrating: mechanism; type of weapon; distance from firing; caliber.

Objective

Examination may be normal. Patient may appear with pale and diaphoretic skin, conscious or unconscious. May have guarding and rigidity. Note injuries associated with traumatic event. Visualize bruising, distention, entrance and exit wounds to the abdomen. Evaluate vital signs frequently. Remember cyanosis and hypotension are late signs of shock.

Assessment

Diagnosis of abdominal trauma is made on the basis of the traumatic event history, palpation and visual examination.

Treatment

EMR	• Oxygen • Keep patient warm • Cover any open wound with dressing and moisten with crystalloid
AEMT	• One or two large bore IVs • If unable to establish IV consider IO • In suspected abdominal aortic aneurysm do not increase systolic BP above 90 mmHg
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management

Acute Dystonic Reaction

Subjective

Involuntary, unpleasant motor movements of the trunk, limbs or face following the administration of antipsychotic medications: Perphenazine (Trilafon), Trifluoperazine (Stelazine), Fluphenazine (Prolixin), Thiothixenxe (Navane), Haloperidol (Haldol) or anti-nausea medications: Promethazine (Phenergan), Droperidol (Inapsine), Prochlorperazine (Compazine) or Metaclopramide (Reglan).

Objective

Patient is awake and conscious, with extrapyramidal symptoms, usually distraught or anxious. Extrapyramidal symptoms often consist of small spasmodic movements or tics of the arms, legs, face or neck muscles with lip smacking, grimacing, tongue protrusion, eye movements or neck twisting.

Assessment

Acute dystonic reactions are distressing to the patient, but rarely life threatening. Patients may have had similar symptoms previously. Acute dystonic reactions may be mistaken for anaphylaxis or seizures. Patients with seizures, which may look somewhat similar, almost always have a loss or alteration of consciousness. Acute dystonic reactions may last for hours to days, whereas seizures usually last minutes.

Treatment

EMR **EMT**	• Oxygen • Patient comfort
AEMT **EMT- I**	• IV with crystalloid • If unable to establish IV consider IO
Paramedic	• Diphenhydramine

Altered Mental Status and Psychiatric Disorders

Subjective

Patient may have history of recent crisis, emotional trauma, bizarre or abrupt changes in behavior. They may have suicidal ideas, alcohol or drug intoxication, toxic exposure, or recent head trauma. They may also have past history of psychiatric disorders, medical problems, medications and medication compliance. Inquire specifically regarding depression and thoughts of suicide.

Objective

Review their level of consciousness and orientation, look for signs of trauma, injury, ingestion or injection. Monitor vital signs, note odor on breath. Pill bottles or syringes at scene. Look for medical alert tags.

Assessment

Diagnosis may be difficult and should be determined by history, patient assessment and observations noted at the scene of event.

Treatment

PROTECT YOURSELF AND OTHERS FIRST

EMR	• Attempt to establish rapport • Do not leave patient alone • Remove dangerous objects • Oxygen • Restrain, if necessary
EMT	• Check blood sugar • Give oral glucose • Keep calm and quiet • Monitor vitals
AEMT **EMT- I**	• IV with crystalloid or saline lock • Dextrose if indicated • Consider Narcan • If unable to establish IV consider IO
Paramedic	• Haloperidol • Diazepam or Midazolam

Amputation/Laceration/Soft Tissue Injury

Subjective

Evaluate the time injury occurred, location and mechanism of injury. Consider the increased hemorrhagic potential if patient is on a daily aspirin regime, and/or Coumadin or other blood thinning medications. Find out if patient has previous injuries, medical history, bleeding disorders.

Objective

Identify the type of injury: amputation (partial or complete), laceration, abrasion and bruising. For closed injuries with swelling, and deformity consider following "Fractures and Dislocations" protocol. Neurovascular system and circulatory function may be compromised distal to the injury especially in partial amputations.

Assessment

Determine quantity of blood loss, if there is active bleeding, and evaluate for the presence of shock. Assess the patient to ensure they do not have any other injuries. Amputation and large lacerations may not be life threatening but may be psychologically traumatic for patient or family which can act as a distracting injury.

Treatment

EMR
EMT
	• Control bleeding by direct pressure or if an extremity consider the use of a tourniquet
	• Cold packs for closed injuries if neurovascular intact
	• Oxygen target SpO2 between 94% and 99%
	• If amputation (full or partial):
	  ○ Cover stump with sterile dressing soaked with crystalloid
	  ○ Splint partial amputations in position of function
	  ○ Wrap severed portion in crystalloid soaked sterile dressing, place in sealed plastic bag, place bag in ice water

AEMT	• One or two large bore IVs with crystalloid fluid to systolic BP equal to 90 mm Hg • If unable to establish IV consider IO
EMT- I	• Morphine or Fentanyl (Not for abdominal injuries)
Paramedic	• Midazolam or Diazepam (Not for abdominal injuries)

Anaphylaxis

Subjective

Evaluate for past history of allergic reactions. Method of exposure: oral, inhaled, dermal, percutaneous. Patient may have itching, throat tightening, shortness of breath, nausea, diarrhea, abdominal cramps, syncope.

Objective

Level of consciousness, wheezing, respiratory distress, stridor, hypotension, flushing, hives, edema, vomiting, diarrhea

Assessment

Anaphylaxis or systemic allergic reactions range from mild skin rash to shock. Anaphylactic reactions involve symptoms and at least one sign: diffuse skin reaction (flushing, itching or hives), shock, bronchospasm or angioedema (swelling) about the face, mouth and eyes. Mild systemic reaction may be managed with Diphenhydramine alone. Local reactions confined to one extremity are not systemic or anaphylaxis.

Treatment

EMR	• Oxygen • Remove allergen if possible • Epinephrine IM (Epi Pen when trained)
EMT	• Epinephrine IM • Airway management
AEMT	• Epinephrine IV or IM • IV with crystalloid • If unable to establish IV consider IO • Albuterol
EMT- I	• Epinephrine • Cardiac monitor • Diphenhydramine
Paramedic	• Advanced airway management • Epinephrine infusion

Barotrauma - Decompression Sickness and Arterial Gas Embolism

Subjective

Scuba diving accidents are not common. Remember to ask whether patient may have taken any type of breath from a scuba device while under water. Patients will complain of chest pain, dyspnea, dizziness, limb paresthesia or paralysis, weakness, itching, blotching rash, visual disturbance or loss, fatigue, joint soreness, abdominal pain or coughing spasms.

Objective

Patient may present with hypothermia, pulmonary edema, rash, crepitus, altered level of consciousness, coma, unequal pupils, wide pulse pressure, dysarthria, seizures, paralysis, decreased or absent breath sounds, apnea or cardiac arrest.

Assessment

It is essential to attempt to obtain a diving history or profile, including: time at which signs and symptoms occurred; type of breathing apparatus used; depth, number and duration of dives; aircraft travel following a dive; rate of ascent; previous decompression illness, use of medications or alcohol. Transportation to recompression chamber without delay is the optimum treatment; do not delay in field.

Treatment

EMR	• Supine if unconscious • Left lateral Trendelenburg if conscious • High flow oxygen
EMT	• Airway management
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management • Chest decompression

Burns

Subjective

Cause of burn: explosion, fire, radiation, inhalation, electrocution, lightning, chemical. Shortness of breath, airway compromise, loss of consciousness. Past medical history.

Objective

Extent of body surface area (BSA) involved (Rule of Nines on reverse side) and depth (superficial, partial or full thickness). Inhalation injury: soot or blisters around the mouth, singed nasal or facial hair, hoarseness, cough, carbonaceous sputum or respiratory distress. Associated injury.

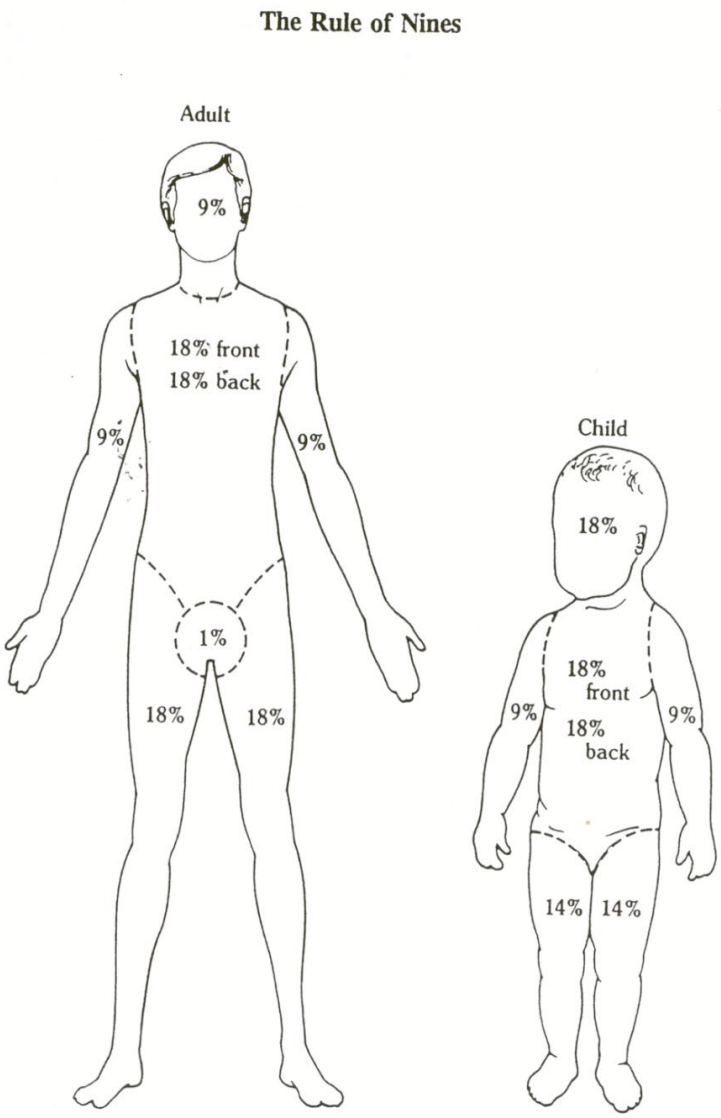
Assessment

Lethal and hard to detect by-products of combustion include carbon monoxide and cyanide gas. Burns are usually very painful and anxiety provoking. Prevent further burn injury. Based on the mechanism of the burn be alert for other injuries from falls, explosion and inhalation. Suspected upper respiratory burns, consider early intubation.

Treatment

PROTECT YOURSELF AND OTHERS FIRST

EMR	• Oxygen • Remove smoldering clothing and restrictive rings, bracelets, belts or straps • Large burns (≥20% BSA) cover with dry sterile dressing. • Avoid heat loss • Small burns (<20% BSA) apply cool wet dressings • Chemical burns flush area with large amounts of water to dilute and remove chemical
EMT	• Airway management
AEMT	• One or two large bore IVs with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor • Morphine or Fentanyl
Paramedic	• Advanced airway management • Calcium Gluconate topically for hydrogen fluoride or hydrofluoric acid exposure or burns



Palm = 1% BSA

Parkland Formula For Fluid Replacement = TBSA burned(%) x Wt (kg) x 4mL.
½ total Parkland Formula to be infused in first 8 hrs & ½ in second 16 hrs.
Wt (kg) x TBSA x 0.25ml = total to be infused for each hour of the first 8 hours

Cardiac- Chest Pain

Subjective

Patient may have chest or epigastric discomfort lasting minutes to hours – not seconds or days. Pain may radiate to neck, jaw, shoulder, inner arm or elbow, and may be associated with diaphoresis, nausea, vomiting, SOB, weakness or lightheadedness. Pain may be brought on by exertion or stress, and relieved by rest or nitroglycerine. Patient may have PMH of bypass surgery, angioplasty, angina, heart attack or myocardial infarction.
Medications commonly include, but not limited to:

NITRATES: nitroglycerin, Nitrostat, Isordil, nitro patches, Imdur
CALCIUM CHANNEL BLOCKERS: Norvasc, Nifedipine, Procardia, Adalat, Diltiazem, Dilacor, Cardizem
BETA BLOCKERS: Propranolol, Inderal, Metoprolol, Lopressor, Toprolol, Atenolol, Sotalol (Betapace), Coreg
STATINS: Mevacor, Lipitor, Zocor, Pravachol, Lescol, Rosuvastatin, Crestor

Typical presentation anterior, lateral or inferior:
Chest pressure, ache, band, heaviness, crush or "elephant on the chest" lasting minutes to hours – not seconds or days; May radiate to left arm or jaw;

Typical presentation inferior:
Epigastric distress, pain or "indigestion"; Atypical presentations may include no discomfort.

Objective

Examination may be normal. Patient may appear ashen or sweaty. Patient may be hypotensive, bradycardic or have evidence of pulmonary edema (rales). Cardiac rhythm is monitored to detect the occurrence of ventricular or atrial dysrhythmias.

Assessment

Diagnosis of cardiac chest pain or (heart equivalent discomfort) is made on the basis of the patient's history. Other causes of chest pain include chest wall trauma, esophageal reflux, gastritis, peptic ulcer disease, pneumonia, pericarditis, pleurisy, pancreatitis, costochondritis, gall bladder disease, aortic dissection, aortic aneurysm, pulmonary embolism and anxiety.

Treatment

EMR	• Oxygen
EMT	• Aspirin • May assist with self-administration of patient's own nitroglycerin • As available 12- lead ECG electronically communicated to medical control.
AEMT	• IV (20 or 18 gauge) with saline lock unless medications indicated • Nitroglycerin • If unable to establish IV consider IO
EMT- I	• Cardiac monitor • Morphine or Fentanyl for pain (Fentanyl preferred)
Paramedic	• 12 lead ECG STEMI protocol, next page

Cardiac- ST Elevation MI (STEMI)

Subjective

Heart equivalent chest discomfort of ≤ 12 hours duration
OR
Ventricular fibrillation or ventricular tachycardia converted to stable vital signs
AND
Age 85 years or less.

Objective

Defibrillator 12 lead ECG without LBBB and meeting one of these 2 criteria:

1. Beginning at the J point, one of the following:
    a. ≥ 1 mm ST elevation in 2 contiguous lateral leads (I, aVL, V_4, V_5 & V_6)
    b. ≥ 1 mm ST elevation in 2 contiguous inferior leads (II, III, & aVF)
    c. ≥ 2 mm ST elevation in 2 contiguous chest leads (V_1, V_2, & V_3)

OR

2. Automatic ECG interpretation of "Acute MI Suspected"

If patient had ventricular fibrillation or ventricular tachycardia converted to perfusing rhythm with stable vital signs, then ECG must be at obtained after at least 5 minutes of the converted rhythm.

Assessment

For 12 leads ECGs captured by an EMT B or I and electronically communicated to the Sky Lakes ER the "Cath Alert" assessment will be made by medical control.

Acute myocardial infarction with ST elevation is usually best managed with rapid transport to a cardiac catheterization center for diagnosis and treatment.

Treatment

EMR **EMT** **AEMT**	• Notify Sky Lakes Medical Center online medical control by means of electronically communicating the 12 Lead ECG they will advise you if patient meets criteria for "Cath Alert". • Rapid transport to Sky Lakes Medical Center ER • Leave a copy of the ECG with the ER
EMT- I **Paramedic**	• Notify Sky Lakes Medical Center Online Medical Control of "Cath Alert" and patient's cardiologist, if objective findings are present • Electronically transmit the 12 Lead ECG if capable • Use phone line to give patient's name and birth date. • Report criteria for "Cath Alert" (ST elevation in millimeters)

Cardiac- Dysrhythmias

Subjective

Patient may have syncope, loss of consciousness, palpitations, chest pain, dizziness, and PMH of heart disease, current medications.

Objective

Vital signs, level of consciousness, pulmonary rates, peripheral perfusion. There will be a variation in the findings of the different dysrhythmias

Assessment

Cardiac dysrhythmias may need to be assessed differently based on the initial findings. Individual protocols for each of the following are available on the next pages.

Treatment

Treatment protocol for specific dysrhythmias will be based on patient's subjective and objective findings and specific rhythm. The treatment below is a baseline.

EMR	• Oxygen • If indicated - CPR about 100 chest compressions per minute @ 30 compressions to 2 breaths; for 5 cycles or about 2 minutes. Minimize interruptions of CPR • Pulse check after 5 cycles CPR • Automatic External Defibrillation (AED) (before CPR if witnessed arrest)
EMT	• Airway management • After an advanced airway give 1 breath every 6-8 seconds (≈ 8-10 breaths/minute)
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I Paramedic	• Cardiac monitor • ACLS protocols • Follow specific protocols for: o Asystole/Pulseless Electrical Activity (PEA) o Pediatric Bradycardia o Bradycardia – Symptomatic o Pediatric Tachycardia o Tachycardia - Narrow complex o Tachycardia - Wide complex o V. fib/Pulseless V. tach (VF/VT)

Cardiac- Asystole / Pulseless Electrical Activity (PEA)

Subjective

Patient may have syncope but will have loss of consciousness.

Objective

- Unconsciousness, unresponsive, pulseless & apneic
- AED shows “non-shockable rhythm”
- Cardiac monitor shows asystole in 2 leads or pulseless electrical activity (PEA)

Assessment

Asystole or Pulseless Electrical Activity (PEA)

Treatment

EMR	• Oxygen • CPR • Automatic External Defibrillator (AED) as soon as available

EMT	• Airway management
	• Can terminate resuscitation efforts if all of the following are met:
	  ○ After 5 cycles of CPR and “No Shock Indicated”, and ALS is over 20 minutes from the scene
	  ○ Online medical control consultation agrees with terminating resuscitation efforts
	  ○ Current underlying (without CPR) rhythm is printed and attached to the PCR

AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Epinephrine 1 mg IV or IO – repeat every 3-5 minutes • If persistent Asystole, terminate resuscitation efforts after online medical control consultation
Paramedic	• Endotracheal intubation • Consider transcutaneous pacing • Sodium bicarbonate (1 mEq/kg IV or IO) if overdose with tricyclic antidepressants

Treatable Causes (treatments are scope of practice dependent)

5 Hs	**5 Ts**
• Hypovolemia (IV fluids)	• Tension pneumothorax (needle decompression)
• Hypoxia (ventilation)	• Tamponade (pericardiocentesis)
• Hydrogen ion - acidosis	• Thromboembolism (pulmonary embolism)
• Hyper-/hypokalemia	• Thromboembolism (acute myocardial infarction)
• Hypothermia	• “Tablets” - toxins/poisons/drugs tricyclic antidepressants, digitalis, beta-blockers, calcium channel blockers

Cardiac- Pediatric Bradycardia

Subjective

Age < 12 - 14
Altered level of consciousness
Dizziness or lightheadedness
Syncope
Fatigue

Objective

Bradycardia (pulse < 60) with poor perfusion
Altered level of consciousness
Hypotension
Diaphoresis
Collapse

Assessment

Pediatric Bradycardia

Treatment

EMR	• Oxygen
EMT	• CPR if P < 60 bpm and hemodynamically unstable • 12 lead ECG
AEMT	• IV or IO with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitoring • Epinephrine every 3 - 5 minutes IV or IO - 0.01 mg/kg = 0.1 ml/kg of 1:10,000
Paramedic	• Transcutaneous pacing • If persistent Bradycardia, online medical control for Dopamine (2 - 20 mcg/kg/min) IV or IO or Epinephrine (0.1 - 0.3 mcg/kg/min) IV or IO

Cardiac- Bradycardia, Symptomatic

Subjective

Decreased level of consciousness
Cardiac chest pain
Dyspnea (shortness of breath)

Objective

Bradycardia (pulse < 60)
Hypotension
Diaphoresis
Syncope

Assessment

Symptomatic Bradycardia

Treatment

EMR **EMT**	• Oxygen • CPR on pediatric patients only
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitoring • Atropine 0.5 mg IV – may repeat 5 times at 3-5 minutes intervals for a total dose of 3 mg
Paramedic	• Transcutaneous pacing • Dopamine (5 - 20 mcg/kg/min)

Cardiac- Pediatric Tachycardia

Subjective

Age 1 – 8 years
Palpitations or rapid heart rate
Altered level of consciousness
Dizziness or lightheadedness
Chest discomfort
Dyspnea (shortness of breath)
Poor feeding
Fatigue

Objective

Tachycardia
Infants, usually > 220 bpm
Children, usually > 180 bpm
Cyanosis
Decreased level of consciousness
Hypotension
Diaphoresis
Syncope

Assessment

Pediatric tachycardia

Treatment

EMR	• Oxygen • Position of comfort
EMT	• 12 lead ECG
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitoring • Vagal maneuvers, if patient stable with narrow complex tachycardia (rectal stimulation with a thermometer, ice water on face, or blowing through a straw – depending on age)
Paramedic	• IV or IO Adenosine if narrow complex (< 0.08 msec) 0.1 mg/kg (= 0.033 ml/kg) - max 6 mg - rapid IV or IO push if persistent, repeat once at 0.2 mg/kg (= 0.067 ml/kg) - max 12 mg - rapid IV or IO push • Synchronized Cardioversion

Cardiac- Tachycardia - Narrow Complex

Subjective

Palpitations or rapid heart rate
Decreased level of consciousness
Cardiac chest pain
Dyspnea (shortness of breath)

Objective

Tachycardia with a narrow complex
Hypotension
Diaphoresis
Syncope

Assessment

Narrow complex tachycardia

Treatment

EMR	• Oxygen • Position of comfort
EMT	• 12 lead ECG
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitoring • Vagal maneuvers, if patient stable
Paramedic	• IV or IO Adenosine • Synchronized Cardioversion

Cardiac- Tachycardia - Wide Complex

Subjective

Palpitations or rapid heart rate
Decreased level of consciousness
Cardiac chest pain
Dyspnea (shortness of breath)

Objective

Tachycardia with a narrow complex
Hypotension
Diaphoresis
Syncope

Assessment

Wide complex tachycardia

Treatment

EMR	• Oxygen • Position of comfort
EMT	• 12 lead ECG
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitoring • Amiodarone ○ OR, (Lidocaine with online medical control only)
Paramedic	• Synchronized Cardioversion • Magnesium

Cardiac- Ventricular Fibrillation/Pulseless Ventricular Tachycardia (VF/VT)

Subjective

Syncope & loss of consciousness

Objective

Unconsciousness, unresponsive, pulseless & apneic
Cardiac monitor shows ventricular fibrillation or tachycardia.
AED shows “shockable rhythm”.

Assessment

Ventricular fibrillation or pulseless ventricular tachycardia (VF/VT)

Treatment

EMR	• Automatic External Defibrillation (AED) • CPR • Oxygen
EMT	• Airway management
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Defibrillation with single shock at maximum manufacturer recommended energy (biphasic 200 joules or monophasic 360 joules) (1st pediatric shock 2 J/kg) • Epinephrine 1 mg IV or IO – repeat every 3-5 minutes • Defibrillation with single shock at maximum manufacturer recommended energy (biphasic 200 joules or monophasic 360 joules) (Subsequent pediatric shocks 4 J/kg) • Amiodarone 300 mg IV or IO push. May give an additional 150 mg IV or IO once in 3-5 minutes. OR With online medical control only. Lidocaine 1.5 mg/kg. IV or IO push May repeat 0.75 mg/kg every 5-10 minute. Max dose = 3 mg/kg.
Paramedic	• Endotracheal intubation • Sodium bicarbonate (1 mEq/kg IV or IO) if overdose with tricyclic antidepressants) • Magnesium sulfate (1 - 2 grams in 10 ml saline IV or IO push) if torsades de pointes

Cerebral Vascular Accident (CVA or Stroke)

Subjective

Patient may experience sudden onset of focal neurological deficits or an alteration in consciousness. Symptoms can occur alone, in combination, increase, decrease or be maximal severity at onset. These may include headaches, disturbances in consciousness, nausea and vomiting, ataxia, visual loss, diplopia, aphasia, paralysis, slurred speech, dysphasia, seizure, coma and death. Patients with these symptoms of less than 6 hours duration may be candidates for thrombolytic (TPA) or other interventional therapy. Patient may have a history of stroke or transient ischemic attack (TIA), or may be taking medication for hypertension or a host of medications for other medical conditions.

Objective

Patient may be unconscious and level of consciousness should be reevaluated on a regular basis. Neurological exam findings may change with time. Pupils may be unequal and reactivity to light may vary. Patient assessment should include the evaluation of speech, language, motor responses and sensations. Limbs should be evaluated for equal strength and motion. Nuchal rigidity (inability to flex the head forward) can be checked, but this is a late sign. Monitor blood pressure, pulse, respirations, cardiac rhythm and blood sugar.

Assessment

Diagnosis of stroke (CVA) is made on the basis of patient history and physical exam. Other causes of an altered mental status can cause trauma, hypoglycemia, seizure disorder, psychiatric disorder and drug ingestion.
F: Facial Droop
A: Arm Drift
S: Speech slurred or abnormal
T: Time: onset of symptoms less than 6 hours

Treatment:

EMR	• Oxygen • STROKE ALERT if positive F.A.S.T and no convulsive or seizure activity witnessed or reported
EMT	• Check blood sugar • Oral glucose if airway is protected • Airway management
AEMT	• IV with crystalloid • If unable to establish IV consider IO • IV Dextrose
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management

Chest Trauma

Subjective

History and mechanism of injury: blunt or penetrating. Patient may have onset of symptoms from time of event, such as chest pain, difficulty breathing, coughing up blood, and may have PMH of chest surgery.
Blunt: speed of motor vehicle crash; steering wheel damage; passenger restraints; type of weapon if used; type of fall or blast.
Penetrating: mechanism; type of weapon; distance from firing; caliber.

Objective

Patient may appear cyanotic, pale, with cool and clammy skin with respiratory distress. Paradoxical chest movement, subcutaneous air, decreased or absent breath sounds, obvious open or closed chest injuries. Patient may also exhibit distended neck veins, tracheal shift or hemoptysis, tachycardia, narrow pulse pressures or hypotension.

Assessment

Diagnosis of chest trauma will be based on patient history, mechanism of injury and physical findings. Do not overlook other potential injuries; head, spine, abdomen or extremities.

Treatment

EMR	• High flow oxygen • Cover open chest wounds with occlusive dressing • Spinal immobilization
EMT	• Airway management
AEMT	• One or two large bore IVs with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management • Chest decompression

Child Birth- Care of the Newborn

Subjective

This is a child at birth immediately following precipitous labor or home delivery. Mother may have complications with pregnancy, due date, multiple births, past medical history, medications, drug or alcohol usage.

Objective

Respiratory rate and effort, grunting, use of accessory muscles, meconium, skin color, heart rate, muscle tone, multiple births.

Assessment

Most newborns will quickly respond to stimulation through gently drying and placement upon mother's chest or abdomen and encouragement to nurse.

Treatment

EMR **EMT** **AEMT** **EMT- I** **Paramedic**	• Remove wet blankets or towels and dry infant. • Cover infant, including head, with dry blanket or towel to maintain body temperature. • Suction mouth, then nose with bulb syringe for copious secretions or obvious obstructions. • Blow-by oxygen for respiratory difficulty or cyanosis. • Assess one and five minute APGAR

APGAR SCORING

ITEM	0	1	2
Appearance	cyanotic	pink with blue extremities	all pink
Pulse	absent	<100/min.	>100/min.
Grimace	none	grimace	sneeze or cough
Activity	limp	some flexion	active motion
Respirations	none	slow or irregular	good cry

Child Birth- Uncomplicated Child Birth

Subjective

Consider the gravida, parity, due date, recent vaginal bleeding, problems with this or prior pregnancies, known multiple births, drug or ETOH abuse, past medical history. Contractions - onset, frequency, ruptured membranes, urge to push, pain location, type. Ask mother what her BP has been.

Objective

Assess Vital signs, fetal heart tones (LLQ, RLQ, over bladder), and frequency of contractions. Respecting privacy, inspect perineum for crowning or bulging, vaginal fluid, bleeding, meconium, abnormal presentation.

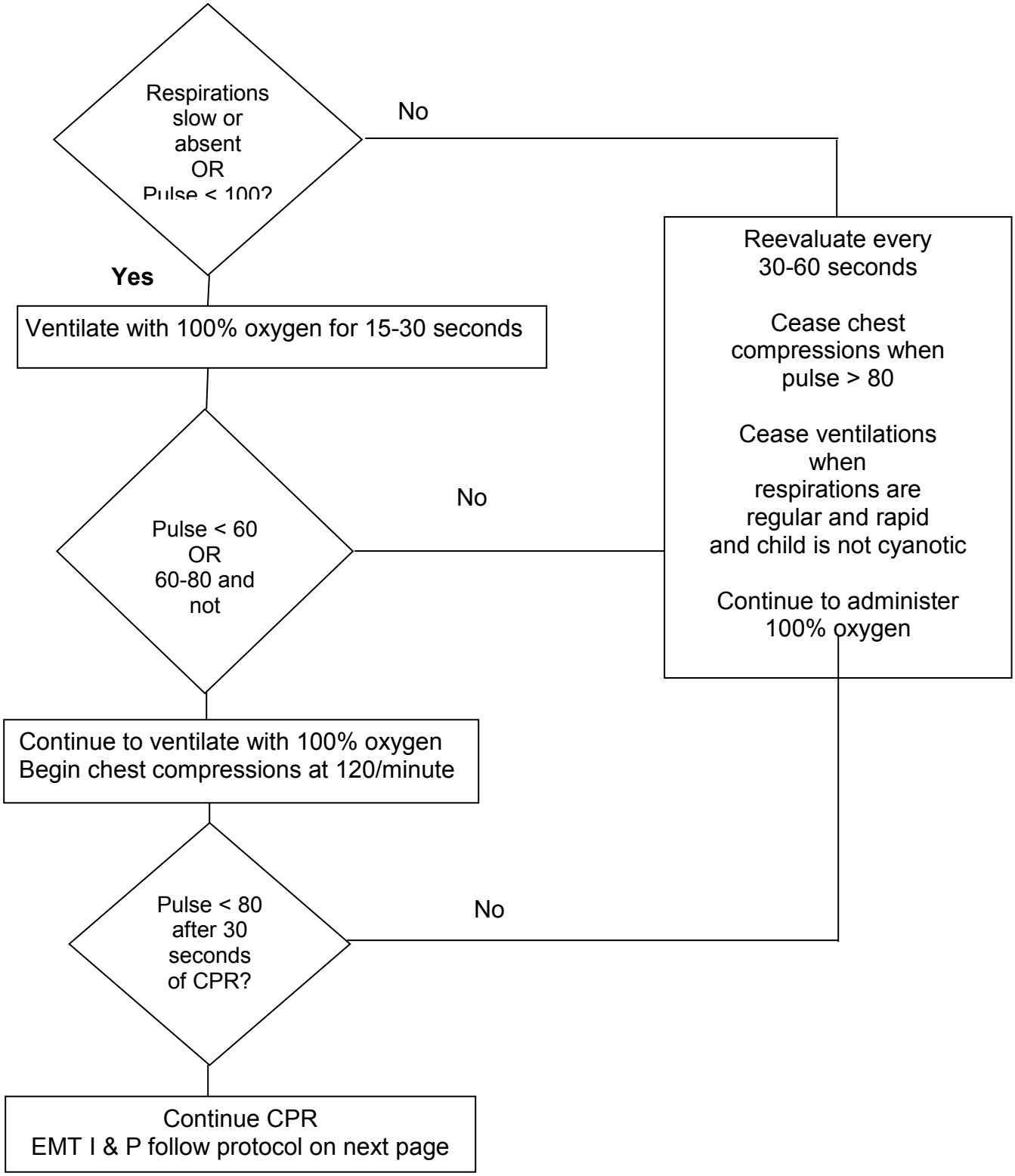
Assessment

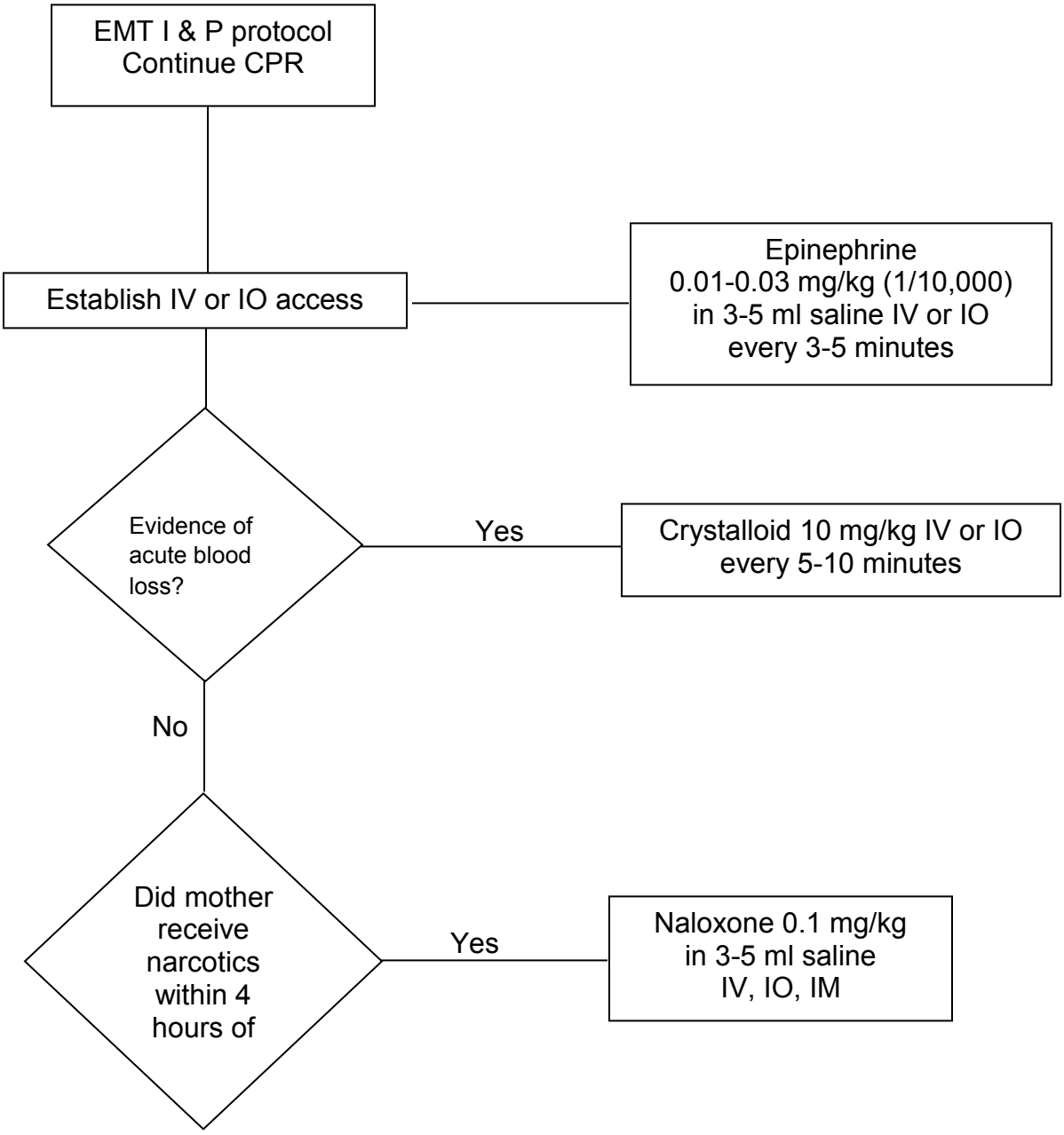
Childbirth is a natural event and usually is uncomplicated. If you suspect a complicated delivery, refer to the appropriate protocol and request additional resources. If you suspect an uncomplicated delivery and imminent birth is not present, transport mother on left side. If you suspect an impending birth, follow the protocol below.

Treatment

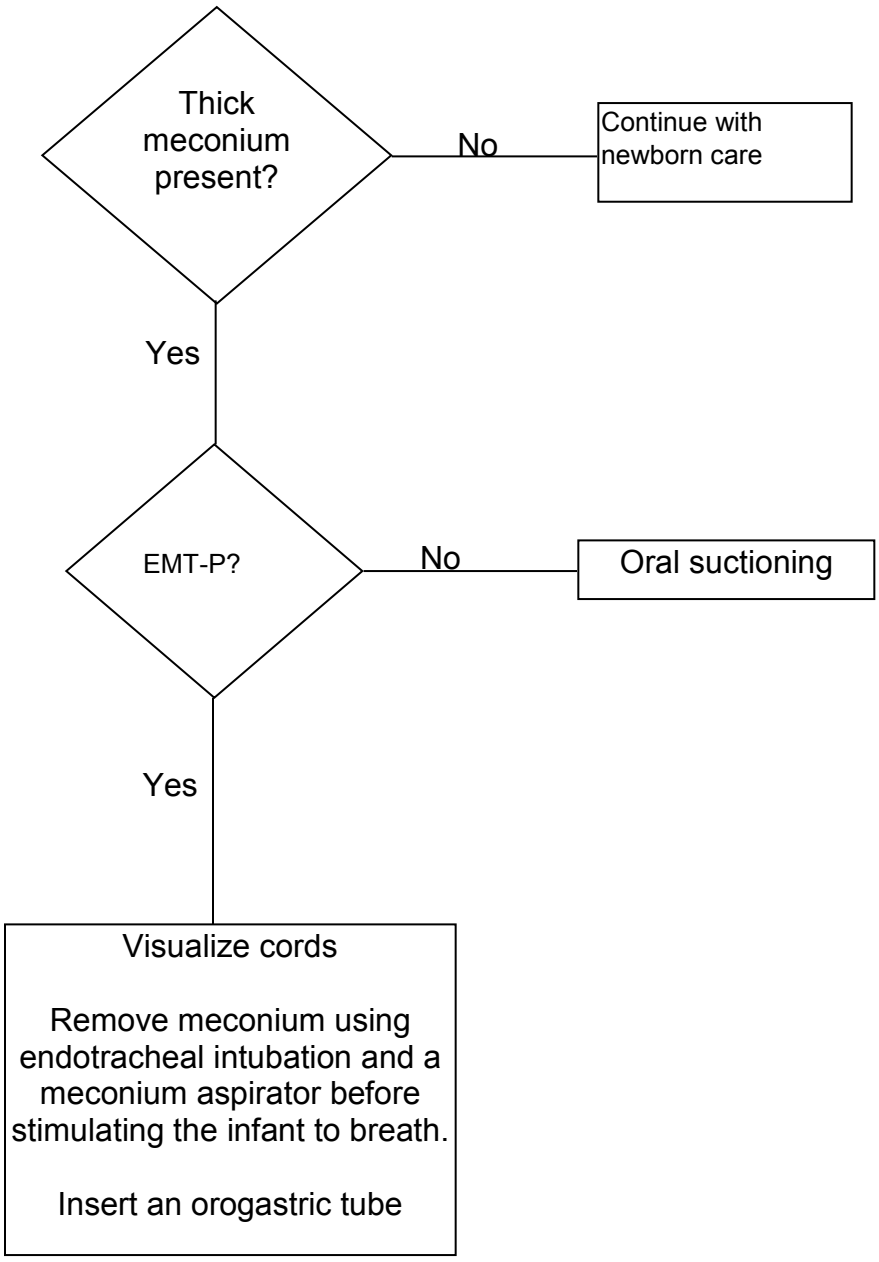
EMR **EMT**	• Oxygen • Position of comfort • Open OB pack and set up a work area preparing for two patients • Assist with delivery of head applying gentle pressure and continue to support head • When head delivers, feel around neck for nuchal cord, if present gently slip cord around head • Suction mouth, then nose with bulb syringe • Supporting head, assist delivery of anterior shoulder and then the rest of the body • Keep baby level with placenta until the cord is clamped • Clamp cord using 2 clamps spaced 6-8 inches from baby's body and cut cord between clamps • Inspect perineum for tears. • Apply direct pressure with gauze pad to any bleeding. Do not pack inside of vagina • Let placenta deliver normally and transport it to hospital with the mom and baby • After placenta delivers, massage uterus by rubbing abdomen firmly
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I **Paramedic**	• Cardiac monitor

Child Birth- Newborn Care – Complications




EMT I & P protocol
Continue CPR
Establish IV or IO access
Epinephrine
0.01-0.03 mg/kg (1/10,000)
in 3-5 ml saline IV or IO
every 3-5 minutes
Evidence of acute blood loss?
Yes
Crystalloid 10 mg/kg IV or IO
every 5-10 minutes
No
Did mother receive narcotics within 4 hours of
Yes
Naloxone 0.1 mg/kg
in 3-5 ml saline
IV, IO, IM

Child Birth- Newborn Care – Meconium



Child Birth- Post-Partum Hemorrhage

Subjective

Gravida, parity, delivery time and date, quantity of vaginal bleeding, prior problems with pregnancy, drug or ethanol use, past medical history, medications.

Objective

Patient may have hypotension, tachycardia. Be sure to estimated blood loss at scene, assess active bleeding, tears in perineum, and record delivery of intact placenta.

Assessment

Immediate (first 24 hours) post-partum hemorrhage is usually due to poor uterine muscle tone, cervical, or perineal tears. Late post-partum hemorrhage (7-10 days) is usually from presence of retained placental parts. If immediately post-partum, the first priority is delivery of the placenta.

Treatment

EMR **EMT**	• High flow oxygen • External uterine massage • Allow infant to nurse to stimulate uterine contractions or have patient stimulate her own nipples • Apply direct pressure to active external perineal bleeding
AEMT	• One or two large bore IVs with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Oxytocin

Child Birth- Breech Delivery

Subjective

Known breech position, gravida, parity, history of breech delivery, due date any complications during pregnancy, drug or alcohol use, past medical history.

Objective

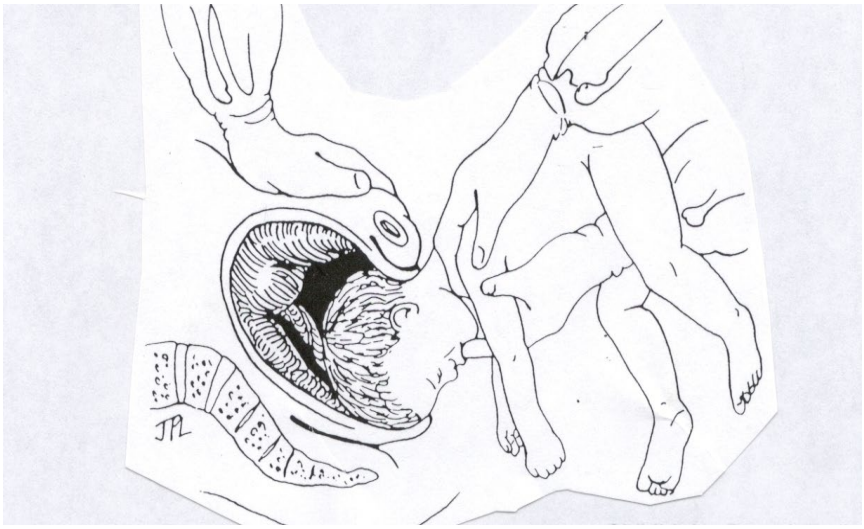
Note the presenting part, frequency of contractions, and presence of meconium.

Assessment

Transport without delay to closest hospital; be prepared to assist in delivery.

Treatment

EMR **EMT**	• Place mother on high flow oxygen • Place mother supine or in Trendelenburg position • If birth is imminent, allow mom to push, do not pull baby • Support delivered baby and extremities on your hand and arm • If head does not deliver place a gloved hand into the vagina and form a V around the baby's head and mouth to create an air passage. Maintain this position until birth • Consider Mauriceau maneuver to help deliver head (see image below)
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I **Paramedic**	• Cardiac monitor



Child Birth- Pre-Eclampsia/Eclampsia

Subjective

Headache, decreased urinary output, weight gain, increased edema, visual disturbances, abdominal pain, currently may be on bed rest, seizures.

Objective

Hypertension, pulmonary edema, cyanosis, hyperreflexia, seizures, coma, usually past 20 weeks gestation.

Assessment

Pre-eclampsia is a pregnancy related condition involving hypertension, proteinuria and edema. When seizures occur it is eclampsia. Pre-eclampsia and eclampsia used to be called toxemia. Suspect eclampsia in third trimester pregnant patients who are seizing. These patients will need magnesium sulfate to help reverse the eclampsia and diazepam (Valium) to control seizures.

Treatment

The definitive treatment for pre-eclampsia and eclampsia is delivery.

EMR **EMT**	• High flow oxygen • Lay mother on left side • Keep environmental stimulation at a minimum
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management • Magnesium • Diazepam

Coma

Subjective

Coma may occur in patients experiencing headache, seizures, confusion, trauma, or prior medical or psychiatric problems, such as diabetes, epilepsy, CVA.

Objective

Patient will be unconscious and unresponsive. Vital signs may be normal. Check for signs of trauma, injury, ingestion or injection. Check for medical alert tag. Evidence at scene of pill bottles, syringes or odor within the house. If there are multiple patients, consider environmental poisoning.

Assessment

Diagnosis of coma will be made by the patient's level of consciousness. There may be no obvious cause, injury or reason for the patient's condition.

Treatment

EMR	• High flow oxygen
EMT	• Check blood sugar • Airway management
AEMT	• One or two large bore IVs with crystalloid • If unable to establish IV consider IO • Dextrose • Naloxone
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management

Do Not Resuscitate

Subjective

Some patients may decide in advance that heroic life saving measures would not be beneficial or desirable. This information must be obtained prior to withholding life sustaining or resuscitative care from the patient. The information must be in the form of a POLST form (Physician Orders for Life-Sustaining Treatment) or other recognized Advanced Directives signed by patient and physician.

Objective

Patient is unresponsive, apneic, and pulseless and does not meet death in the field criteria. Or patient has end of life signs of such as decreasing consciousness, impending respiratory or cardiac failure with death being imminent.

Assessment

The decision for a Do Not Resuscitate (DNR) order will be transmitted to EMS field personnel in Klamath County, Oregon via the POLST form or other recognized form signed by patient and physician. These are the only acceptable DNR instructions in Klamath County.

Treatment

EMR **EMT** **AEMT** **EMT- I** **Paramedic**	• EXCEPT for patients that have a valid POLST form, or other recognized DNR documentation, that includes the patient's name, date of birth, signed and dated by a physician or nurse practitioner, or have a signed and dated Hospice stamp. All patients who are unresponsive, apneic and pulseless that do not meet the death in the field criteria, or who have impending cardiac or respiratory failure will receive full resuscitation efforts within the EMR or EMT's scope of practice under these standing orders. • On POLST forms, EMS will follow only the instructions in Section A- CPR, when patient is pulseless and apneic to determine whether or not to initiate resuscitation, and Section B- Medical Interventions, in the case of a patient who is not apneic and pulseless to determine comfort measures, limited interventions, advanced interventions or full treatment • If documentation is not available, the OHSU/POLST Registry at 1-888-476-5787 (this is not a public number) can access any POLST on file. They can give direction over the phone or fax documents, however, prior to calling the OHSU/POLST Registry obtain as much patient information as possible such as patient name, POLST Registry #, birth date, address, or last 4 digits of social security number. • If there is any confusion or discrepancy between the form and the patient, family or caretakers, begin care or resuscitation measures and contact the patient's physician, nurse practitioner, the emergency room physician or transport the patient to the hospital. Document your actions and include the DNR documentation as part of your pre-hospital care report.

HIPAA PERMITS DISCLOSURE TO HEALTH CARE PROFESSIONALS & ELECTRONIC REGISTRY AS NECESSARY FOR TREATMENT

Oregon POLST™

Portable Orders for Life-Sustaining Treatment*

Follow these medical orders until orders change. Any section not completed implies full treatment for that section.

Patient Last Name:	Suffix:	Patient First Name:	Patient Middle Name:

Preferred Name:	Date of Birth: (mm/dd/yyyy)	Gender:	MRN (optional)
	____/____/____	☐M ☐F ☐X	

Address: (street / city / state zip):

A — CARDIOPULMONARY RESUSCITATION (CPR): *Unresponsive, pulseless, & not breathing.*

Check One

☐ **Attempt Resuscitation/CPR** ☐ **Do Not Attempt Resuscitation/DNR**

If patient not in cardiopulmonary arrest, follow orders in **B**.

B — MEDICAL INTERVENTIONS: *If patient has pulse and is breathing.*

Check One

☐ **Comfort Measures Only**. Provide treatments to relieve pain and suffering through the use of any medication by any route, positioning, wound care and other measures. Use oxygen, suction and manual treatment of airway obstruction as needed for comfort. ***Patient prefers no transfer to hospital*** *for life-sustaining treatments. Transfer if comfort needs cannot be met in current location.*
Treatment Plan: Provide treatments for comfort through symptom management.

☐ **Limited Treatment**. In addition to care described in Comfort Measures Only, use medical treatment, antibiotics, IV fluids and cardiac monitor as indicated. No intubation, advanced airway interventions, or mechanical ventilation. May consider less invasive airway support (e.g. CPAP, BiPAP). ***Transfer to hospital if indicated.*** *Generally avoid the intensive care unit.*
Treatment Plan: Provide basic medical treatments.

☐ **Full Treatment**. In addition to care described in Comfort Measures Only and Limited Treatment, use intubation, advanced airway interventions, and mechanical ventilation as indicated. ***Transfer to hospital*** *and/or intensive care unit if indicated.*
Treatment Plan: All treatments including breathing machine.

Additional Orders: _____

C — DOCUMENTATION OF WHO WAS PRESENT FOR DISCUSSION *See reverse side for add'l info.*

Check All That Apply

☐ Patient
☐ Parent of minor
☐ Person appointed on advance directive
☐ Court-appointed guardian
☐ Surrogate for patient with developmental disabilities or significant mental health condition (Note: Special requirements for completion - see reverse side)
☐ Relative or friend (without written appointment)

Discussed with (list all names and relationship): _____

D — PATIENT OR SURROGATE SIGNATURE

Signature: ***recommended***	Name (print):	Relationship (write "self" if patient):

This form will be sent to the POLST Registry unless the patient wishes to opt out, if so check opt out box ☐

E — ATTESTATION OF MD / DO / NP / PA / ND (REQUIRED)

Must Print Name, Sign & Date

By signing below, I attest that these medical orders are, to the best of my knowledge, consistent with the patient's **current** medical condition and preferences.

Print Signing MD / DO / NP / PA / ND Name: ***required***	Signer Phone Number:	Signer License Number: *(optional)*

MD / DO / NP / PA / ND Signature: ***required***	Date: ***required***	**"Signed" means** a physical signature, electronic signature or verbal order documented per standard medical practice. Refer to OAR 333-270-0030

SEND FORM WITH PATIENT WHENEVER TRANSFERRED OR DISCHARGED
SUBMIT COPY OF BOTH SIDES OF FORM TO REGISTRY IF PATIENT DID NOT OPT OUT IN SECTION D

*Also known as Physician Orders for Life-Sustaining Treatment

HIPAA PERMITS DISCLOSURE TO HEALTH CARE PROFESSIONALS & ELECTRONIC REGISTRY AS NECESSARY FOR TREATMENT

Information Regarding POLST

PATIENT'S NAME: _____

The POLST form is:

- **Always voluntary and cannot be required**
- **A medical order for people with a serious illness or frailty**
- An expression of wishes for emergency treatment in one's current state of health (if something happened today)
- A form that can be changed at any time, with a health care professional, to reflect new treatment wishes
- **NOT an advance directive**, which is ALSO recommended (an advance directive is the appropriate legal document to appoint a surrogate/health care decision maker)

Contact Information (Optional)

Emergency Contact:	Relationship:	Phone Number:

Health Care Professional Information

Preparer Name:	Preparer Title:	Phone Number:	Date Prepared:
PA's Supervising Physician:		Phone Number:	
Primary Care Professional:			

2019

Directions for Health Care Professionals

Completing Oregon POLST™

- Discussion and attestation should be accompanied by a note in the medical record.
- Any section not completed implies full treatment for that section.
- An order of CPR in Section A is incompatible with an order for Comfort Measures Only in Section B (will not be accepted in Registry).
- Photocopies, faxes, and electronically-signed forms are legal and valid.
- Verbal / phone orders from MD/DO/NP/PA/ND in accordance with facility/community policy can be submitted to the Registry.
- For information on determining the legal decision maker(s) for incapacitated patients, refer to ORS 127.505 - 127.660.
- A person with developmental disabilities or significant mental health condition requires additional consideration before completing the POLST form; refer to *Guidance for Health Care Professionals* at www.oregonpolst.org.

Sample

Oregon POLST Registry Information

Health Care Professionals:

(1) Send a copy of both sides of this POLST form to the Oregon POLST Registry unless the patient opts out.

(2) The following must be completed:
- Patient's full name
- Date of birth
- MD / DO / NP / PA / ND signature
- Date signed

Registry Contact Information:

Toll Free: 1-877-367-7657
Fax or eFAX: 503-418-2161
www.orpolstregistry.org
polstreg@ohsu.edu

Oregon POLST Registry
3181 SW Sam Jackson Park Rd.
Mail Code: BTE 234
Portland, OR 97239

Patients:
If address is listed on front page, mailed confirmation packets from Registry may take four weeks for delivery.

MAY PUT REGISTRY ID STICKER HERE:

Updating POLST: A POLST Form only needs to be revised if patient treatment preferences have changed.

This POLST should be reviewed periodically, including when:

- The patient is transferred from one care setting or care level to another (including upon admission or at discharge), or
- There is a substantial change in the patient's health status.

If patient wishes haven't changed, the POLST Form does not need to be revised, updated, rewritten or resent to the Registry.

Voiding POLST: A copy of the voided POLST must be sent to the Registry unless patient has opted-out.

- A person with capacity, or the valid surrogate of a person without capacity, can void the form and request alternative treatment.
- For paper forms, draw line through sections A through E and write "VOID" in large letters if POLST is replaced or becomes invalid.
- If included in an electronic medical record, follow your systems ePOLST voiding procedures.
- Regardless of paper or ePOLST form, send a copy of the voided form to the POLST Registry (required unless patient has opted out).

Information on the Oregon POLST Program is available online at **www.oregonpolst.org** or at **polst@ohsu.edu**.

SEND FORM WITH PATIENT WHENEVER TRANSFERRED OR DISCHARGED, SUBMIT COPY TO REGISTRY

*Also known as Physician Orders for Life-Sustaining Treatment

Epistaxis (Nosebleed)

Subjective

Note the amount of blood loss, trauma, recent upper respiratory tract infection, intranasal drug use, current medications (aspirin, Coumadin), self-treatment, history of nosebleeds, nausea.

Objective

Check for bloody or clear fluid from ears to indicate skull injury. Evaluate for airway compromise, hypotension, hypertension and trauma.

Assessment

Most nosebleeds occur on the anterior septum from one side only and will stop spontaneously or with direct pressure if applied appropriately. Patients may be very anxious, particularly if the bleeding is persistent. The risk of significant blood loss is generally small. Bleeding from the posterior nose is often much more serious, but also very unusual. Medical intervention is usually required for posterior bleeds.

Treatment

EMR **EMT**	• Calm patient • Have patient blow nose to expel clots and apply direct pressure: pinch soft part of nose, distal nasal septum, for ten minutes or until bleeding stops
AEMT **EMT- I**	• IV with crystalloid • If unable to establish IV consider IO
Paramedic	• Oxymetazoline (Afrin)

Fractures & Dislocations

Subjective

Patient may have history of trauma and mechanism of injury, localized pain, tenderness, and swelling, loss of sensation or motion.

Objective

Patient may have swelling, deformity, angulation, discoloration, crepitus, and loss of motion or guarding. Open wound or exposed bones. Arterial compromise demonstrated by cool extremity, loss of pulses or loss of sensation.

Assessment

Diagnosis of a suspected fracture or dislocation is based on the patient's history, mechanism of injury and physical findings. Other causes may be a strain or sprain. Evaluate for other trauma.

Treatment

EMR **EMT**	• Oxygen • Dressing to open wounds • Immobilize, splint, elevate, apply ice
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor • Morphine or Fentanyl
Paramedic	• Diazepam • Midazolam • Ketamine

Head Trauma

Subjective

Patient may have history of trauma and the mechanism of injury, have changes in consciousness. Protective devices may have been worn, such as safety belts or helmets. Patient may complain of headache, nausea, vomiting, visual changes, numbness, tingling or paralysis. Obtain a thorough medical history.

Objective

Assess level of consciousness for alteration, clear or bloody discharge from ears or nose. Cushing's triad: Bradycardia, hypertension and abnormal respirations. Assess pupil size and reactivity to light. Assess for skull or facial lacerations or fractures and further injuries.

Assessment

Head trauma may produce lacerations, fractures or brain injury. Alterations in the level of consciousness may be due to other medical conditions.

Treatment

EMR	• Oxygen • Spinal immobilization • Patient restraint
EMT	• Airway management
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management • Versed or Haldol for chemical restraint

Heat Illnesses

Subjective

Patient may or may not have been in hot environment, exercised, rate of onset may be fast or slow, underlying medical conditions can complicate or heat may effect current medications. Headache, nausea, cramps, dizziness, generalized weakness.

Objective

Core temperature may be normal or elevated, and the skin temperature may be normal, cool and wet, or hot and dry. Blood pressure normal or low. Patient may have PMH of altered level of consciousness or seizures.

Assessment

Heat illness may range from heat cramps, treated with removal from heat, to heat exhaustion, treated with hydration, to heat stroke where the body's ability to maintain normal temperature fails. Heat stroke is diagnosed on the basis of hot environment, body temperature greater than 104°F and neurological abnormalities including an altered mental status. Patients with heat stroke need to have active cooling measures begun immediately.

Treatment

EMR	• Remove patient from heat • Heat cramps, treated with removal from heat
EMT	• Oxygen • Active cooling if heat stroke
AEMT	• IV with crystalloid • If unable to establish IV consider IO • Heat exhaustion, treated with hydration
EMT- I Paramedic	• Cardiac monitor

Hyperglycemia

Subjective

Patient may have altered level of consciousness, rapid or slow onset, confusion, weakness, dizziness, abdominal pain, vomiting, frequent urination, recent weight loss, or presence or absence of hunger and thirst. Often with a history of diabetes, which may be treated with insulin or oral hypoglycemic medication: Glyburide (Diabeta, Micronase), Glipizide (Glucotrol), Tolbutamide (Orinase), Metformin (Glucophage), chlorpropamide (Diabinase). Patients may have run out of their diabetes medication, especially insulin. Patients may have an acute underlying medical illness, such as infection, MI, or viral syndrome. Some patients may first be discovered to have diabetes on an initial presentation of hyperglycemia.

Objective

May have medical alert tag
Level of consciousness: confusion, disoriented, combative, comatose, or unresponsive.
Skin: pale, moist or warm, dry and pink, or signs of dehydration.
Breathing: normal, rapid and deep (Kussmaul respirations), or fruity odor (due to ketones).
Pulse: normal or elevated.
Blood pressure: hypotensive or normal
Chemstrip usually more than 300 mg/dl

Assessment

Patients with hyperglycemia (blood sugar more than 300-400, often have 600-800) often have been sick for one to several days with vomiting and may have rapid, deep breathing (Kussmaul respirations), warm, dry, pink skin and are usually dehydrated. The initial problem is usually severe dehydration, so the initial treatment is with crystalloid, not insulin.

Treatment

EMR	• Oxygen
EMT	• Check blood sugar
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I Paramedic	• Cardiac monitor

Hypertensive Emergencies

Subjective

Patient may be symptomatic or have headache, blurred vision, nausea or vomiting, confusion, chest pain or dyspnea. Patient may have a history of hypertension and may be on medication to control blood pressure (diuretics, beta blockers, calcium channel blockers, ACE inhibitors). If patient is pregnant, think pre-eclampsia.

Objective

Hypertensive emergencies may demonstrate confusion, coma, nuchal rigidity, pupillary changes, irregular respirations (Cheyne-Stokes), pulmonary edema, chest pain, seizures, and/or nosebleeds.

Assessment

Hypertension itself is rarely a medical emergency. Blood pressure must always be measured on several occasions before treating hypertension. Persistent blood pressures greater than 240/140 and altered mental status, pulmonary edema or chest pain may warrant treatment of the blood pressure. Elevated blood pressure is often the body's response to maintain adequate blood flow to the brain; lowering the patient's blood pressure may worsen the patient's mental status or result in a stroke.

Treatment

EMR **EMT**	• Oxygen
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Nitroglycerin

Hypoglycemia

Subjective

Patient may have altered level of consciousness, weakness, sweating, shakiness, seizure. Usually occurs with a history of diabetes treated with insulin, sometimes treated with oral medications - Glyburide (Diabeta, Micronase), Glipizide (Glucotrol), Tolbutamide (Orinase), Metformin (Glucophage), chlorpropamide (Diabinase). Hypoglycemia may also occur in newborns, those with inadequate nutrition, or over- or prolonged exertion. Ask about recent illness, last meal, last insulin administration, oral hypoglycemic medications.

Objective

Possible medical alert tag
Level of consciousness: confusion, disoriented, combative, comatose, or unresponsive.
Skin: often pale, cool, and clammy.
Breathing: normal. Pulse: normal or elevated.
Blood pressure: hypotensive or normal.
Chemstrip: less than 80 mg/dl in an adult or child, 60 mg/dl in an infant up to 1 year of age, 40 mg/dl in a newborn less than 8 weeks aged.

Assessment

Patients with hypoglycemia have usually been sick for a short period of time, minutes to hours. They may be confused or unconscious and their skin is usually cool and clammy. The immediate treatment is with glucose which should provide a significant improvement within minutes.

Treatment

Glucose	50% Dextrose	D10 Dextrose
60-69	16 Ml	80mL
50-59	20 Ml	100mL
40-49	24 mL	120mL
30-39	28 mL	140mL
20-29	32 mL	160mL
10-19	36 mL	180mL

EMR	• Oxygen • Oral glucose if no airway risk
EMT	• Check blood sugar
AEMT	• IV with crystalloid • If unable to establish IV consider IO • D50/D10 titrate to consciousness • Glucagon
EMT- I Paramedic	• Cardiac monitor

Hypothermia

Subjective

Assess for body heat loss due to environmentally cool or wet conditions. Check PMH as underlying medical illnesses may complicate hypothermia or be complicated by hypothermia. Note any current medications taken or alcohol consumption.

Objective

MILD
(94-97°F, 34.5-36°C)
Shivering
Lethargy
Staggering gait

MODERATE
(86-94°F, 30-34.5°C)
Shivering lessens
Confusion
Loss of balance

SEVERE
(<86°F, <30°C)
Stupor
Coma
Dysrhythmias
Cardiac arrest

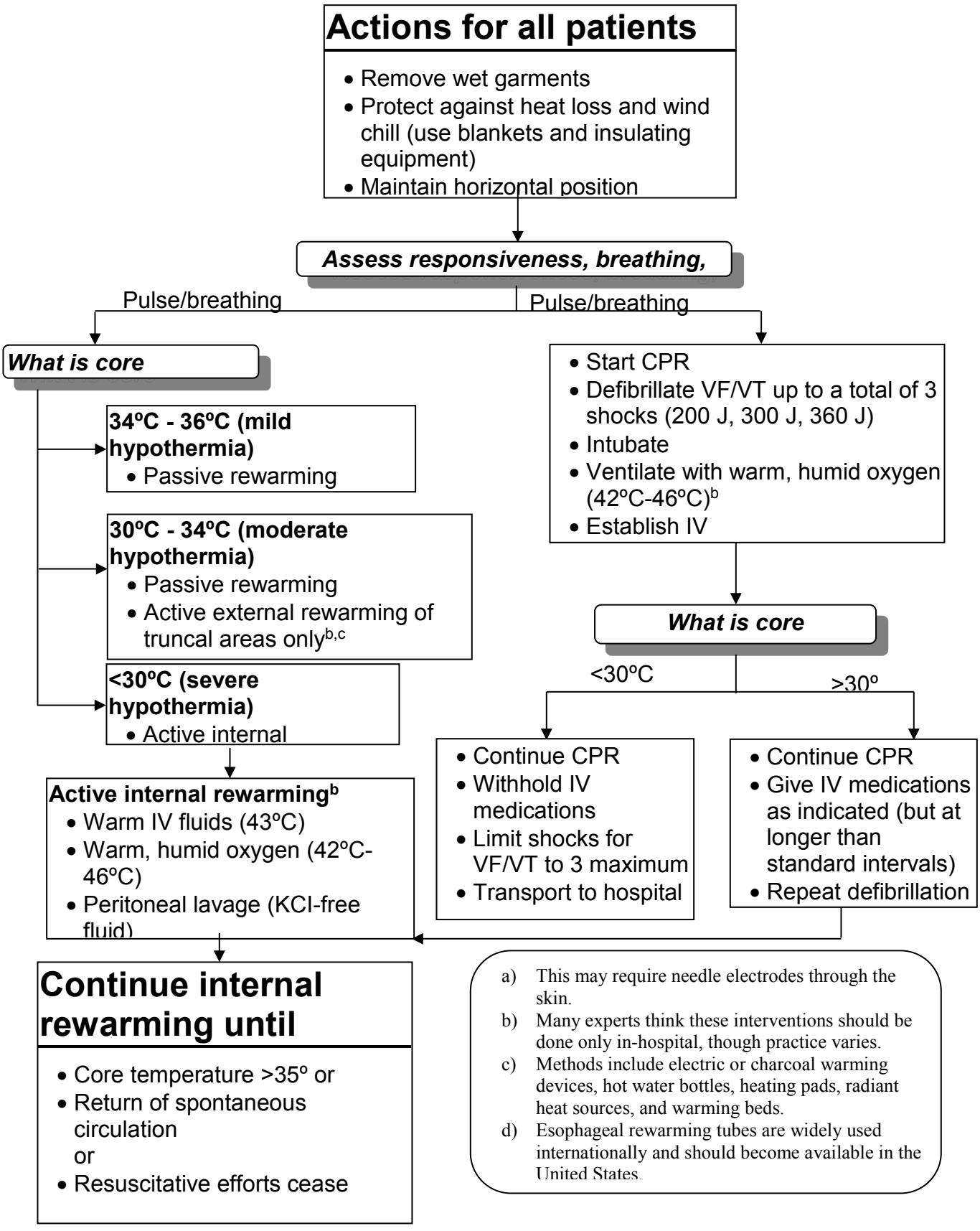
Assessment

Patients who are hypothermic are unable to maintain adequate internal heat production. Treatment is based on the patient's clinical condition and body temperature. Treatment may range from merely removing wet clothes and drying to active re-warming and ACLS measures. The very young, the very old, and those with chronic medical or debilitating conditions are at increased risk of hypothermia. Core temperatures above 86°F usually have good prognosis of survival after recovery. Core temperatures below 86□F have poorer prognosis; their myocardium is more irritable and they are usually unconscious, with stiff and rigid muscles. If severely hypothermic, (temperature less than 86□F/30□C), for ventricular fibrillation or tachycardia; no medications, three total shocks until warm. If known extended exposure to wet or cold environment and the patient is comatose or in cardiac arrest, treat for severe hypothermia. **No patient is dead until warm and dead.**

Treatment

EMR	• Eliminate environmental heat loss (remove wet clothes) • Avoid rough movement and excess activity • Oxygen • Apply heat to head, neck, chest, groin, armpits (only if mild or moderate hypothermia) • Rapid transport to SLMC for active internal re-warming if severely hypothermic
EMT	• Check blood sugar • Oral dextrose if airway is protected • Airway management
AEMT	• IV with crystalloid (heated) • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management

See following page for Hypothermic Flowchart.


Actions for all patients
• Remove wet garments
• Protect against heat loss and wind chill (use blankets and insulating equipment)
• Maintain horizontal position
Assess responsiveness, breathing,
Pulse/breathing
Pulse/breathing
What is core
34ºC - 36ºC (mild hypothermia)
• Passive rewarming
30ºC - 34ºC (moderate hypothermia)
• Passive rewarming
• Active external rewarming of truncal areas only[b,c]
<30ºC (severe hypothermia)
• Active internal
Active internal rewarming[b]
• Warm IV fluids (43ºC)
• Warm, humid oxygen (42ºC-46ºC)
• Peritoneal lavage (KCl-free fluid)
• Start CPR
• Defibrillate VF/VT up to a total of 3 shocks (200 J, 300 J, 360 J)
• Intubate
• Ventilate with warm, humid oxygen (42ºC-46ºC)[b]
• Establish IV
What is core
<30ºC
>30º
• Continue CPR
• Withhold IV medications
• Limit shocks for VF/VT to 3 maximum
• Transport to hospital
• Continue CPR
• Give IV medications as indicated (but at longer than standard intervals)
• Repeat defibrillation
Continue internal rewarming until
• Core temperature >35º or
• Return of spontaneous circulation
or
• Resuscitative efforts cease
a) This may require needle electrodes through the skin.
b) Many experts think these interventions should be done only in-hospital, though practice varies.
c) Methods include electric or charcoal warming devices, hot water bottles, heating pads, radiant heat sources, and warming beds.
d) Esophageal rewarming tubes are widely used internationally and should become available in the United States.

Inhalation Injuries

Subjective

Environment: poorly ventilated spaces, fire, explosion, exhaust, furnaces, gases present (i.e., methane, CO, cyanide), barbecues, charcoal fires. Length of exposure. Type of exposure: steam, dry heat, gases, fire victim.
Symptoms: Dyspnea, headache, sore throat, sore mouth, cough, nausea, vomiting, poor coordination.

Objective

Sooty or blistered airway, singed facial hairs, stridor, hoarseness, cough, shortness of breath, labored breathing, changes in mentation, coma.

Assessment

Inhalation is the most rapid route of toxins into body. Onset of symptoms can take up to 12-36 hours. Patients may rapidly deteriorate; airway management may need to be aggressive. Multiple patients with similar symptoms suggests toxic inhalation.

Treatment

PROTECT YOURSELF AND OTHERS FIRST

EMR	• High flow oxygen Removal from toxic environment
EMT	• Airway management
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management

Insect Stings and Animal/Spider Bites

Subjective

Patient may complain of localized pain, burning sensation and itching at the site, anxiety, restlessness, weakness, dizziness, headache or syncope. Numbness in affected limb or body part, joint pain or muscle cramps. There may also be chest tightening, shortness of breath, abdominal pain, nausea or chills. Animal or insect identification may be important to prove allergies, multiple bites or stings.

Objective

Local Reaction: Stings or puncture marks on skin with redness, swelling, discoloration or blistering at site. ***Systemic Reaction***: Anaphylaxis. ***Black Widow Spider Bite:*** progressive muscle spasm of back, abdomen and large muscle groups, vomiting, seizures, paralysis, hypertension, headache, tingling and burning sensation. ***Brown Recluse or Hobo Spider Bite:*** reddened area with underlying blister formation and surrounding area of necrosis. Over several days area turns dark and becomes ulcerated. ***Tick Bites:*** Lyme Disease may present with distinctive bull's eye rash surrounding the bite developing over a month and accompanied by flu like symptoms. ***Animal Bites:*** contusions or superficial abrasions to severe crush injuries, deep puncture wounds and tissue loss may develop.

Assessment

Insect stings, spider bites, scorpion stings, and marine life stings are typical sources of injected poisons or toxins. Gather information from the patient, bystanders and the scene and determine whatever you can about the insect, spider or other possible source of the poisoning.

Treatment

EMR	• Scene safety
	• Oxygen
	• Wound care
	• Remove constricting items (clothing, jewelry)
	  ○ ***Insect stings:*** **gently remove stinger**
	  ○ ***Tick:*** **do not remove; refer to hospital**
	  ○ ***Animal bites:*** **if patient not transported, contact law enforcement**
	• Epi-Pen for anaphylaxis (additional training required)

EMT	• Epinephrine for anaphylaxis • Airway management
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor • Morphine or Fentanyl
Paramedic	• Advanced airway management • Epinephrine • Diazepam

Nausea & Vomiting

Subjective

Nausea – unpleasant sensation of feeling the urge to vomit. Retching – spasmodic esophagus and stomach contractions against a closed glottis, often resulting in emesis. Emesis (vomiting) – forceful abdominal contractions emptying the stomach through the mouth.

Objective

Patient may appear with pale and diaphoretic skin.
Emesis may contain partly digested food particles, be yellow from bile, black from partly digested blood or red from active upper gastrointestinal bleeding.

Assessment

Nausea and vomiting are unpleasant sensations and actions with many possible causes.

Treatment

EMR **EMT**	• Keep patient comfortable • Oxygen
AEMT	• IV with crystalloid
EMT- I **Paramedic**	• Zofran ODT oral • Ondansetron (Zofran)

The smell of a rubbing alcohol wipe may ease the feeling of nausea.

Near Drowning

Subjective

Determine the length of exposure to the water and if the water was fresh or salt water, and the water temperature. Patient may exhibit dyspnea, cough, chest pain, headache, nausea, vomiting, neck pain, some injuries may be sustained through bystander treatment.

Objective

Assess the level of consciousness, rales, respiratory rate, cyanosis, pallor, internal temperature, and hypotension.

Assessment

Assess for other injuries: shallow water dives may include blunt trauma and scuba diving may include barotrauma.

Treatment

EMR	• Suction airway • Spinal immobilization • Oxygen • Remove wet clothing and warm patient
EMT	• Airway management
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management • Nasal or oral gastric tube

Nerve Agent/Organophosphate Poisoning

Subjective

History of organophosphate poisoning or exposure to nerve agent and: Diarrhea, Urination, Miosis, Bradycardia, and Bronchospasm Emesis, Lacrimation, Salivation, Secretion and Sweating. (DUMB-BELS).

Objective

Examination may show:

Mild Symptoms: Fatigue, Headache, Nausea, Vomiting, Diarrhea, Wheezing, and Rhinorrhea

Moderate Symptoms: Mild symptoms PLUS; systemic weakness, Fasciculations, Unable to walk.

Severe Symptoms: Mild and Moderate Symptoms PLUS; Flaccid Paralysis, Syncope, Comatose.

Remember the chemical that caused the poisoning may still be contaminating the patient; perform proper decon and protect yourself as a responder from cross contamination.

Assessment

Diagnosis of Organophosphate poisoning or exposure to Nerve Agent is made on the basis of the patient's symptoms and known exposure. If multiple patients present at one setting but a known exposure is not confirmed you should take precautions and treat the patients.

Treatment

Mark 1 auto injectors available in the Chempack supply at Klamath County Jail the incident commander must facilitate transport to the scene. (1 kit = 1 atropine and 1 Pralidoxime auto injector). Also available in the Chempack is a supply of Diazepam.

EMR	• Oxygen • vital signs

EMT
AEMT
	• If patient is decontaminated, transport as soon as possible
	• Mild Symptoms Without Respiratory Distress
	  o Mark 1 kit auto injector should not be used
	• Mild Symptoms With Respiratory Distress
	  o Administer one Mark-1 kit;
	  o Repeat as needed every 5 – 10 minutes – max. 3 Mark-1 kits
	• Moderate Symptoms
	  o Administer 1-2 Mark-1 kits
	  o Repeat as needed every 5 – 10 minutes – max. 3 Mark-1 kits
	• Severe Symptoms
	  o Administer up to 3 Mark-1 kits
	  o Secure airway and assist ventilations

EMT- I	• Cardiac monitor
Paramedic	• Diazepam

Pain Management

Subjective

Patient may complain of pain as a part of an acute illness or injury. Patient's pain may be rated as uncomfortable to intolerable.

Objective

Patient in pain may appear pale, diaphoretic, anxious, restless or irritable. Patient may be tachypneic or tachycardiac. Exam may or may not reveal a source of the pain. Patient's exam may be normal.

Assessment

Patient management should be initiated to control pain to a comfortable level as appropriate and possible. Examples of processes causing pain include, but are not limited to: back spasms, migraine headache, cardiac chest pain, orthopedic injury, abdominal pain, burns, cancer, pancreatitis, diverticulitis or kidney stones.

Treatment

EMR **EMT**	• Make patient comfortable • Oxygen
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Morphine or Fentanyl • Consider prophylactic ondansetron
Paramedic	• Ketamine, Diazepam or Midazolam for sedation

Poisons & Overdoses

Subjective

Determine route of exposure: ingestion, inhalation, injection or surface absorption. Description of exposure: type of poison, quantity, time elapsed since exposure or ingestion. Reason for exposure or ingestion: accidental, abuse, neglect, assault or suicidal gesture. Past medical history: medication, diseases, psychiatric history, drug abuse. Actions taken by bystanders: induced vomiting, antidotes given.

Objective

C.N.S. - altered level of consciousness, headache, seizures, hallucinations, coma. **Pupils** - constricted (narcotics) or dilated (barbiturates, CO). **Respiratory** - abnormal breathing, tachypnea or shallow respirations. **Cardiovascular** - tachydysrhythmias (methamphetamine, cocaine, ASA) or bradydysrhythmias (digitalis, organophosphates). Hypotension or hypertension. **Skin** - cyanosis, pallor, diaphoretic, evidence of needle tracks. **Gastrointestinal** - burns or stains around patient mouth, odor on breath, gag reflex, nausea & vomiting, abdominal pain or tenderness.

Assessment

Poisonings and overdoses may be accidental or intentional exposure of the body to toxic substances in an amount sufficient to have a damaging or destructive effect. **SLUDS BAM** - salivation, lacrimation, urination, defecation, sweating, bronchospasm, arrhythmia, miosis suggests organophosphate poisoning. Bring all medicine containers. If suspected hazardous material, leave container but obtain correct spelling and UN or NFPA704 number.

Treatment

EMR	• Oxygen • Contact medical control with specifics of poisoning if needed • Oregon Poison Control 1-800-222-1222 • Activated charcoal if within one hour of ingestion and after medical control consultation • Narcan if narcotic overdose suspected
EMT	• Check blood sugar • Oral glucose • Airway management • Mark 1 Auto injector for organophosphate or nerve agents
AEMT	• IV with crystalloid • If unable to establish IV consider IO • IV dextrose
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management • Atropine for Organophosphate poisoning • Sodium bicarbonate for symptomatic tricyclic anti-depressant poisoning • Calcium Gluconate for calcium channel blocker or magnesium poisoning • Glucagon for beta blocker poisoning

Respiratory Distress

Subjective

Onset and duration of dyspnea, pain (quality, region, severity, provocation), hemoptysis, cough (sputum, color), hoarseness, dysphagia, time of onset of symptoms, change with position, fatigue, history of injury to area, previous history of similar episodes, exposure to toxic substances, overdose, history of recent surgeries, or prior heart or lung problems and medications.

Objective

Rales, rhonchi, wheezing, stridor, hives, cyanosis, tachycardia, tachypnea, tripod sitting, pursed lip breathing, level of consciousness, temperature, diaphoresis, trauma, subcutaneous emphysema, bruising, paradoxical movement, jugular venous distention, tracheal position, retractions.

Assessment

Respiratory distress has a multitude of causes. Differential diagnosis will be made both on subjective and objective findings. Many things may lead to respiratory distress: CHF, COPD, asthma, trauma, pulmonary embolism, respiratory infections, croup, epiglottitis, anaphylaxis, foreign bodies, poisonings, inhalation injuries and neurological problems.

Treatment

EMR	• Oxygen Position of comfort
EMT	• Airway management • Refer to CHF, COPD or Asthma protocols as needed
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management

Respiratory Distress - Asthma

Subjective

Known exposure to allergens, symptoms of respiratory infection, increased emotional stress, environmental changes, time of onset of symptoms, history of asthma, tightness in chest, cough, or past medical history, recent hospitalizations, medications, frequency of respiratory medication use.

Objective

Wheezing, decreased or absent breath sounds, prolonged expiratory phase, tachycardia, tachypnea, use of accessory muscles, retraction, cyanosis, decreased level of consciousness, diaphoresis, exhaustion, tripod sitting, one to three word sentences, decreased SaO_2.

Assessment

Due to the narrowing airway passages, inflammation and increased mucus production, coughing, chest tightness and wheezing usually develop. The patient's level of respiratory distress will dictate how aggressive your treatment should be. Patients may be using inhalers: Azmacort, Vanceril, Albuterol (Ventolin or Proventil), Ipratropium (Atrovent), Maxaire or be taking Theophylline or prednisone. Also consider CHF, COPD, pneumonia, and cardiac problems.

Treatment

EMR	• Position of comfort • High flow oxygen • May assist with self-administration of patient's own metered dose inhaler
EMT	• Administer nebulized albuterol with or without ipratropium bromide • CPAP • Airway management
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management • Epinephrine - use caution in patients over 50 with cardiac history • Magnesium sulfate

CHF/Pulmonary Edema

Subjective

Duration of symptoms, dyspnea on exertion or at rest, fatigue, orthopnea, paroxysmal nocturnal dyspnea, ankle swelling, chest pain or pressure, cough, sputum color, recent weight gain, past medical history, medications and recent hospitalizations.

Objective

Rales, rhonchi, wheezing, tachypnea, tachycardia, cyanosis, inability to speak full sentences, need to sit upright, hypertension (early) or hypotension (late), dysrhythmias, jugular vein distention, peripheral edema.

Assessment

Left sided failure leads to pulmonary edema, increased preload and after load. This has a short onset (2-24 hours). Patients are afebrile, have bilateral abnormal breath sounds and clear or pink sputum, cardiac history and may currently be on cardiac medications: Digoxin (Lanoxin), Furosemide (Lasix), HCTZ, Metoprolol (Lopressor), Atenolol (Tenormin), nitro patches or ACE inhibitors.

Treatment

EMR	• Oxygen • Position of comfort
EMT	• CPAP • Airway management
AEMT	• IV with crystalloid • If unable to establish IV consider IO • Albuterol if wheezing
EMT- I	• Cardiac monitor • Nitroglycerin
Paramedic	• Advanced airway management • Dopamine for cardiogenic shock • Diazepam for anxiety

COPD Exacerbation

(Chronic Obstructive Pulmonary Disease)

Subjective

Duration and onset of symptoms, dyspnea on exertion, fatigue, chest pain or pressure, fever, cough, sputum, color, increased amount of sputum, smoking history, recent illness (especially upper respiratory infection), medications, past medical history, home oxygen, exposure to allergens or irritants.

Objective

Rhonchi, wheezing, decreased air movement, tachypnea, tachycardia, cyanosis, prolonged expiratory phase, pursed lip breathing, barrel chested, confusion, one to three word sentences.

Assessment

COPD is a chronic disease which people live with every day. During exacerbations patients develop respiratory distress which leads to hypoxia. Onset is often over a couple of days. These patients frequently are on home oxygen and use nebulizers: Albuterol (Ventolin or Proventil), Ipratropium (Atrovent), corticosteroids (Vanceril, Azmacort) and take respiratory medications (Theophylline or prednisone).

Treatment

EMR	• Position of comfort • Oxygen
EMT	• May assist with self-administration of patient's own metered dose inhaler • Administer nebulized albuterol with or without ipratropium bromide • CPAP • Airway management
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management

Seizures

Subjective

Assess PMH for known seizure disorder, onset, length, frequency, type, presence of aura. Check for head trauma, drug or alcohol use, diabetes, heart disease, CVA, pregnancy, fever, headache or stiff neck. Anticonvulsant medications might include Phenytoin (Dilantin), Phenobarbital, Carbemazepine (Tegretol) and Valproic acid (Depakote). Determine compliance with seizure medications.

Objective

Assess for head trauma or mouth injury, altered level of consciousness, incontinence of urine or stool or observed seizure activity. Increased body temperature may cause seizures and assess for rashes, petechiae or purpura.

Assessment

With injury, infection or disease the electrical activity of the brain becomes irregular which brings about sudden changes in sensation, behavior, or movement called seizures.
Grand Mal - generalized major motor seizure. Alternating tonic (contractions) or clonic (successive contractions and relaxations) movements of extremities.
Focal Motor - simple partial seizure, characterized by dysfunction of one area of the body including, tingling, stiffening or jerking.
Psychomotor - complex partial seizure, characterized by abnormal behavior such as confusion, glassy stare, aimless movements, lip smacking or fidgeting with clothing.
Petit Mal - seizure is brief, usually 1-10 seconds, with a temporary loss of concentration.

Treatment

EMR	• Place patient on floor or ground; remove objects that might cause harm • Oxygen • Place patient into recovery position when seizure has stopped
EMT	• Check blood sugar • Oral glucose if indicated and no airway risk
AEMT	• IV with crystalloid • If unable to establish IV consider IO • Dextrose IV if indicated
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management • Diazepam • Midazolam

Shock

Subjective

Mechanism of injury: trauma, infection, allergic reaction, toxic exposures, disease. A feeling of impending doom or signs of fear, dizziness, weakness, feeling cold, thirst, shortness of breath, chest pain, vomiting or diarrhea, bloody stools or emesis, abdominal pain. Prior medical illnesses.

Objective

Patient may exhibit confusion, restlessness, agitation, may have pale, cool, clammy skin, shallow or rapid breathing, rapid or weak pulse, hypotension. The patient may also have delayed capillary refill, abdominal tenderness, rigidity, distention or mass, obvious external trauma: amputations, deformities, bruising.

Assessment

Shock is the failure of the cardiovascular system to provide sufficient oxygenated blood to vital tissues of the body.
Hypovolemic - caused by loss of blood or other body fluids.
Cardiogenic - caused by the heart failing to pump blood adequately to vital body parts.
Distributive: neurogenic, anaphylactic, septic, psychogenic, metabolic - increase in vascular dilatation or permeability.

Treatment

EMR	• Oxygen • Shock position • Prevent loss of body heat
EMT	• Airway management
AEMT	• One or two large bore IVs with crystalloid; fluid challenge • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management • Dopamine or Norepinephrine

Snake Bites

Subjective

Patient may experience localized pain at site of bite, metallic or rubber taste in mouth and lips, thirst blurry or dim vision, weakness, dizziness or lightheadedness, numbness or tingling around face and head. Document time of bite, the snake identification and treatment rendered.

Objective

One or more fang marks with redness, swelling, ecchymosis or oozing from site, followed later by hemorrhagic blisters. Patient may have respiratory distress, tachycardia, hypotension, vomiting or diarrhea, bloody urine or gastrointestinal hemorrhage.

Assessment

The seriousness of a snake bite is related to amount of venom injected, the location of the bite, the type of snake and pre-existing medical conditions. The vast majority of snake bites are non-fatal.

Treatment

PROTECT YOURSELF AND OTHERS FIRST

EMR **EMT**	• Assure scene safety • Calm and reassure patient • Minimize victim's physical activity • Oxygen • Splint bitten extremity in dependent position, below level of heart • Remove constricting clothing or jewelry
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I **Paramedic**	• Cardiac monitor • Morphine or Fentanyl

Spine Trauma

Subjective

Determine mechanism of injury and force such as high energy transfer, ejection, helmet damage, starred windshield, steering column bent, surface diving accident. Assess for back or neck pain, tingling, paresthesia, numbness or paralysis.

Objective

Spinal injuries at the right level can cause diaphragmatic or impaired breathing. Head injury may accompany spinal injury, it may be closed or an open injury, spinal deformity or tenderness. Patient may be hypotension, experience loss of bladder or bowel control, priapism, paralysis or numbness.

Assessment

The presence of spine trauma and the need to immobilize the patient can be indicated by mechanism of injury, the presence of other injuries or by specific signs or symptoms of spinal cord injury. Spinal cord injury may mask signs and symptoms of other significant injuries.

Treatment

EMR	• Oxygen • Full spinal immobilization or spinal motion restriction depending on criteria • Check motor and sensory exam frequently • Evaluate and treat for other injuries • Prevent loss of body heat
EMT	• Airway management
AEMT	• IV with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management • Atropine if bradycardic and hypotensive • Dopamine or Norepinephrine

Syncope

Subjective

Onset, frequency, stressful or anxiety provoking factors, position of patient, seizure activity, vertigo, nausea, chest or abdominal pain, diaphoresis, past medical history, medications, previous syncope, recent illness, dietary changes, pregnancy.

Objective

Check for orthostatic blood pressure and pulse changes, level of consciousness, cardiac dysrhythmias, pulsating abdominal mass, other injury or bleeding.

Assessment

Syncope implies a brief loss and rapid return of consciousness. The most common causes are vasovagal reactions and idiopathic (unknown). Other common causes include GI bleed, abdominal aortic aneurysm, cardiac dysrhythmia and cerebrovascular accident.

Treatment

EMR	• Oxygen • Shock position
EMT	• Check blood sugar • Oral glucose if no airway risk
AEMT	• IV with crystalloid • If unable to establish IV consider IO • IV dextrose
EMT- I Paramedic	• Cardiac monitor

Trauma System Entry

Subjective

Evaluate the mechanism of injury, environmental conditions and co-existing medical illnesses or conditions.

Objective

Some injuries may be obvious but don't be distracted, examine the patient fully and exclude any the hidden injuries. Undress the patient appropriately.

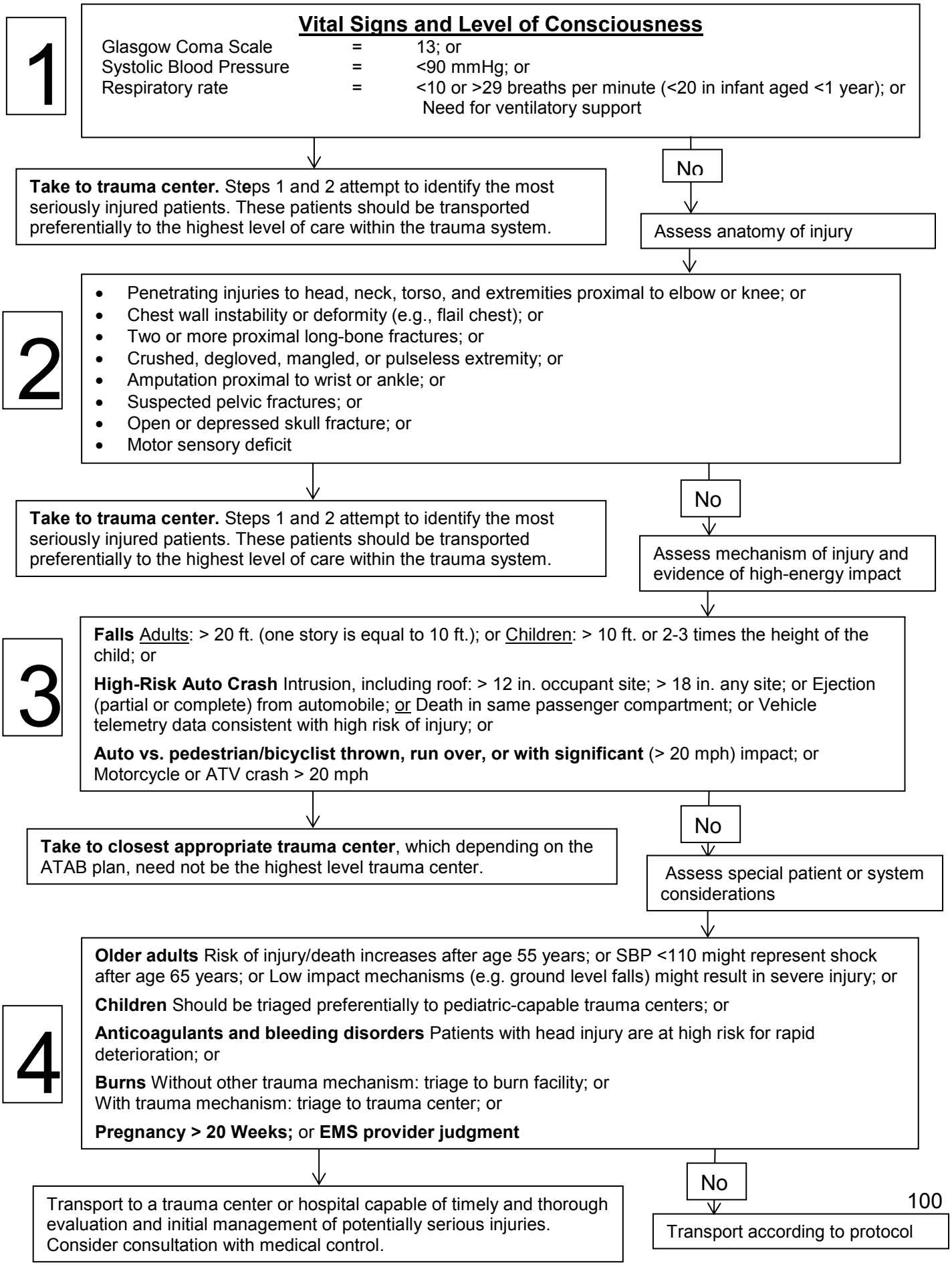
Assessment

Entry of a patient into the trauma system speeds care for those who need resuscitation or emergency surgical procedures during the first hour or two after trauma.

See chart on next page:

Treatment

EMR	• High flow oxygen • Cover open wounds with occlusive dressing • Maintain body heat • Spinal immobilization • Notify trauma hospital of entry criteria • Apply trauma band
EMT	• Airway management
AEMT	• Two large bore IVs with crystalloid • If unable to establish IV consider IO
EMT- I	• Cardiac monitor
Paramedic	• Advanced airway management • Chest decompression


1
Vital Signs and Level of Consciousness
Glasgow Coma Scale = 13; or
Systolic Blood Pressure = <90 mmHg; or
Respiratory rate = <10 or >29 breaths per minute (<20 in infant aged <1 year); or
Need for ventilatory support
Take to trauma center. Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the trauma system.
No
Assess anatomy of injury
2
Penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee; or
Chest wall instability or deformity (e.g., flail chest); or
Two or more proximal long-bone fractures; or
Crushed, degloved, mangled, or pulseless extremity; or
Amputation proximal to wrist or ankle; or
Suspected pelvic fractures; or
Open or depressed skull fracture; or
Motor sensory deficit
Take to trauma center. Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the trauma system.
No
Assess mechanism of injury and evidence of high-energy impact
3
Falls Adults: > 20 ft. (one story is equal to 10 ft.); or Children: > 10 ft. or 2-3 times the height of the child; or
High-Risk Auto Crash Intrusion, including roof: > 12 in. occupant site; > 18 in. any site; or Ejection (partial or complete) from automobile; or Death in same passenger compartment; or Vehicle telemetry data consistent with high risk of injury; or
Auto vs. pedestrian/bicyclist thrown, run over, or with significant (> 20 mph) impact; or Motorcycle or ATV crash > 20 mph
Take to closest appropriate trauma center, which depending on the ATAB plan, need not be the highest level trauma center.
No
Assess special patient or system considerations
4
Older adults Risk of injury/death increases after age 55 years; or SBP <110 might represent shock after age 65 years; or Low impact mechanisms (e.g. ground level falls) might result in severe injury; or
Children Should be triaged preferentially to pediatric-capable trauma centers; or
Anticoagulants and bleeding disorders Patients with head injury are at high risk for rapid deterioration; or
Burns Without other trauma mechanism: triage to burn facility; or
With trauma mechanism: triage to trauma center; or
Pregnancy > 20 Weeks; or EMS provider judgment
Transport to a trauma center or hospital capable of timely and thorough evaluation and initial management of potentially serious injuries. Consider consultation with medical control.
No
Transport according to protocol

Vaginal Bleeding

Subjective

Cramping or pain, onset of bleeding, clots or tissue, last normal menstrual period, method of birth control, due date if pregnant, history of vaginal trauma, number of pads or tampons per hour, past medical history, medications, referred shoulder pain.

Objective

Estimated blood loss, hypotension, abdominal tenderness or guarding.

Assessment

Vaginal bleeding can occur for a variety of reasons: pregnancy, trauma, hormonal imbalance and cancer. Patients may be miscarrying and unaware that they were pregnant. Tissue fragments or clots should be brought to the hospital. Emotional support may need to be provided to the patient and family. In cases of assault, preserve evidence.

Treatment

EMR **EMT**	• Oxygen • Shock position
AEMT	• One or two large bore IVs with crystalloid • If unable to establish IV consider IO
EMT- I **Paramedic**	• Cardiac monitor

***Patients with third trimester bleeding should be transported to SLMC obstetrics.**

Pre Hospital Medications

Section C

Acetaminophen

Trade Name

Tylenol, APAP, Panadol

Action

Antipyretic, analgesic

Indications

Fever greater than 39ºC (102.2ºF) in children less than 12 years old who:

- Are conscious, awake and appear toxic or have a prolonged transport time;

OR

- Recent seizure.

Contraindications

- Known sensitivity to acetaminophen
- Hyperthermia from environmental causes

Side Effects & Precautions

- Significant overdose may cause liver failure.
- Do not give if patient has had appropriate dosage within two hours.

How Supplied

- 160 mg/5.0 ml elixir
- 120 mg/suppository

Route & Dosage

PARAMEDIC:

Pediatric: 15 mg/kg: oral if conscious and awake, otherwise rectal suppository

ACETAMINOPHEN DOSING

AGE	WEIGHT (LB)	WEIGHT (KG)	DOSE (TSP)
Under 2 years	<24 lbs	<11 kg	15 mg/kg
2 - 3 years	24 - 35 lbs	11 - 16 kg	1 tsp = 5 ml = 160 mg
4 - 5 years	36 - 47 lbs	16 - 21 kg	1½ tsp = 7.5 ml = 240
6 - 8 years	48 - 59 lbs	22 - 27 kg	2 tsp = 10 ml = 320
9 - 10 years	60 - 71 lbs	27 - 32 kg	2½ tsp = 12.5 ml =
11 years	72 - 95 lbs	33 - 43 kg	3 tsp = 15 ml = 480

Acetylsalicylic Acid (ASA, Aspirin)

Trade Name

Ecotrin and others

Action

Inhibits platelet aggregation

Indications

- Cardiac chest pain

Contraindications

- ☠ Known sensitivity to aspirin
- ☠ Active GI bleeding

Side Effects & Precautions

Do not administer if is unconscious or unable to protect airway.

How Supplied

81 mg chewable tablet

Route and Dosage

	Cardiac chest pain
EMR **EMT** **AEMT** **EMT- I** **Paramedic**	4 tablets (81 mg each) orally

Activated Charcoal

Trade Name

Actidose

Action

Absorbs ingested toxic substances and inhibits gastrointestinal absorption by forming a barrier between remaining particulate material and gastrointestinal mucosa.

Indications

Oral toxic ingestion, poisoning or overdose in conscious and awake patients within 1 hour of ingestion and after consultation with on-line medical control.

Contraindications

- Known sensitivity to activated charcoal
- Unconscious patient or diminishing level of consciousness
- Ingestions of mineral acids or alkalis, petroleum products or cyanide

Side Effects & Precautions

- Relatively contraindicated in tricyclic overdoses , administration can result in aspiration or significant particulate obstruction of the airway.
- Do not administer activated charcoal in the presence of Ipecac.

Route and Dosage

Prior to delivering this medication, contact medical control.

<table>
<tr><th></th><th>Adult</th><th>Pediatric</th></tr>
<tr><td>EMR</td><td rowspan="5">25- 50 grams orally</td><td></td></tr>
<tr><td>EMT</td><td></td></tr>
<tr><td>AEMT</td><td></td></tr>
<tr><td>EMT- I</td><td rowspan="2">0.5 gm/kg orally</td></tr>
<tr><td>Paramedic</td></tr>
</table>

Adenosine

Trade Name

Adenocard

Action

Slows conduction time through the A-V node and can interrupt the re-entry pathways through the A-V node and can restore normal sinus rhythm in patients with paroxysmal supraventricular tachycardia (PSVT) including Wolff-Parkinson-White syndrome. Half-life is less than 10 seconds.

Indications

Supraventricular tachycardia

Contraindications

- Known sensitivity to adenosine
- Sick sinus syndrome or second or third degree heart block without functioning pacemaker

Side Effects & Precautions

- Transient asystole may occur. It may also cause facial flushing, headache, shortness of breath, dizziness, nausea or chest pain.
- Dysrhythmia may develop including PVCs, PACs, sinus bradycardia, sinus tachycardia, A-V blocks and asystole.
- Not initial treatment for wide complex tachycardia. Larger doses may be required in the presence of methylxanthines (caffeine, theophylline).
- Will probably not convert atrial fibrillation or flutter, but may slow the rate transiently.
- If given to patients who have Wolff-Parkinson-White syndrome may cause paradoxical increase in ventricular rate.

How Supplied

6.0 mg/2 ml vial

Route and Dosage

	Pediatric	**Adult**
Paramedic	• 0.1 mg/ kg rapid IV or IO push over 1- 2 seconds with 10 ml saline rapid IV push at proximal IV or IO port. • May repeat with 0.2 mg/kg in 1-2 minutes	• 6 mg rapid IV or IO push over 1- 2 seconds Followed by 20 ml saline rapid IV push at next most proximal IV or IO port. • If no conversion, 12 mg rapid IV or IO over 1-2 seconds followed by 20 ml saline rapid IV or IO push at next most proximal IV port preferably a large bore antecubital site, in 1-2 minutes. • May repeat 12 mg once in 1-2 minutes

Albuterol

Trade Name

Proventil, Ventolin

Action

Potent, relatively selective beta 2-adrenergic bronchodilator. Onset of action is 2-15 minutes; duration of action is 4-6 hours.

Indications

Bronchospasm due to asthma, COPD, CHF or anaphylaxis (Approved for use in asthma and COPD only at the EMT level).

Contraindications

- Known sensitivity to Albuterol.

Side Effects & Precautions

- Palpitations, anxiety, nausea and dizziness.
- Stop treatment if frequent PVCs or a tachyarrhythmia other than sinus tachycardia develops.

How Supplied

2.5 mg/3 ml solution

Route and Dosage

EMT for Asthma and COPD Only **AEMT** **EMT- I** **Paramedic**	• 3 ml solution via nebulizer with oxygen set at 6 - 10 L/min • May repeat twice

.

Amiodarone

Trade Name

- Cordarone
- Pacerone

Action

Antiarrhythmic agent

Indications

- Ventricular fibrillation or pulseless ventricular tachycardia unresponsive to initial defibrillation.
- Ventricular tachycardia with a pulse in a stable patient.

Contraindications

- Known sensitivity to Amiodarone.
- Wolff-Parkinson-White syndrome with narrow complex tachycardia.

Side Effects & Precautions

- If severe signs or symptoms develop use immediate cardioversion.
- May cause hypotension.
- May cause or worsen bradycardia or conduction defects.
- May worsen congestive heart failure.
- Rarely may precipitate cardiac dysrhythmias - torsades de pointes.

How Supplied

150 mg/ 3ml ampule and D5W.

Route and Dosage

	Ventricular fibrillation/Pulseless ventricular tachycardia	**Ventricular tachycardia with a pulse**	**Post-conversion from v-fib or tachycardia to a perfusing rhythm**
EMT- I Paramedic	• 300 mg IV or IO • If no perfusing rhythm 150 mg IV or IO bolus in 3 - 5 minutes	• 150 mg in 10-100ml ns over 10 minutes • Repeat once in 10 minutes if no change in rhythm	• 150 mg in 10-100ml normal saline IV or IO over 10 minutes

.

Atropine Sulfate

Trade Name

Atropine

Action

Parasympatholytic agent with the following effects: increases heart rate, increases conduction through A-V node, reduces motility and tone of GI tract, reduces tone of the urinary bladder, dilates pupils, dilates bronchi.

Indications

- Symptomatic bradycardia.
- Antidote for symptomatic organophosphate poisoning. (See Mark I Autoinjector)
- Pretreatment for RSI in children < 10 years.

Contraindications

- ☠ Known sensitivity to atropine sulfate.

Side Effects & Precautions

- Relatively contraindicated in second degree type 2 A-V block and third degree block with wide QRS complexes in the presence of an acute MI.
- Bradycardia in the setting of an acute MI is common; do not treat rhythm unless the patient is symptomatic or there are signs of poor perfusion.

How Supplied

1 mg/10 ml prefilled syringe

Route and Dosage

	Symptomatic bradycardia	**Pediatric Symptomatic bradycardia**	**Organophosphate poisoning**
EMT- I	• 0.5 mg IV or IO push, every 3-5 minutes, • maximum 3mg		

Paramedic	• 0.5 mg - 1 mg IV or IO push, every 3-5 minutes
	• Maximum 3 mg.
		• 0.02 mg/kg, IV or IO.
		  ○ Minimum single dose: 0.1 mg.
		  ○ Maximum single dose: 0.5 mg in child,
		  ○ 1.0 mg in adolescent.
		• May repeat once.
			• Double dose every 5 minutes until symptoms controlled.
			• Use of auto-injector is indicated

Calcium Chloride

Trade Name

Calcium Chloride

Action

Electrolyte essential for muscle contraction

Indications

- Antidote for overdoses of calcium channel blockers or magnesium.
- Topical treatment for hydrogen fluoride or hydrofluoric acid exposure.

Contraindications

- ☠ Known sensitivity to calcium gluconate.

Side Effects & Precautions

- Will precipitate if infused in same line with sodium bicarbonate.
- Use with caution in patients taking Digoxin.

How Supplied

1 gram (=13.6 mEq) in 10 ml (=10% solution) pre-filled syringe or vial

Route and Dosage

	(Adult) Calcium Channel Blocker Or Magnesium Sulfate overdose	**(Pediatric) Calcium Channel Blocker Or Magnesium Sulfate overdose**	**Hydrogen fluoride or hydrofluoric acid exposure**
Paramedic	1 gram IV or IO (slowly, not exceeding 1 ml/min, repeat in 10 minutes as needed	20 mg/kg repeat every 10 minutes as needed	Apply topically - (mix 1 ampule in 1 ounce (30cc) K-Y jelly)

Crystalloid

Trade Name

Normal Saline, 0.9% Saline, NormoSol R, Lactated Ringer's

Action

Sterile isotonic fluid for intravenous use

Indications

Intravascular volume expansion, fluid challenge, medication administration or catheter flush.

Contraindications

None.

Side Effects & Precautions

- Administer with caution to patients with fluid overload such as pulmonary edema, brain injury, heart disease or kidney disease.
- In pediatric patients use a pump, volutrol or syringe to avoid excessive administration.

How Supplied

- Multi dose vials
- Prefilled syringes
- 50, 250, 500 and 1000 ml bags

Route and Dosage

	Catheter flush	**Medication flush**	**(Adult) Volume expansion**	**(Pediatric) Volume expansion**
AEMT EMT- I Paramedic	2-5 ml IV or IO	10-20 ml IV or IO	200-1000 ml IV or IO, repeat to desired effect	10-20 ml/kg IV or IO, repeat to desired effect

Diazepam (Optional)

Trade Name

Valium

Action

Benzodiazepine with anticonvulsant, skeletal muscle relaxant, anxiety reducing, amnesic and sedative effects

Indications

- Sedation for painful procedures (such as transcutaneous pacing or cardioversion), amputations or combative patients.
- Muscle relaxation for patients with dislocations or significant fractures.
- Post RSI sedation.
- Seizures.

Contraindications

- ☠ Known sensitivity to diazepam.

Side Effects & Precautions

- Respiratory depression, hypotension or sedation is common, particularly in the elderly.
- In those with chronic disease or in the presence of other sedating agents: alcohol, barbiturates, benzodiazepines or opiates paradoxical excitement or agitation may occur.

Route and Dosage

	Adult	**Pediatric**
Paramedic	• 2-10 mg IV, IO, or IM every 3-5 minutes • Max of 10 mg for sedation • Max of 20mg for seizures • May be given rectally for seizures	• 0.1-0.3 mg/kg IV, IO or IM (maximum dose 5 mg) • 0.5 mg/kg rectal (maximum dose 5 mg) • May repeat once

Diphenhydramine

Trade Name

Benadryl

Action

Blocks histamine receptor sites. Anticholinergic agent.

Indications

- Less effective and longer acting than epinephrine for use in mild to moderate anaphylactic or allergic reactions.
- Dystonic reactions for Paramedics only.

Contraindications

- ☠ Known sensitivity to diphenhydramine.

Side Effects & Precautions

- Usually sedating but may occasionally cause hyper-excitability, most often in children.
- Anticholinergic and anti-parkinsonian effect.

How Supplied

- 50 mg/1 ml vial or prefilled syringe
- 25 mg tablets (optional)
- 12.5 mg/5 cc (optional)

Route and Dosage

	Adult	**Pediatric**
EMT- I Paramedic	25-50 mg IV, IO, IM or orally	1-2 mg/kg IV, IO, IM or orally

Dopamine

Trade Name

Intropin

Action

Dilates renal and mesenteric arteries, increases cardiac output and causes systemic vasoconstriction.

Indications

- Hypotension not responding to volume replacement.
- Symptomatic bradycardia unresponsive to atropine and pacing.

Contraindications

- ☠ Known sensitivity to dopamine.
- ☠ Hypotension without adequate volume replacement.

Side Effects & Precautions

- Vasoconstriction and myocardial workload increase as dose increases which may result in cardiac dysrhythmia, angina or headache.
- Inactivated in alkaline solutions such as sodium bicarbonate.
- Causes tissue necrosis if IV or IO infiltrates.

How Supplied

400 mg in 10 ml vial to be mixed in:

- 250 ml saline (1600 mcg/ml) or
- 500 ml saline (800 mcg/ml)

400 mg in premixed bag

- 250 ml (1600 mcg/ml) or
- 500 ml (800 mcg/ml)

Route and Dosage

PARAMEDIC: Dose: 2-20 mcg/kg/min IV or IO infusion titrated to desired effect.

Dopamine (Intropin) 400 mg in 250 (1600 mcg/ml)

Microdrops per minute (or ml/hr)

	Patient weight - kg											
mcg/kg/min	2.5	5	10	20	30	40	50	60	70	80	90	100
2	*	*	*	1.5	2	3	4	5	5	6	7	8
5	*	1	2	4	6	8	9	11	13	15	17	19
10	1	2	4	8	11	15	19	23	26	30	34	38
15	1.4	3	6	11	17	23	28	34	39	45	51	56
20	2	4	8	15	23	30	38	45	53	60	68	75

For 800 mcg/ml concentration double the number of micro-drops above. (Dopamine 400 mg in 500 ml saline)

Epinephrine

Trade Name

Adrenaline

Action

Naturally occurring catecholamine with both alpha and beta adrenergic effects: increases heart rate, myocardial contractility, myocardial oxygen consumption, systemic vascular resistance and causes arterial vasoconstriction and bronchodilation.

Indications

- Ventricular fibrillation, pulseless ventricular tachycardia, asystole, PEA.
- Symptomatic bradycardia.
- Anaphylaxis.
- Asthma.

Contraindications

- Known sensitivity to epinephrine.
- Cardiac chest pain.

Side Effects & Precautions

- Commonly causes anxiety, tremor, palpitations and increases blood pressure. May cause angina or myocardial infarction.
- Use cautiously in patients over 50 years of age or with a history of coronary artery disease.
- May be inactivated if mixed with alkaline solutions, such as bicarbonate.

How Supplied

- 1 mg/1 ml (1:1,000) ampule or Tubex or Epi-Pen
- 1 mg/10 ml (1:10,000) prefilled syringe
- 30 mg/30 ml (1:1,000) vial

Route and Dosage

Anaphylaxis or (Asthma for Paramedics only) hypotension, bronchospasm, angioedema, itching, hives

	(Adult) Anaphylaxis	**(Pediatric) Anaphylaxis**
EMR	Epi-Pen; After completion of required additional training	
EMT	0.3 - 0.5 mg = 0.3 - 0.5 ml of 1:1,000 IM or Epi-Pen Auto Injector May repeat in 3-5 minutes	0.01 mg/kg = 0.01 ml/kg of 1:1,000 IM or Auto Injector Maximum 0.5 mg/dose. May repeat in 3-5 minutes
AEMT **EMT- I**	0.3 - 0.5 mg = 0.3 - 0.5 ml of 1:1,000 IM or 0.1 mg = 1 ml of 1:10,000 IV or EMT I can give IO. May repeat in 3-5 minutes	mg/kg = 0.1 ml/kg of 1:10,000 IV or EMT I can give IO. Maximum 0.5 mg/dose May repeat in 3-5 minutes
Paramedic	0.3 - 0.5 mg = 0.3 - 0.5 ml of 1:1,000 IM	mg/kg = 0.1 ml/kg of 1:10,000 IV or IO Maximum 0.5 mg/dose May repeat in 3-5 minutes

Epinephrine (Routes and Doses continued)

Cardiac Arrest: ventricular fibrillation, pulseless ventricular tachycardia, pulseless electrical activity or asystole

	(Adult) Cardiac arrest	**(Pediatric) Cardiac arrest**	**(Neonates) Cardiac arrest**
EMT- I	• 1 mg of 1:10,000 IV or IO repeated every 3-5 minutes as needed	• Initial dose: 0.01 mg/kg (0.1 ml/kg of 1:10,000) IV or IO • May repeat every 3-5 minutes	• Initial dose: 0.01 - 0.03 mg/kg (0.1 - 0.3 ml/kg of 1:10,000) IV, IO • May repeat every 3-5 minutes
Paramedic	• Initial dose:1 mg of 1:10,000 IV or IO, or • May repeat every 3-5 minutes	• May repeat every 3-5 minutes	• May be given ET or UV • May repeat every 3-5 minutes

Severe bradycardia or anaphylactic shock:

	Severe Bradycardia	**Infusion**
EMT- I Paramedic	0.1 – 1 mcg/kg/min	Mix 1 mg (1:1,000) in 250 ml (4 mcg/ml) or 500 ml (2 mcg/ml) normal saline. 2 - 10 mcg/minute IV or IO titrated to desired effect

Etomidate

Trade Name

Amidate

Action

A short acting sedative hypnotic agent

Indications

- Sedation for rapid sequence intubation.
- Although Versed is preferred, further dosage of Etomidate can be used for continued sedation.

Contraindications

- ☠ Known sensitivity to Etomidate.

Side Effects & Precautions

- Administer in a large bore, free flowing IV or IO.
- Respiratory depression, hypotension and cardiopulmonary arrest are more likely in the elderly, those with COPD, renal, heart or liver disease.
- Use with caution in the presence of alcohol, barbiturates, narcotics or benzodiazepines.
- Skeletal muscle jerking or movements occur commonly.
- Duration is 4-10 minutes.
- Increase risk of bruxism (masseter muscle spasm) with fast delivery.
- May cause vomiting without paralytic.

How Supplied

2 mg/ml

Route and Dosage

	Adult	**Pediatric**
Paramedic	• 0.3 mg/kg IV or IO over 30 - 60 seconds. • Typical adult dose is 20 mg. • 0.15-0.2 mg/kg IV if elderly, debilitated or hypotensive	0.3 mg/kg IV or IO over 30 - 60 seconds

Fentanyl

Trade Name

Sublimaze

Action

Potent narcotic analgesic

Indications

- Musculoskeletal pain including extremity fractures, crush or amputation injuries, in the absence of head, chest and abdominal injuries.
- Severe burns without airway compromise.
- Cardiac chest pain.
- Abdominal pain.

Contraindications

- ☠ Known sensitivity to fentanyl.

Side Effects & Precautions

- Rapid Injection can cause respiratory arrest or chest wall rigidity.
- Give over 30-60 seconds.
- Central nervous system depressant, which can cause respiratory depression, peripheral vasodilation, decreased cardiac output and pupillary constriction.
- If morphine is given wait at least 5-10 minutes before giving fentanyl.
- Do not use if systolic BP < 90 mm Hg or SpO2 < 90%.
- Use with caution (smaller or less frequent doses) in the elderly.
- Naloxone (Narcan) will reverse the respiratory effects of fentanyl.

How Supplied

50 mcg/ml in 2 ml ampules

Route and Dosage

	Adult	**Pediatric**
EMT- I Paramedic	• 50 micrograms (mcg) IV, IM, IN or IO slow over 30-60 seconds, then 25 - 50 mcg IV or IO every 3-5 minutes as needed for severe pain • Maximum dose 200 mcg	• 1 micrograms (mcg)/kg IV, IM, IN or IO slow over 30-60 seconds, then 0.5 - 1 mcg IV or IO every 3-5 minutes as needed for severe pain up to 4 mcg/kg • Maximum dose 200 mcg

Glucagon Hydrochloride

Trade Name

Glucagon

Action

A pancreatic hormone which increases blood glucose by converting glycogen to glucose in the liver

Indications

- Documented hypoglycemic reaction in an unconscious or semi-conscious patient where an IV or IO cannot be established.
- Significant beta blocker poisoning.

Contraindications

- ☠ Known sensitivity to Glucagon hydrochloride.

Side Effects & Precautions

- Use only the dilutent supplied by the manufacturer.
- Common side effects include nausea and vomiting.
- The patient will usually awaken in 15 minutes.
- Give supplemental carbohydrate as soon as possible.
- Glucagon may be available at a patient's home.

Route and Dosage

<table>
<tr><th></th><th>(Adult) For Hypoglycemia</th><th>(Pediatric) For Hypoglycemia</th><th>(Adult) Beta Blocker Overdose</th><th>(Pediatric) Beta Blocker Overdose</th></tr>
<tr><td>AEMT</td><td rowspan="3">1 mg (1 unit) IM or IM (May be repeated twice if needed)</td><td rowspan="3"><20 KG: 0.5 mg (0.5 unit) IM
>20 KG: 1 mg (1 unit) IM</td><td></td><td></td></tr>
<tr><td>EMT- I</td><td></td><td></td></tr>
<tr><td>Paramedic</td><td>3-5 mg IV or IO every 5 minutes, maximum 15 mg</td><td>50-150 mcg/kg IV or IO</td></tr>
</table>

Glucose - Dextrose

Trade Name

D50, D10, Glutose

Action

Dextrose is d-glucose, a six carbon sugar, the body´s basic energy source.

Indications

Symptomatic hypoglycemia, blood sugar less than:

- 80 mg/dl in an adult and children.
- 60 mg/dl in an infant (8 weeks to 1 year).
- 40 mg/dl in a newborn (birth to 8 weeks).

Contraindications

None

Side Effects & Precautions

- Avoid if patient has an acute cerebral vascular accident.
- Administer through a free flowing IV or IO as dextrose infiltration causes tissue necrosis and is a vein irritant.

How Supplied

- D50: 25g/50ml prefilled syringe for IV or IO, or for oral use.
- Glutose: 15g, 24g or 45g gel for oral use.
- D10: 25g/250ml IV bag for injection.

Route and Dosage

	(Adult) Oral	(Pediatric) Oral	(Adult) IV or IO	(Pediatric) IV or IO
EMR	12-48 g glutose or D-50 orally if patient can protect airway	0.5 mg/kg orally if patient can protect airway		
EMT				
AEMT **EMT- I** **Paramedic**			D10, Titrate to consciousness 50% Dextrose according to hypoglycemia treatment table (see Hypoglycemia)	• Birth to 8 weeks Dilute with 4 volumes saline (= D10) Give 5ml/kg • 8 weeks to 1 year Dilute D-50 with equal volume saline (= D25). Give 2ml/kg • > 1 year Give 1ml/kg of D-50

Haloperidol

Trade Name

Haldol

Action

Haloperidol is a potent neuroleptic and antipsychotic agent.

Indications

Sedation and restraint of patients, who have a head injury, are combative or are intubated.

Contraindications

- Known sensitivity to haloperidol.
- Prolonged QT interval.
- Pregnancy.

Side Effects & Precautions

- Hypotension.
- Acute dystonic reactions - best treated with diphenhydramine.

How Supplied

2.5 mg/ml in 2 ml

Route and Dosage

	Adult	**Pediatric**
Paramedic	• Administer 2.5 mg to 5 mg IV or IO push or IM. • May repeat up to 10 mg maximum	• 0.03-0.07 mg/kg slow IV or IO. • Maximum 2.5 mg

Influenza Vaccination Injection

Trade Name

Fluzone; Flulaval; Agriflu; Fluarix

Action

Prevention of seasonal or pandemic Influenza A and/or B infections

INDICATIONS

- Pregnant women
- Household contacts and caregivers for children younger than 6 months of age
- Healthcare, Public Safety and Emergency Medical Service personnel
- All people from 6 months through 24 years old
- Persons aged 25 through 64 who have conditions associated with higher risk of complications from influenza that can compromise respiratory functions or the handling of respiratory secretions or that increase the risk for aspiration.

PRECAUTIONS

- Persons with moderate or severe illnesses with or without fever should delay immunization until illness has resolved. However, minor illnesses with or without fever do not contraindicate use of influenza vaccine; e.g. children with mild URI or allergic rhinitis.
- Persons with a history of Guillain-Barre' syndrome (GBS) within 6 weeks following influenza vaccination has a likelihood of developing GBS with subsequent influenza vaccinations. Guillain-Barre syndrome is an uncommon disorder in which your body's immune system attacks your nerves. Weakness and numbness in your extremities are usually the first symptoms. These sensations can quickly spread, eventually paralyzing your whole body. People with history of developing GBS should be referred to their private health care professionals for consultation to determine if the risk of GBS would be less than complications from influenza.

Contraindications

- Persons with allergic reaction to a previous influenza vaccination
- Persons with history of anaphylactic reactions to eggs.

Dose/Routes

Two doses must be separated by at least 28 days, and updates show 21 days is acceptable. Although the same type of vaccine (FluMist or injectable vaccine) should be used in a 2-dose schedule, mixed schedules are preferable to not completing the series.

	Children and Adults	**Pediatric**
EMT- I Paramedic	children and adults ages 10 - 49 years = one dose of .5 ml vaccine IM	• healthy children ages 3 to 9 years = two doses of .5 ml vaccine IM • healthy children ages 6 months to 2 years 11 months = two doses of .25 ml vaccine IM

Influenza Vaccination Nasal Mist

Trade Name

Flu-Mist

Action

Prevention of seasonal or pandemic Influenza A and/or B infections.

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INDICATIONS

- Healthy non-pregnant persons 2 – 49 years of age who do not have any of the following:
- 2 – 4 year olds with history of asthma or wheezing within the last 12 months.
- History of asthma, reactive airway disease, chronic diseases of the pulmonary or cardiac or renal systems, diabetes, or hemogobinopathies. (These people should receive injections.)
- History of immunodeficiency diseases or who are receiving immunosuppressive therapies. (These people should receive injections.)
- Children or adolescents receiving aspirin due to the risk of Reye syndrome.
- Hypersensitivity or anaphylaxis to previous flu mists or eggs.
- Household members of and healthcare workers who have close contact with immunosuppressed persons such as stem cell transplant patients requiring a protected environment.

PRECAUTIONS

- Defer for patients with moderate or severe acute illness.
- Caution for nursing mothers as it is not known whether the vaccine is excreted in human milk.
- Do not administer the Seasonal and H1N1 vaccine at the same visit.
- If nasal congestion would impede vaccine delivery to nasopharyngeal.

Contraindications

- History of Guillain-Barre' syndrome.
- History of a severe allergic reaction to a previous influenza vaccination
- History of anaphylactic reactions to eggs, egg proteins, gentamicin, gelatin or arginine.

Dose/Route

Although the same type of vaccine (FluMist or injectable vaccine) should be used in a 2-dose schedule, mixed schedules are preferable to not completing the series

	Adults and Children	**Pediatric**
EMT- I Paramedic	Healthy adults and children ages 10 - 49 years = one dose nasal drops	Healthy children ages 2 – 9 years = two doses separated by at least 21 to 28 days

Ipratropium Bromide

Trade Name

Atrovent

Action

Atrovent is an anticholinergic (parasympatholytic) bronchodilator.

Indications

COPD, bronchospasm or asthma.

Contraindications

- ☠ Known sensitivity to ipratropium bromide or atropine.

Side Effects & Precautions

- Use with caution in patients with narrow angle glaucoma, prostate hypertrophy or bladder neck obstruction.

How Supplied

0.5 mg in 3 ml unit dose.

Route and Dosage

AEMT **EMT- I** **Paramedic**	• 1 unit dose via nebulizer • May be mixed with Albuterol • May repeat twice in 10-15 minutes (total dose 3 units)

Ketamine

Trade Name

Ketalar

Action

Dissociative Anesthesia, results in a patient who does not appear to be under anesthesia and can swallow, open their eyes and maintain respirations but does not process information on pain.

Indications

- Pre-induction for Rapid Sequence Intubation
- Sedation for painful procedures or painful conditions
- Chemical sedation for combative patients

Contraindications

- Pregnancy
- Infants under 3 Months
- Acute ocular injury

Side Effects & Precautions

- Monitor closely for laryngospasm
- Administer 2.5MG Versed IV/IO in adults to prevent negative emergence reactions

How Supplied

500MG in 10 ML

Route and Dosage

	Sedation/Restraint	RSI Induction	Pain Management
Paramedic	**Adult Dosing**		
	2MG/KG IV/IO 3MG/KG IM	2MG/ KG IV/IO	25MG IV/IO
	Pediatric Dosing		
	N/A	2MG/ KG IV/IO	**N/A**

Lidocaine

Trade Name

Xylocaine

Action

Antiarrhythmic and local anesthetic.

Indications

- Ventricular fibrillation/tachycardia
- Pretreatment during RSI for increased intracranial pressure or bronchospasm
- IO infusion in conscious patients

Contraindications

- ☠ Known sensitivity to Lidocaine.

Side Effects & Precautions

- Toxicity can produce altered mental status, myocardial depression, and seizures.

How Supplied

- 2% Lidocaine - 100 mg/5 ml prefilled syringe
- 20% Lidocaine - 2 gm/10 ml prefilled syringe
- 0.4 % Lidocaine - 1 gm/250 ml or 2 gm/500 ml saline solution

Route and Dosage

<table>
<tr><th></th><th>Pretreatment for RSI</th><th>IO Infusion in conscious patients</th><th>V-Fib/V-Tach</th><th>Wide complex tachycardia</th></tr>
<tr><td>AEMT</td><td></td><td>Prior to IO flush on alert, adult patients, SLOWLY administer .5 mg/kg of 2% Lidocaine through the IO hub</td><td></td><td></td></tr>
<tr><td>EMT- I</td><td></td><td rowspan="2"></td><td rowspan="2">Adult only 1.5 mg/kg IV or IO push. Repeat 0.75 mg/kg every 5-10 minutes up to 3 mg/kg maximum</td><td rowspan="2">Adult only 1.0 mg/kg IV or IO push. Repeat 0.5 mg/kg every 5-10 minutes up to 3 mg/kg maximum</td></tr>
<tr><td>Paramedic</td><td>1.5 mg/kg IV or IO before paralysis</td></tr>
</table>

Lorazepam

Trade Name

Ativan

Action

Benzodiazepine with anticonvulsant, skeletal muscle relaxant, anxiety reducing, amnesic and sedative effects

Indications

- Seizure
- Sedation for painful procedures or injuries or combative patients
- Post RSI sedation

Contraindications

- ☠ Known sensitivity to Lorazepam.

Side Effects & Precautions

- Respiratory depression.
- Hypotension.
- Sedation.
- Paradoxical excitement or agitation may occur.
- Use with caution in the presence of other sedating agents: alcohol, barbiturates, benzodiazepines or opiates.
- Needs to be refrigerated.

How Supplied

2 mg/ml vial

Route and Dosage

	Adult	**Pediatric**
Paramedic	• 1 - 4 mg IV or IO. • 2 – 4 mg IM. • May repeat twice	• 0.05-0.1 mg/kg IV or IO (maximum dose 4 mg). • May repeat twice

Magnesium Sulfate

Trade Name

Magnesium Sulfate

Action

Antiarrhythmic, anticonvulsant, bronchial smooth muscle relaxant, central nervous system depressant

Indications

- Torsades de Pointes. Refractory ventricular fibrillation or tachycardia.
- Eclampsia.
- Asthma.

Contraindications

None.

Side Effects & Precautions

- Toxicity may produce decreased level of consciousness, decreased reflexes, hypotension or respiratory depression.
- Rapid administration may result in flushing, sweating, mild bradycardia or hypotension.

How Supplied

5 gm/10 ml vial or 1 gm/2 ml vial (50% solution)

Route and Dosage

	Cardiac arrest	**Non-cardiac arrest**
Paramedic	1 - 2 grams in 10 ml saline IV or IO push	1 - 2 grams in 10 ml saline over 1-3 minutes IV

Mark 1 Autoinjector (Atropine & Pralidoxime Chloride)

B, I, P

Trade Name

Atropine

Action

- Atropine - parasympatholytic agent with the following effects: increases heart rate, increases conduction through A-V node, reduces motility and tone of GI tract, reduces tone of the urinary bladder, dilates pupils, dilates bronchi.
- Pralidoxime (2-PAM) chloride - reactivates cellular acetylcholinesterase molecules preventing organophosphate cholinesterase poisoning if given soon enough (before “aging” occurs).

Indications

- Antidote for organophosphate or nerve gas exposure or poisoning.

Contraindications

None

Side Effects & Precautions

Organophosphate nerve gases - VX, GF, GD (Soman), GB (Sarin), GA (Tabun) - are very rapidly toxic and lethal. Protect yourself and others from exposure.

How Supplied

Atropine 2 mg/0.7 ml and Pralidoxime 600 mg/2 ml auto-injectors

Route and Dosage

EMT **AEMT** **EMT- I** **Paramedic**	• 1-3 Atropine auto-injectors IM into the lateral thigh or upper outer buttocks • followed by the same number of Pralidoxime auto-injectors IM in a similar location • Seek immediate ALS care

Midazolam

Trade Name

Versed

Action

Short acting benzodiazepine, causing central nervous system depression, respiratory depression, skeletal muscle relaxation and amnesia

Indications

- Sedation for transcutaneous pacing or other painful procedures.
- Seizures.
- Sedation for patients with amputations and dislocations and are combative.
- Sedation and restraint of patients who have a head injury and are combative.
- Muscle relaxation for patients with mid-shaft femur fractures.
- Paralysis with induction and post RSI sedation

Contraindications

- Known sensitivity to Midazolam.

Side Effects & Precautions

- Administer in a large bore, free flowing IV or IO.
- Respiratory depression, hypotension and cardiopulmonary arrest are more likely in the elderly, those with COPD, renal, heart or liver disease.
- Use with caution in the presence of alcohol, barbiturates, narcotics or other benzodiazepines.

How Supplied

10 mg/2 ml vial or 5 mg/5 ml vial

Route and Dosage

	Sedation Adult	**Sedation Pediatric**	**Paralysis with induction Adult**	**Paralysis with induction Pediatric**	**Seizures**
Paramedic	1-5 mg IV, IM or IO over 1 - 2 minutes. May repeat to a max total dose of 5 mg	0.02 - 0.08 mg/kg IV, IM or IO over 1 - 2 minutes. May repeat to a max total dose of 0.15 mg/kg	1 - 5 mg IV, IM with max of 10 mg	0.05-0.1 mg/kg IV, with max of 10 mg	• Up to 2 mg, IV/IO repeat every 5-10 min, max of 5 mg • IM: 5 mg

Morphine

Trade Name

Morphine Sulfate

Action

Narcotic analgesic and vasodilator

Indications

- Severe cardiac chest pain.
- Extremity fractures, crush or amputation injuries in the absence of head, chest and abdominal injuries.
- Abdominal pain.
- Severe burns.
- EMT-I use for pain management only.

Contraindications

- Known sensitivity to morphine.

Side Effects & Precautions

- Central nervous system depressant, which can cause respiratory depression, peripheral vasodilation, decreased cardiac output or pupillary constriction.
- Use cautiously if patient is hypotensive.

How Supplied

10 mg/1 ml ampule, vial, pre-filled syringe or Tubex

Route and Dosage

<table>
<tr><th></th><th>Adult</th><th>Pediatric</th></tr>
<tr><td>EMT- I</td><td rowspan="2">2 - 5 mg IV or IO every 5 minutes as needed to a total dose of 20 mg.
10 mg IM, if IV unavailable</td><td></td></tr>
<tr><td>Paramedic</td><td>0.05 - 0.2 mg/kg IV or IO every 5 minutes to a total dose of 10 mg.
0.1 - 0.2 mg/kg IM, if IV or IO unavailable.
Maximum 10 mg</td></tr>
</table>

Naloxone

Trade Name

Narcan

Action

Narcotic antagonist.

Indications

Reverse suspected or known narcotic induced respiratory depression due to: morphine, heroin, fentanyl, hydromorphone (Dilaudid), oxycodone (Percodan), meperidine (Demerol), methadone (Dolophine), hydrocodone (Vicodin), codeine, diphenoxylate (Lomotil), propoxyphene (Darvon), pentazocine (Talwin), nalbuphine (Nubain).

Contraindications

- Known sensitivity to naloxone.

Side Effects & Precautions

- The narcotic dependent patient may experience frank withdrawal after administration. Be prepared to restrain these patients as they may become angry or violent. The goal is to keep the patient out of respiratory depression but not fully conscious.
- Rapid administration may cause nausea.
- Repeated and large doses may be needed.

How Supplied

0.4 mg or 2 mg/ml vial or pre-filled syringe

Route and Dosage

	Adult	**Pediatric**
EMR **EMT**	2 mg titrated to reverse respiratory depression- Intranasal ONLY	EMR (None) EMT (None)
AEMT **EMT- I** **Paramedic**	0.4 - 2 mg titrated to reverse respiratory depression IV, IO, IM. Repeat every 1-3 minutes. Maximum 10 mg	0.1 mg/kg (max 0.4 mg/dose) titrated to reverse respiratory depression IV, IO, IM. Repeat every 1-3 minutes. Maximum 10 mg

Nitroglycerin

Trade Name

- Sublingual: Nitrostat, Nitrolingual Spray
- IV: Tridil, NITRO-BID IV or IO (inter-facility transport only)

Action

Arterial and venous smooth muscle relaxant

Indications

Chest pain of cardiac origin, Hypertensive emergency, Pulmonary edema and Unstable angina during interfacility transport

Contraindications

- Known sensitivity to nitroglycerin.
- Viagra (sildenafil citrate) use within the preceding 24 hours.
- Tadalafil (Cialis) use within the preceding 48 hours.

Side Effects & Precautions

May cause hypotension or reflex tachycardia, so use caution in patients with blood pressure <100 systolic. Do not shake nitroglycerin spray prior to administration and Nitroglycerin loses its potency with time. Warn patients of throbbing headache, flushing, dizziness and burning under the tongue.

How Supplied

- 5mg/ml vial (10ml or 25ml)
- Premixed: 200 mcg/ml (50mg/250ml)
- 0.4 mg SL tablets
- 0.4 mg dose spray

Route & Dosage

<table>
<tr><th></th><th>Cardiac Chest Pain</th><th>Pulmonary Edema</th><th>Hypertensive Emergency</th><th>Unstable Angina During Inter-Facility Transport Only</th></tr>
<tr><td>EMT</td><td>May assist in self-administration of patient's own nitroglycerin for chest pain</td><td></td><td></td><td></td></tr>
<tr><td>AEMT</td><td rowspan="3">• 0.4 mg SL if blood pressure >100 systolic.
• May repeat twice at 3-5 minute intervals as long as blood pressure is >100 systolic</td><td></td><td></td><td></td></tr>
<tr><td>EMT- I</td><td rowspan="2">0.4 - 0.8 mg SL. May repeat twice at 3-5 minute intervals</td><td></td><td></td></tr>
<tr><td>Paramedic</td><td>• 0.4 mg SL. May repeat twice at 3-5 minute intervals.
• If patient uses nitroglycerin regularly, dose may be doubled</td><td>• Titrate IV infusion by 5-10 mcg/min until desired effect.
• To wean off IV or IO infusion, decrease by 5 mcg every 5-10 minutes until desired response</td></tr>
</table>

Norepinephrine

Trade Name

Levophed

Action

Primary alpha adrenergic vasoconstrictor

Indications

- Primary treatment of septic, cardiogenic, neurogenic and obstructive shock.
- Not indicated for use in hypovolemic shock.

Contraindications

- Antidepressants such as MAO inhibitors; Parnate, Nardil, Marplan
- May induce tachyarrhythmias, in which case treatment should be reduced or stopped.
- Should not be given with Sodium Bicarb as epinephrine is inactivated by Bicarb.
- Known sensitivity

Side Effects & Precautions

- Causes tissue necrosis in the extravascular space.
- Peripheral vasoconstriction
- Ectopic beats, nausea, and vomiting
- Ineffective in treating Bradycardia

How Supplied

4 mg in 4 ml

Mixing and Dosing Instructions

Add 4 mg to 250 bag of D10 for a concentration of 16mcg/ml. 4mcg/min is 15 drops/min with a 60 drop set.

Route and Dosage

Paramedic	**Adult Dosing**
	Begin at 4 mcg/min, if no response noted increase every 5 minutes in 4 mcg/min increments to a max dose of 12 mcg/min
	Pediatric Dosing
	• Begin treatment at 0.1 mcg/kg/min, with no improvement in 5 minutes increase dosing to 0.2mcg/kg/min • Continue to increase the dose by 0.2mcg/kg/min every five minutes to a max dose of 2 mcg/kg/min or age appropriate SBP is reached

Weight (kg) →	6.5	8.5	10.5	13	16.5	21	26.5	33
0.1 mcg/kg/min	2	3	4	5	6	8	10	12
0.2 mcg/kg/min	5	6	8	10	12	16	20	25
0.4 mcg/kg/min	10	13	16	20	25	32	40	50

Ondansetron

Trade Name

Zofran

Action

Potent anti-emetic agent, a selective 5-HT3 receptor antagonist.

Indications

- Nausea or vomiting
- Prophylactic prevention of nausea or vomiting

Contraindications

- Known sensitivity to Ondansetron.
- Recent administration of Apomorphine (given SC for Parkinson's Disease) Apomorphine is rarely used – may cause severe hypotension

Side Effects & Precautions

May cause minor headache, constipation or diarrhea.

Route and Dosage

EMT- I Paramedic	0.1 mg/kg (usual adult dose = 4 mg / max dose 8 mg) slow IV, IO or IM

Ondansetron (Oral Dissolving Tablet)

Trade Name

Zofran ODT

Action

Anti-emetic agent, selective 5-HT3 receptor antagonist

Indications

- Nausea or vomiting
- Prophylactically to prevent nausea or vomiting

Contraindications

- Known sensitivity to Zofran
- Prolonged QT
- Inability to swallow or otherwise control airway
- Recent administration of apomorphine may result in sever hypotension (Subcutaneous medication for Parkinson's disease)

Side Effects & Precautions

- May cause headache or diarrhea

How Supplied

4 MG Tablet

Route and Dosage

	Adult Dosing > 12 Years old
EMT-I **Paramedic**	Single 4 MG tablet PO allow to dissolve Repeat once in 15 minutes as needed

Oxygen (O2)

Trade Name

None

Action

Essential for normal cellular metabolism and life, and tissue hypoxia causes cell damage and death.

Indications

- Suspected hypoxemia,
- respiratory distress,
- acute chest pain,
- shock,
- trauma,
- cardiopulmonary arrest,
- inhalation injury,
- altered level of consciousness.

Contraindications

- ☠ Acute paraquat poisoning.

Side Effects & Precautions

- Supports combustion.
- Possible respiratory arrest in patients with chronic lung disease, but do not withhold oxygen if patient is in respiratory distress.

How Supplied

Gas

Route and Dosage

EMR **EMT** **AEMT** **EMT- I** **Paramedic**	1 - 25 liters/minute as needed

Oxymetazoline

Trade Name

Afrin

Action

Potent sympathomimetic arterial constrictor.

Indications

- Epistaxis.
- Pretreatment for nasotracheal intubation.

Contraindications

- ☠ Known sensitivity to oxymetazoline.
- ☠ Persistent blood pressure greater than 190/110.

Side Effects & Precautions

- Tachycardia,
- myocardial ischemia
- cardiac dysrhythmia.

How Supplied

Spray bottle

Route and Dosage

Paramedic	Two sprays into the affected nostril(s). Repeat as needed

Oxytocin

Trade Name

Pitocin

Action

Polypeptide hormone which stimulates uterine contraction

Indications

Control of postpartum hemorrhage following delivery of the placenta

Contraindications

- Known sensitivity to oxytocin.
- Pregnancy.

Side Effects & Precautions

- Nausea and vomiting.
- Severe uterine cramps.

How Supplied

10 units/1 ml

Route and Dosage

Paramedic	10-20 units added to 1000 ml of normal saline IV and run wide open or as needed to control bleeding

Rocuronium (Temporary Replacement to Vecuronium)

Trade Name

Zemuron

Action

Binds competitively to cholinergic receptors on motor end-plate to antagonize action of acetylcholine, resulting in block of neuromuscular transmission

Indications

To facilitate rapid sequence tracheal intubation and to provide skeletal muscle relaxation during mechanical ventilation when Vecuronium is not available

Contraindications

- Hypersensitivity to Rocuronium or other neuromuscular blocking agents.

Side Effects & Precautions

- Conscious patents who receive Rocuronium must receive sedation as it causes paralysis, not analgesia or amnesia.
- Patient will require airway management and ventilation.
- Do not mix Rocuronium with alkaline solutions (like Sodium Bicarb) through the same needle

How Supplied

- Store in solution for injection and must be kept refrigerated at (36° to 46°F). Do not freeze. May be removed from refrigerator and stored at controlled room temperature (less than 77°F), but must be used within 60 days
- 1 ml of solution for injection / infusion contains 10 mg Rocuronium

Route and Dosage

	Paralyzing Dose	**Maintenance Dose**
Paramedic	• 1.5 mg/kg IV or IO.	

Sodium Bicarbonate (NaHCO3)

Trade Name

Sodium bicarbonate

Action

Alkalinizing agent. Raises blood pH.

Indications

- Tricyclic antidepressants overdoses with hypotension, dysrhythmias, seizures or QRS > 0.12.
- Hyperkalemia.
- Severe acidosis refractory to hyperventilation.

Contraindications

- ☠ Alkalosis.

Side Effects & Precautions

- May deactivate catecholamines.
- Precipitates with calcium in IV or IO tubing.
- Decreases chance of brain viability in cardiac arrest.

How Supplied

- 8.4%: 50 mEq/50 ml prefilled syringe
- 4.2%: 5 mEq/10 ml prefilled syringe

Route and Dosage

	Adult	**Pediatric**
Paramedic	1 mEq/kg of 8.4% IV or IO. Repeat 0.5 mEq/Kg every 10 minutes	1 mEq/kg of 4.2% IV or IO. Repeat 0.5 mEq/kg every 10 minutes

Succinylcholine Chloride

Trade Name

Anectine

Action

Depolarizing skeletal muscle relaxant.

Indications

- Rapid sequence intubation.

Contraindications

- Known sensitivity to succinylcholine chloride.
- Known severe hyperkalemia
- History of malignant hyperthermia.
- History of stroke, burns, crush injuries > 4 days and < 6 months previously.
- Quadriplegia, paraplegia, muscular dystrophy, multiple sclerosis, amyotrophic lateral sclerosis (ALS) or other neuromuscular disorder of > 4 days duration.

Side Effects & Precautions

- Succinylcholine chloride causes paralysis, not analgesia or amnesia; conscious patients must receive sedation. Patient will require airway management and ventilation.
- Patients with neuromuscular disorders of > 4 days and healed< 6 months duration are at risk for fatal hyperkalemia, as are patients with ongoing neuromuscular disorders, such as muscular dystrophy, multiple sclerosis, or amyotrophic lateral sclerosis.
- Use with caution in patients with renal failure on dialysis who have severe hyperkalemia.

How Supplied

- 200 mg/10 ml premixed
- 200 mg in powder form
- 500 mg (mixed in 50 ml crystalloid)

Route and Dosage

Paramedic	2 mg/kg IV or IO

Vecuronium (Optional)

Trade Name

Norcuron

Action

Non-depolarizing skeletal muscle relaxant.

Indications

- Pretreatment for rapid sequence intubation (defasciculating dose) in the presence of increased intracranial pressure and age ≥ 10 years.
- To provide paralysis (paralyzing dose) for rapid sequence intubation if Succinylcholine is contraindicated.
- To maintain paralysis (maintenance dose) after intubation.
- To relieve isolated Masseter muscle spasm.

Contraindications

- Known sensitivity to Vecuronium.

Side Effects & Precautions

- Sedation is required for all patients who receive Vecuronium.
- Vecuronium causes paralysis, not analgesia or amnesia; conscious patients must receive sedation.
- Patient will require airway management and ventilation.

How Supplied

10 mg/10 ml premixed or

10 mg powdered

Route and Dosage

	Paralyzing Dose	**Maintenance Dose**
Paramedic	• 0.15 mg/kg IV or IO. • Usual adult dose is 10 mg	• 0.01 -0.015 mg/kg 25-40 minutes after initial paralysis, • then every 12-15 minutes as needed OR • 1 mcg/kg/min IV or IO infusion

Medical Procedures

Section D

12 Lead ECG

Indications

Patients having cardiac chest discomfort, palpitations, syncope, stroke, shortness of breath. EMT judgment that the patient may be having myocardial ischemia or infarction

Precautions

- Do not delay treatment of life-threatening conditions to obtain a 12 lead ECG.
- 12 lead ECG best obtained with the patient not in a moving vehicle.
- Obtain 12 lead ECG before nitroglycerin administration.

Procedure

- Obtain the 12 lead ECG
- EMR, EMT B, AEMT and EMT-I electronically transmit the ECG results to Sky Lakes ER regardless of findings.
- Label 2 copies of 12 lead ECGs with the patient's name and date of birth. (Most machines will print multiple copies.)
- At the receiving hospital leave one copy of the 12 lead ECG with the receiving physician
- Keep one copy of the 12 lead ECG with your PCR.

EMR **EMT** **AEMT**	Obtain and electronically transmit
EMT- I **Paramedic**	Obtain and interpret

Airway – Supraglottic Airway Device

Indications

Advanced airway management by EMT through EMT – I or when endotracheal intubation cannot be accomplished by an EMT – P

Precautions

- Do not use device on a patients outside the age and size parameters set by the manufacturer.
- Do not use device on patients with intact gag reflex, known esophageal disease or who have ingested caustic substances.
- EMRs, EMTs and Paramedics must receive specific training for the device they are using before actual field use.

Procedure

1. Prepare equipment.
    a. High flow oxygen
    b. Bag valve mask
    c. Supraglottic Airway Device
    d. Suction
    e. Lubricant
2. Ventilate with bag valve mask or demand valve with supplemental oxygen while preparing equipment.
3. Remove dentures, loose or broken teeth to prevent puncture of balloons.
4. With the patient's head in a neutral position, by lifting the tongue and lower jaw upward with one hand, insert the airway blindly to the manufacturer's recommended location. Do not force the airway.
5. Inflate the balloon or balloons proper amount of air as recommended by the manufacturer
6. Place the ventilation device on the primary airway and ventilate while listening for lung sounds and watching for chest rise. If the chest rises, breath sounds are auscultated and no abdominal insufflation occurs, the tube is located correctly. Continue ventilating. Some supraglottic airway device provided access from the secondary tube for removal of gastric air or fluids with a suction catheter.
7. If no chest rise occurs, there are absent breath sounds and gastric insufflation is present, follow corrective measures outlined in the manufacturer's recommendations. Confirm ventilations by listening for breath sounds and watching for chest rise.

Steps 6 and 7 are critical to insure that you are ventilating the patient.

8. Reconfirm tube location frequently, during transport and whenever patient is moving.
9. Blind endotracheal intubation may be performed through or around the device without removing the airway.
10. To remove airway, place the patient on their side and deflate balloon(s) and slowly remove the device; have suction ready.

EMR	Assist in set up within their respective scope
EMT **AEMT** **EMT- I** **Paramedic**	Full performance

Airway - Endotracheal Intubation (Oral and Digital)

Indications

To establish an emergency airway for the patient who cannot provide or protect their own airway.

Precautions

Lacerations, dental injury, laryngospasm, right or left main stem or esophageal intubation.
Oral: Rapid Sequence Intubation may facilitate procedure.
Digital: May be successful when other methods have failed. Use bite block to protect EMT's fingers.

Procedure

1. Prepare Equipment
    a. Laryngoscope and blades
    b. Endotracheal tube with stylet, average sizes are:
        - Adult female: 6.5 to 8.0
        - Adult male: 7.0 to 8.5
        - Child: 4.0 to 6.0
        - Infant: 3.5 to 4.0
        - Newborn: 2.5 to 3.5
    c. Suction unit
    d. Magill forceps
    e. Endotracheal Tube exchanger (gum bougie)
    f. Lubricant
    g. Bite block
    h. Tube securing device and tape
    i. Syringe for cuffed tubes
    j. Afrin
2. Hyperoxygenate patient.
3. Selleck maneuver if indicated.

EMR **EMT** **AEMT** **EMT- I**	Assist in set up within their respective scope
Paramedic	Full performance

Airway - Surgical Cricothyrotomy

Indications

To establish an emergency airway as a last resort when other methods have been unsuccessful at maintaining adequate oxygenation; including repeated bag-valve-mask ventilation with repositioning.

Precautions

- Punctures or lacerations of the blood vessels, vocal cords, trachea or esophagus may occur.
- Subcutaneous emphysema

Procedure

1. Prepare Equipment
   a. High flow oxygen with bag-valve-mask
   b. Suction
   c. Disinfectant solution
   d. Tape
   e. Stethoscope
   f. Scalpel
   g. Quicktrach introducer
2. Place the patient supine with support under the shoulders and mild hyperextension of the neck.
3. Palpate the neck over the trachea and locate the cricothyroid membrane just below the notch of the thyroid cartilage.
4. Clean and prep the site over the membrane.
5. Puncture the membrane with the scalpel.
6. Insert the tracheal introducer into the distal trachea until it stops at the carina.
7. Observe and auscultate the chest for bilateral breath sounds. Secure the device and continue to ventilate.

EMR **EMT** **AEMT** **EMT- I**	Assist in set up within their respective scope
Paramedic	Full performance

Automatic External Defibrillator (AED)

Indications

Unconscious, unresponsive, pulseless, apneic patient with possible cardiac arrest

Precautions

Adult electrodes if 8 years of age or older and have an estimated body weight of greater than 55 pounds (25 kg) or an estimated height of more than 50 inches. Pediatric wiring and adaptor if 1 - 8 years of age

Procedure

AT NO TIME, including the determination of the underlying rhythm, and the delivery of an appropriate shock, shall CPR cease for more than 45 seconds.

1. Prepare Equipment
    a. AED or SAED device
    b. Oxygen via bag valve mask or airway
2. If this is a witnessed arrest attach the device and go directly to step 4.
3. If this is an un-witnessed arrest, perform CPR while attaching the device, then after 2 minutes of CPR
4. Allow the device (according to manufacturer's instruction) to analyze the patient and determine if the underlying cardiac rhythm is shockable.
5. If the device determines that a shock is necessary, allow the device to deliver the initial shock (SAED manually deliver) according to manufacturer's specifications.
6. Immediately after any shock, is delivered, commence CPR for 2 minutes.
7. If the patient remains unconscious after the 2 minutes of CPR, check the patients pulse.
8. If no pulse is felt, allow the device (according to manufacturer's instruction) to analyze the patient and determine if the underlying cardiac rhythm is shockable.
9. Continue the cycle of 2 minutes of CPR followed by analyzing the patient and shocking as indicated at the energy level specified by the device's manufacturer.

WHEN THE DEVICE IS ANALYZING THE PATIENT OR DELIVERING THE SHOCK, MAKE ABSOLUTELY CERTAIN THAT NO ONE IS IN CONTACT WITH THE PATIENT OR THE EQUIPMENT.

EMR **EMT** **AEMT** **EMT- I** **Paramedic**	Full performance

Chest Decompression (Needle Thoracentesis)

Indications

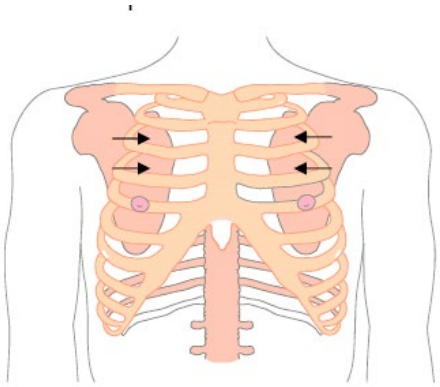
Rapid decompression of tension pneumothorax, which may result from trauma, chest compressions or positive pressure ventilation; Signs include unilaterally absent breath sounds, hypotension, progressive respiratory distress, distended neck veins, asymmetrical breathing, hyper-expanded chest, tracheal shift and increased resistance to ventilation. In a patient who has suffered significant chest trauma, a tension pneumothorax may be present without specific signs. In such a patient, chest decompression may be useful for cardiac arrest, PEA, or severe respiratory distress.

Precautions

Pneumothorax or lacerations of the lung or blood vessels may occur. Chest decompression may need to be performed at more than one site or on the other side. Relief of a tension pneumothorax should result in a rapid and significant improvement in the patient's condition.

Procedure

1. Prepare Equipment
   a. High flow oxygen.
   b. 14 – 16 ga (5 – 8 cm long) IV catheters.
   c. 10 ml syringe.
   d. Disinfectant solution.
   e. Tape.
   f. One way valve *(optional)*.
2. With the patient supine and the chest exposed, clean the second or third intercostals space in the mid-clavicular line. Insert the IV catheter over the top of the third or fourth rib – see diagram below. Slide over the top of the rib, advance the catheter until a "pop" is felt and air released. Advance the catheter and remove the needle and syringe. For prolonged transport attach the one way valve to the hub of the catheter and secure with tape. Auscultate the chest and administer 100% oxygen.



EMR **EMT** **AEMT** **EMT- I**	Assist in set up within their respective scope
Paramedic	Full performance

Continuous Positive Airway Pressure (CPAP)

Indications

Respiratory distress in conscious patient suffering from: pulmonary edema, asthma or CHF when done in conjunction with, or before, nitroglycerin therapy or for dyspnea from COPD.

Precautions

- Requires a cooperative, spontaneously breathing, patient with normal ventilatory drive
- May increase oral secretions
- Increased intracranial pressure.
- Extraordinarily high CPAP pressures can cause a decrease in venous return to the heart from high intrathoracic pressures resulting in decreased cardiac output.
- High alveolar pressures can cause an overextension of alveoli, resulting in barotrauma and or increase intrapulmonary shunting.
- Over distension of the lungs can reduce compliance.

Contraindications

- Age < 12 years
- Unconscious or uncooperative
- Respiratory failure with a need for immediate intubation and or BVM ventilation
- Facial deformity preventing adequate mask seal over the mouth and nose
- Respiratory rate < 25/minute
- Systolic blood pressure < 90 mm Hg
- Untreated pneumothorax
- Vomiting
- Upper airway abnormalities or trauma
- Tracheostomy used for normal respirations (plugged tracheostomy is not a contraindication)

Procedure

1. Have the patient in an upright position of comfort.
2. Explain the procedure to the patient.
3. Instruct patient to breathe in through their nose slowly and exhale slowly out through their mouth.
4. Apply Oxygen to the CPAP mask: fixed flow generator system or venturi system according to the manufacturer's specifications at 10 cm H_2O.
5. Place the delivery mask over the mouth and nose and secure the mask with straps.
6. Consider placement of a nasopharyngeal airway.
7. If patient's respiratory status or level of consciousness deteriorates, remove the CPAP mask, provide bag-valve-mask ventilation, and consider advanced airway management.
8. Monitor patient's respiratory status, vital signs, oximetry, and capnometry (scope dependent).
9. Continue CPAP until transfer to the hospital ED staff unless patient is unable to tolerate the CPAP or the patient's clinical condition worsens despite CPAP use.

EMR	Assist in set up within their respective scope
EMT **AEMT** **EMT- I** **Paramedic**	Full performance

End Tidal CO2 Detector

Indications

Any patient receiving ventilation through an artificial airway (endotracheal tube, supraglottic airway device)

Precautions

- Use the pediatric detector on patients weighing less than 15 kg.
- After administering medications through endotracheal tube wait for 6 ventilation cycles before re-attaching detector.
- CO_2 detector is to be used to confirm proper endotracheal intubation, supraglottic airway device placement in addition to direct laryngoscopic airway visualization, proper insertion techniques, observation of chest rise and skin color, and auscultation of bilateral breath sounds.

Procedure

Manual Colorimetric Detector:

1. Attach the CO2 detector between the bag-valve device and the end of the endotracheal tube, supraglottic airway device.
2. When ventilating properly and the endotracheal tube, supraglottic airway device is in the proper location, the indicator area on the detector will change color at time of expiration depending on the manufacture, typically yellow (~5% CO2) during expiration and purple (0% CO2) during inspiration.

Electronic Detector:

1. Attach the 15mm adapter between the bag-valve device and the endotracheal tube, supraglottic airway device.
2. Attach the small tubing to the electronic detector.
3. To confirm proper placement during ventilation the output reading during expiration should measure between 35mm and 45mm Hg (5% CO2) during expiration in conjunction with the regular rise and fall of the CO2 waveform.

EMR	Assist in set up within their respective scope
EMT **AEMT** **EMT- I** **Paramedic**	Full performance

Endotracheal Intubation

Indications

To establish an emergency airway for the patient who cannot provide or protect their own airway.

Precautions

Lacerations, dental injury, laryngospasm, right or left main stem or esophageal intubation. Rapid Sequence Intubation may facilitate procedure.

Procedure

1. Prepare Equipment
    a. Laryngoscope and blades (video laryngoscope if available)
    b. Endotracheal tube with stylet, average sizes are:
        - Adult female: 6.5 to 8.0
        - Adult male: 7.0 to 8.5
        - Child: 4.0 to 6.0
        - Infant: 3.5 to 4.0
        - Newborn: 2.5 to 3.5
    c. Suction unit.
    d. Magill forceps.
    e. Endotracheal Tube exchanger (gum bougie)
    f. Tube securing device and tape.
    g. Syringe for cuffed tubes.
2. Hyperoxygenate patient.
3. Selleck maneuver if indicated.
4. Open patient's airway, protecting the cervical spine.
5. Insert endotracheal tube into trachea.
6. Use endotracheal tube exchanger to facilitate intubation if needed. Insert curved tip through vocal cords, gently advance into trachea approximately 2-3 cm, feel the tip of the endotracheal tube exchanger tapping tracheal rings to confirm tracheal placement. Carefully advance endotracheal tube over the endotracheal tube exchanger until it is at the appropriate tip-lip distance. Remove endotracheal tube exchanger.
7. Post Intubation:
    a. Inflate cuff if present.
    b. Verify tube location by auscultation and observation.
    c. Secure tube.
    d. Ventilate patient.
    e. Frequently reconfirm tube location.
    f. End tidal CO2 capnometry.

EMR **EMT** **AEMT** **EMT- I**	Assist in set up within their respective scope.
Paramedic	Full performance

External Transcutaneous Pacing

Indications

Symptomatic bradycardia refractory to atropine, symptomatic heart block and asystole

Contraindications

Patients with penetrating or blunt trauma

Precautions

This is a painful procedure. Consider pain medication and sedation.

Procedure

1. Prepare Equipment
    a. High flow oxygen.
    b. Pacemaker, cable and pacing electrodes.
    c. Diazepam, Midazolam (Versed) or morphine.
2. Administer oxygen and monitor cardiac rhythm. Three lead cardiac monitor must be attached for pacing.
3. Medicate patient.
4. Apply pacer pads to the left anterior chest and left posterior chest (preferred), or right anterior chest and left lateral chest.
5. Adjust cardiac monitor gain to sense intrinsic QRS complexes.
6. Set mA at 0; attach pacer pads to monitor cable.
7. Set pace rate at 80 bpm.
8. Increase current by 20 mA to obtain capture.
9. Insure mechanical capture by obtaining pulse and blood pressure.

EMR **EMT** **AEMT** **EMT- I**	Assist in set up within their respective scope
Paramedic	Full performance

Influenza Vaccination Nasal Mist

Indication

Prevention of Flu.

Precautions

- Defer for patients with moderate or severe acute illness.
- Caution for nursing mothers as it is not known whether the vaccine is excreted in human milk.
- Do not administer the Seasonal and H1N1 vaccine at the same visit.
- If nasal congestion would impede vaccine delivery to nasopharyngeal.

Contraindications

- History of Guillain-Barre' syndrome.
- History of a severe allergic reaction to a previous influenza vaccination
- History of anaphylactic reactions to eggs, egg proteins, gentamicin, gelatin or arginine.

Procedure

Note: Each sprayer contains a single dose and about ½ of the contents should be administered into each nostril. Do not inject. Do not use a needle. Active inhalation or sniffing is not required by the patient during the vaccination process.

1. Remove the rubber tip protector, but not the dose-divider clip.
2. With the patient in an upright position, place the tip just inside the nostril to ensure the vaccine is delivered into the nose.
3. Deliver the vaccine intranasally with a single motion, depress plunger as rapidly as possible until the dose-divider prevents you from going further.
4. Pinch and remove the dose-divider clip from the plunger.
5. Repeat steps three and four in the second nostril.

EMR **EMT** **AEMT**	Assist in set up within their respective scope
EMT- I **Paramedic**	Full performance

Intraosseous Infusion EZ-IO®

Indications

When vascular access is necessary, but otherwise unattainable in a patient; use of EZ-IO requires transport of the patient to the hospital.

Contraindications (use alternate site)

- Infectious tissue at the insertion site.
- Fracture of the bone proximal to the insertion site.
- Excessive tissue at the insertion site – must see 5mm mark on needle (nearest the flange) outside of skin when needle tip touches the bone.
- Previous significant orthopedic procedure or prosthesis at the insertion site.

Precautions

- Only one attempt per bone
- IO infusion in a conscious patient may be painful – use lidocaine IO during initial infusion.

Procedure

1. Locate appropriate insertion site and prepare using aseptic technique
    a. Proximal tibia – flat portion of the anteromedial tibia distal to tibial tubercle
    b. Distal tibia – 3 cm proximal to the medial malleous
    c. Proximal humerus
2. Prepare the EZ-IO driver and appropriate needle set.
    a. EZ-IO AD (40 kg and over), if patient is larger than the Broselow tape
    b. EZ-IO PD (3 - 39 kg), if patient fits on the Broselow tape
3. Stabilize site and insert appropriate needle set using the EZ-IO driver until
    a. Sudden decrease in resistance is felt OR
    b. Needle flange reaches the skin
4. Remove EZ-IO driver from needle set while stabilizing catheter hub
5. Remove stylet from needle set and and discard in a sharps container
6. Connect primed EZ-Connect® extension tubing - prime with cardiac lidocaine 2% (Preservative Free) if patient is conscious; normal saline if unconscious
7. Attach a 3- way stop cock to the EZ-Connect extension tubing for all pediatric patients (when using the PD needle)
8. Slowly administer 0.5 mg/kg of cardiac lidocaine 2% IO to conscious patients. Flush EZ-IO with lidocaine or normal saline (AD 10cc; PD 5cc).
9. Confirm placement with free flow of IO infusion without extravasations.
    a. Note any of the following confirmation signs of intraosseous placement:
    b. Needle 90° to skin and firmly seated in the bone
    c. Spontaneous flow of blood or marrow into the EZ-Connect hub
    d. Aspiration of blood or bone marrow with syringe
10. Syringe bolus or utilize 300 mm Hg pressure bag or infusion pump for infusions.

Continued on next page

Intraosseous Infusion EZ-IO® (Continued)

11. Secure tubing to patient, dress site, apply additional stabilization if catheter hub is not flush with the skin, and apply wristband
12. Monitor EZ-IO site and patient condition for signs of extravasation.
13. Within 24 hours replace the EZ-IO with intravenous access.

EMR **EMT**	Assist in set up within their respective scope
AEMT	Proximal tibia only
EMT- I **Paramedic**	Full performance

Intraosseous Infusion (Lower Extremity)

Indications

When IV access is unattainable in a critically ill or injured patient

Precautions

Only one attempt per limb; avoid growth plate, infection at insertion site and fractured limbs.

Procedure

1. Prepare Equipment
   a. Intraosseous needle:
      i. 18 ga for patients 18 months and younger
      ii. 15 ga for patients older than 18 months
   b. Disinfectant solution.
   c. Two 5 ml syringes.
   d. Crystalloid.
   e. Sterile gauze pads.
   f. Tape.
   g. Three way stopcock.
   h. 60 ml syringe.
   i. Extension tubing.
2. The preferred insertion site is the proximal tibia; the anteromedial flat surface 1-3 cm distal to the tibial tuberosity.
3. Alternate sites are the medial malleolus of the tibia or the anterior aspect of the distal femur.
4. Prepare surface with disinfectant solution.
5. Penetrate the soft tissue and with a twisting motion penetrate the cortex of the bone until a pop or loss of resistance is felt.
6. Remove the stylet. While holding the needle firmly, attempt to aspirate marrow or blood – you may not be able to aspirate anything even if the needle is in the marrow.
7. If you think that the needle is in the marrow, infuse 5 to 10 ml of crystalloid while palpating for infiltration.
8. Secure needle.
9. Attach extension tubing.
10. Attach stopcock to extension tubing.
11. Attach IV solution to stopcock.
12. Use 60 ml syringe to administer fluid bolus.
13. Flush frequently with 5-10 ml to maintain patency.

EMR **EMT**	Assist in set up within their respective scope
AEMT	Proximal tibia only
EMT- I **Paramedic**	Full performance

Intravenous Administration

Indications

To access venous circulation

Precautions

- Do not attempt at areas of injury or infection.
- Splinting devices may be needed to limit motion.
- Monitor the IV site for signs of infiltration.
- Do not attempt external jugular catheterization unless the vein is visualized.

Procedure

1. **Prepare equipment**
   a. Disinfectant solution.
   b. Tourniquet.
   c. Crystalloid solution and infusion set OR saline lock.
   d. Intravenous catheter.
   e. Sterile dressing.
   f. Syringe.
2. **Extremity Vein**
   a. Disinfect the largest, most appropriate site.
   b. Apply the tourniquet.
   c. Insert catheter at an angle until blood returns.
   d. Advance the catheter into the vein while removing the needle.
   e. Attach and irrigate with crystalloid or saline lock.
   f. Secure catheter and monitor for infiltration.
3. **External Jugular Vein**
   a. Position patient with head turned to side opposite vein.
   b. Disinfect site.
   c. Apply finger pressure above clavicle to occlude vein.
   d. Insert catheter caudally at an angle until blood returns.
   e. Confirm intravascular location, attach infusion set and secure catheter.

EMR **EMT**	Assist in set up within their respective scope
AEMT **EMT- I** **Paramedic**	Full performance

Nasogastric/Orogastric Tube Placement

Indications

- Any pediatric patient who has received assisted ventilation.
- Any intubated patient receiving air transport.
- Any patient receiving a supraglottic airway device with confirmed esophageal placement.
- To prevent or alleviate abdominal distention in an intubated patient
- Significant poisoning

Contraindications

- Nasogastric intubation in a patient with obvious skull fracture or severe facial injuries
- Any gastric intubation in a patient with ingestion of caustic substances or known esophageal varices.

Procedure

1. Prepare equipment.
   a. Gastric tubes:

Less than 1 year	5-8 Fr
Pediatric	10-14 Fr
Adult	16-18 Fr

   b. Lubricant.
   c. Large syringe.
   d. Afrin for nasogastric intubation, optional.

1. Orogastric - EMT - Intermediate

a. An EMT-I may only place an orogastric tube after the placement of a supraglottic airway device.
b. The supraglottic airway device **MUST** be confirmed to be an esophageal placement.
c. With the BVM on Tube #1, insert the orogastric tube down Tube #2.
d. Confirm stomach placement by instilling air and listening to the epigastrium.
e. Secure tube.
f. Connect to suction at 80 - 120 mm Hg.

2. Orogastric - PARAMEDIC

a. Measure tube from tip of nose to xiphoid process.
b. Insert tube into mouth and advance into stomach.
c. Confirm location by instilling air and listening to the epigastrium.
d. Secure tube.
e. Connect to suction at 80 - 120 mm Hg.

Continued on next page

Nasogastric/Orogastric Tube Placement (Continued)

3. Nasogastric - PARAMEDIC

a. Measure tube length from earlobe to tip of nose and then to xiphoid process.

b. Select the most open nostril for placement and spray nostril with Afrin.

c. Insert the lubricated tube directing it posteriorly and slide it along the nasal pharynx into the esophagus and into the stomach.

d. Confirm location by instilling air and listening to the epigastrium.

e. Secure tube.

f. Connect to suction at 80 - 120 mm Hg.

<table>
<tr><th></th><th>Orogastric</th><th>Nasogastric</th></tr>
<tr><td>EMR
EMT
AEMT</td><td>Assist in set up within their respective scope</td><td rowspan="2">Assist in set up within their respective scope</td></tr>
<tr><td>EMT- I</td><td rowspan="2">Full performance</td></tr>
<tr><td>Paramedic</td><td>Full performance</td></tr>
</table>

Nebulizer Setup

Indications

Bronchospasm due to COPD exacerbation, CHF, asthma or anaphylaxis

Precautions

Patients may not tolerate a specific administration method, face mask, mouth piece or blow-by.

Procedure

1. Prepare equipment.
   a. Oxygen source.
   b. Nebulizer system.
   c. Medication.
2. Assemble nebulizer T-piece device and attach to oxygen source.
3. Add desired medication to nebulizer.
4. Run oxygen at 6-10 liters/minute.
5. Attach nebulizer T-piece to mouthpiece, face mask or endotracheal tube.

EMR	Assist in set up within their respective scope
EMT **AEMT** **EMT- I** **Paramedic**	Full performance

Pelvic Sling

Indications

Stabilization of suspected unstable pelvis fractures.

Precautions

Once applied, the pelvic sling is to be removed only under the supervision of a physician.

Procedure

1. Remove patient's clothes which will be covered by the pelvic sling.
2. After visual examination, the pelvic sling is wrapped around the patient's pelvis – hips & buttocks - (not abdomen). The pelvic sling is then tightened and securely fastened anteriorly over the pubic symphysis to reduce motion and internal hemorrhage of the unstable pelvis fracture during transport to the hospital. Provide further immobilization by placing the patient on a backboard and strapping the patient's knees together and the ankles together.
3. Specific directions and training will depend on the type of pelvic sing used by the agency.
4. Acceptable methods include:
    a. Bed sheet

    b. Commercial devices, such as the SAM Sling®

EMR **EMT** **AEMT** **EMT- I** **Paramedic**	Full performance

Percutaneous Cricothyrotomy

Indications

The recommended method to establish an airway when other methods have been unsuccessful

Precautions

- Punctures or lacerations of the blood vessels, vocal cords, or esophagus may occur.
- Subcutaneous emphysema

Procedure

1. Prepare Equipment – requires 2 personnel
    a. Bag-valve-mask and oxygen
    b. Suction
    c. Emergency cricothyrotomy Set
    d. Disinfectant solution
    e. Tape
    f. Stethoscope
2. Follow guidelines and instructions included in the emergency cricothyrotomy set.

EMR **EMT** **AEMT** **EMT- I**	Assist in set up within their respective scope
Paramedic	Full performance

Patient Restraint

Indications

- To restrain a physically combative patient to facilitate proper medical care and transport
- Patient restraint (physical or chemical) should be used when a patient is exhibiting combative behavior or is a danger to self or others.
- Physical or chemical restraint is only to be used to transport a patient under the Implied Consent law, a police arrest or hold, or a physician hold, in which the patient requires ambulance transport for medical treatment or evaluation.

Precautions

- Positional asphyxia can occur when a patient's body positioning causes an inability to breathe or an airway obstruction. This is especially true in the prone position. This may cause apnea, especially in the drugged, physically exerted patient.
- Restraints that are too tight may cause permanent vascular or nerve damage. Handcuffs or flex cuffs applied by law enforcement personnel prior to EMS arrival may be left on providing EMS personnel have the keys, but should be replaced with softer restraints if possible.
- Use caution with sedative agents on patients who have had a chemical irritant sprayed in their face as airway irritation or laryngospasm may occur.

Procedure

1. Sufficient manpower should be present to control patient without injuring the medical personnel. Assess the need for using physical restraints prior to administering a chemical restraint.
2. Restrain the patient on the stretcher in either a supine or lateral recumbent position to keep airway open and accessible. Immobilize patient with appropriate spine precautions if indicated for possible spinal injury.
3. Document circulatory status of physically restrained extremities frequently.
    a. Have haloperidol, midazolam or diazepam prepared for injection.
4. All four extremities should be secured even if chemical restraint has been effective, to protect the EMS personnel and the patient from harm.
5. Monitor vital signs frequently.

EMR **EMT** **AEMT** **EMT- I**	Physical restraint only
Paramedic	Physical and chemical restraint

Public Use Automatic External Defibrillator (AED)

Indications

Unconscious, unresponsive, pulseless, apneic patient with cardiac arrest

Precautions

Patient must be 1 year of age or older.

Procedure

1. Public Use AED will be acquired and maintained, according to the manufacturer's instructions.
2. The following information will be provided at the location of the Public Use AED:

Public Use AED (Automatic External Defibrillator)

This public use AED, located at:

_____

Was acquired and is maintained, according to the manufacturer's instructions, by:

_____, _____
Agency Name Phone

1. Is to be used only by a person who has received instruction through a course approved by the Health Division of the Department of Human Resources
2. Is to be used only on an unconscious person who is not breathing and does not have a pulse
3. Any time the Public Use AED is used, the "Public Use AED Event Information" page (on the reverse side of the page) must be completed and the data card information sent immediately to the receiving hospital and for QA process by the participating EMS agency, if available

Public Use AED Event Information

Please fill out the following information and forward it to the receiving hospital with the patient.

Event Date: _____ /_____ /_____ Time: _____

Patient Name: _____ (If Known)

Rescuer Name: _____

Rescuer Address: _____

Rescuer Phone: _____

Mark the correct answer:

Was CPR performed by a by-stander prior to EMS arrival?	Yes	No	Unknown
Did someone witness the patient go unconscious or arrest?	Yes	No	Unknown
Was shock indicated?	Yes	No	Unknown
Did the rescuer administer any shocks?	Yes	No	Unknown

What was the number of shocks delivered? If any: _____

Transporting Agency: _____

Run #:_____

AED Manufacturer and Model: _____

Public Use AED Agency: _____

Form Completed By: _____

Signature: _____ Date: _____ /_____ /_____

Rapid Sequence Intubation

Indications

The preferred method to provide endotracheal intubation after inducing unconsciousness and motor paralysis with medications

Precautions

- Must have an alternate method of airway management available
- Succinylcholine chloride may cause malignant hyperthermia or fatal hyperkalemia.
- Paralysis does not stop the brain's seizure activity.
- This is a two person procedure.

Procedure

1. Preparation
    a. IV, cardiac monitor and SpO_2 monitor.
    b. Suction.
    c. Laryngoscope, ET tubes (2 sizes), stylet.
    d. Medications drawn up and labeled
    e. Alternate airways – BVM, supraglottic airway device, percutaneous cricothyrotomy.
2. Pre-oxygenation
    a. Hi flow oxygen with non-rebreather mask or bag-valve-mask to maximize the patient's SpO2 – 3 minutes or 8 full breaths
3. Premedication (optional depending on urgency)
    a. Lidocaine 1.5 mg/kg IV push if increased intracranial pressure or bronchospasm.
    b. Atropine 0.02 mg/kg (minimum dose 0.1 mg) IV push for all children < 10 years.
    c. Vecuronium 0.01 mg/kg IV push if increased intracranial pressure and age > 10.
4. Paralysis with induction
    a. Etomidate 0.3 mg/kg IV push (0.15 – 0.2 mg/kg IV if elderly, debilitated or hypotensive) OR Versed 0.1-0.3 mg/kg IV, with max of 10 mg for adults/ 0.05-0.1 mg/kg IV, with a max 10 mg for children
    b. Succinylcholine 2 mg/kg (preferred) or Vecuronium 0.15 mg/kg IV push
5. Protection and positioning
    a. Selleck's maneuver until endotracheal tube placed, confirmed & secured.
    b. Patient's head in sniffing position
    c. BVM ventilation only if SpO2 < 90%.
6. Placement and proof
    a. Inflate balloon & secure tube.
    b. End tidal CO2 device & auscultation
7. Post-intubation management
    a. Midazolam or diazepam for sedation
    b. Vecuronium for paralysis.

EMR **EMT** **AEMT** **EMT- I**	Assist in set up within their respective scope
Paramedic	Full performance

Rectal Diazepam (Valium) Administration

Indications

Used to administer diazepam in patients when IV access is unavailable

Contraindications

Known sensitivity to diazepam

Precautions

- Causes respiratory depression
- Provides for rapid administration, but requires higher dose to compensate for diminished absorption.

Procedure

1. Prepare Equipment
   a. Airway control devices
   b. High flow oxygen
   c. Diazepam
   d. 8 Fr feeding tube or long IV catheter
   e. KY jelly
   f. Syringe with 3 ml crystalloid or air flush
2. Draw up diazepam dosage.
3. Remove needle from syringe
4. Cut feeding tube to approximately 2.5 inches in length or use IV catheter and remove needle from catheter
5. Apply KY jelly to tube or catheter
6. Spread buttocks and gently insert feeding tube or catheter into rectum (1" for infants, 1½ - 2" for older children). Catheter or feeding tube should advance easily into rectum.
7. Attach syringe with diazepam to end of feeding tube or catheter and inject diazepam with a steady push
8. Clamp feeding tube or catheter while drawing 2-3 ml of air for flush
9. Remove feeding tube or catheter.

EMR **EMT** **AEMT** **EMT- I**	Assist in set up within their respective scope
Paramedic	Full performance

Spinal Motion Restriction and Immobilization

Indications

Based on the criterion outlined below, suspected spinal injuries are treated using two different procedures. First, patients at risk of unstable spinal injuries are completely immobilized, and second are patients that meet the criteria for spinal motion restriction.

Any patients may be placed on backboards on scene for ease of patient movement and extrication but if not indicated, they should be removed from the backboard as soon as appropriate.

Full Spinal Immobilization Criterion

For patients with blunt trauma or high energy impact with any one of the following, or if any of the following cannot be accurately assessed:

1. Altered level of consciousness, use of intoxicants, difficulty communicating, or
2. Distracting painful injury, or
3. Significant midline spine pain, tenderness, new spine deformity, or
4. Motor or sensory deficit such as numbness or weakness.

Spinal Motion Restriction Criterion

For patients with blunt trauma or high energy impact that do not meet the above criterion, but meet at least one of the following criterions: (Patient may, or may not, be ambulatory on scene.)

1. Age > 65 years, or
2. Penetrating injury of the head, neck or torso without evidence of spinal injury, or
3. Mild to slight midline spine pain or tenderness, or
4. Parasthesias – “stingers”

Non-Indication

Spinal immobilization is not indicated for trauma patients under age 65 who meet ALL FIVE of the following criterion:

1. Low energy trauma mechanism (e.g. low speed rear end MVC or ground level fall), and
2. Normal level of consciousness (GCS = 15) and able to communicate well, and
3. Ambulatory at the scene, and
4. No numbness or weakness, and
5. No spine pain, tenderness, or new deformity.

Precautions

The use of a backboard and C-collar may be detrimental in some circumstances, as collars may cause pain or airway impingement, and the use of a backboard for spinal immobilization may cause discomfort, decrease local tissue perfusion, or restrict respirations.

Continued on next page

Treatment

Full Spinal Immobilization

1. Baseline history and exam shows that the patient meets criteria full spinal immobilization.
2. Check peripheral motor, sensory, and perfusion prior to immobilizing patient.
3. Manual cervical spinal motion restriction – followed by a device or devices that maintain stability.
4. The patient may be placed in an extrication device prior to full spinal immobilization.
5. The patient is secured to a full spinal immobilization device such as a long board.
6. Check peripheral motor, sensory and perfusion after patient is immobilized.

Spinal Motion Restriction

1. Baseline history and exam shows that the patient meets criteria spinal motion restriction.
2. Check peripheral motor, sensory, and perfusion.
3. Manual cervical spinal motion restriction – followed by a device or devices that maintain stability.
4. Without undue patient discomfort or distress, place the patient in the supine position on an ambulance gurney mattress and secured by the gurney straps. Custom spinal motion restriction measures may be required such as patients presenting with:
   a. Kyphosis, which is an exaggerated rounding of the back most common with elderly.
   b. Rigidity due to disease or surgery that can caused the vertebrae to fuse together
   c. Significant blunt trauma, or severe facial injury or bleeding with airway patency maintained by the patient lying on his/her side or sitting up.
5. Maintain motion restriction during patient transfers

EMR **EMT** **AEMT** **EMT- I** **Paramedic**	Full performance

Synchronized Cardioversion

Indications

Serious signs or symptoms, including:

- Tachycardia with ventricular rate > 150
- Altered level of consciousness but may not be unconscious
- Hypotension
- Respiratory distress
- Tachycardia (narrow or wide complex)

Tachycardia with serious signs or symptoms

Precautions

Efforts should be made to perform cardioversion on sedated patients who have been given pain medication.

Treatment

6. Sedation with Midazolam or Diazepam
7. Analgesia with Morphine or Fentanyl
8. Synchronized Cardioversion 100, 200, 300, 360 joules or the equivalent biphasic,
   a. PSVT or atrial flutter may respond to 50 joules
9. Unsynchronized Cardioversion

EMR **EMT** **AEMT** **EMT- I**	Assist in set up within their respective scope
Paramedic	Full performance

Tazer Dart Removal

Indications

Conscious and alert patients who have been shot by a TAZER dart in areas that have little to no risk of underlying structural damage or long term complications.

Precautions

For darts that are penetrating near the knee and elbow joint consider the possibility of puncture of the joint space. These cases must be transported so the joint space can to be cleaned and flushed.

Contraindications

Transport the patient and do not remove darts in the following areas:

- Head
- Neck
- Genitalia
- Nipples
- Female Breast
- Penetration into Joint Space

Procedure

1. Assess location of the TAZER dart to ensure removal can be done without complications.
2. Assess dart to determine if shank has a mark that indicates the direction of the barb.
3. If assessment allows, remove dart.
   - If the dart has a barb indicator, remove the dart pulling away from the barb as you pull the dart out. Use a fish hook motion.
   - If the dart does not have a barb indicator, twist the dart slightly to avoid removing tissue with the barb.
4. Treat the wound for localized bleeding if appropriate.

EMR	Assist in set up within their respective scope
EMT **AEMT** **EMT- I** **Paramedic**	Full performance

Tracheostomy Care

Indications

Tracheostomies must be open and unobstructed in order for a patient to breathe. Tracheostomy crises will develop for a variety of reasons: occlusion from mucus plug, accidental removal of tracheostomy or placement of tracheostomy into a false passage. Family members usually have extra supplies at the house.

Precautions

When placing a whole tracheostomy tube into the stoma you may inadvertently insert into the soft tissue and create a false passage. Patients may require intubation through the stoma in order to secure airway.

Procedure

1. Prepare Equipment
   a. Bag-valve-mask.
   b. Oxygen.
   c. Tracheal suction catheter.
   d. Brand new Tracheostomy tube.
   e. Endotracheal tube.
2. Assess patients breathing.
3. Apneic patient.
   a. Attach bag valve mask to tracheostomy tube and attempt to ventilate; continue this way if adequate.
   b. If inadequate, attempt to suction tracheostomy with sterile technique.
   c. Re-ventilate.
   d. If no improvement, remove inner cannula and suction tracheostomy tube.
   e. Re-ventilate.
   f. If no improvement, remove the whole tracheostomy tube.
   g. Cover stoma and attempt to ventilate with bag-valve-mask over mouth.
   h. If this works, place a brand new tracheostomy tube, if available, and attempt to ventilate. If this works, continue.
   i. If does not work, intubate orally. Cover stoma and continue to ventilate.
4. Breathing but ventilating poorly.
   a. Suction Tracheostomy tube with sterile technique.
   b. If no improvement, remove inner cannula.
   c. Reassess.
   d. If no improvement, remove the whole tracheostomy tube and insert a brand new tracheostomy tube. If no tracheostomy tube is available, cut an ET tube to same length as patient's tracheostomy tube and pass through stoma.
   e. Reassess.
   f. Ventilate or oxygenate as needed.

EMR **EMT** **AEMT** **EMT- I**	Assist in set up within their respective scope
Paramedic	Full performance

Transport Ventilator

Indications

Any patient requiring short-term ventilatory support while being monitored by a Paramedic/RN trained in the use of the ventilator.

Contraindications

- Patients requiring greater than 50 cmH2O
- Auto Vent 3000 – Patients under 20 Kg
- RespirTech PRO – Patients under 40 Kg

Precautions

- Do not leave patients unattended.
- Transport ventilators are for resuscitation management and should not be used as an unattended automatic ventilator.
- Recognize changes in atmospheric pressure and altitude as it effects tidal volume.
- Trauma patients with a possible pneumothorax

Procedure

1. Intubate patient and confirm placement.
2. Continue with manual ventilations.
3. Prepare equipment.
   a. High flow oxygen.
   b. Prepare ventilator.
   c. Check peak pressure.
4. Set Breaths per minute (BPM).
   a. 12 for an Adult; 20 for a Child
5. Set inspiratory time (if equipped).
6. Set tidal volume (8-10 ml/kg)
   a. Auto Vent 3000 -- 8-10 ml/kg
   b. RespirTech Pro – 35 cm H_2O
7. Occlude the outlet port (check peak pressure)
8. Connect to patient.
9. Assess patient, Chest rise and fall, Lung sounds, Oximetry (O_2 saturation), End tidal CO_2 capnometry.
10. Change in the patient's lung compliance may result in ventilatory changes. In such an event, reassess and make the appropriate clinical adjustments.

EMR **EMT** **AEMT** **EMT- I**	Assist in set up within their respective scope
Paramedic	Full performance

Umbilical Vein Catheterization

Indications

Preferred site of vascular access during neonatal resuscitation

Precautions

- Sterile procedure
- Cannulate the umbilical vein, not the umbilical arteries.
- Do not insert the cannula more than 6 cm.

Procedure

1. Prepare Equipment
   a. 5 Fr umbilical catheter or 2" 16 ga IV catheter without needle.
   b. Three-way stopcock.
   c. Syringe.
   d. Scalpel.
   e. Disinfectant solution.
   f. Crystalloid.
   g. Sterile gauze pad.
   h. Tape.
   i. Umbilical tape or ligature.
   j. Sterile drape.
2. Attach crystalloid filled syringe and three-way stopcock to umbilical catheter and flush.
3. Sterile prep and drape the cord area.
4. Apply mild ligature pressure to umbilical cord near skin to prevent bleeding.
5. Cut the cord approximately 2 cm from the skin, leaving a clean, smooth end.
6. Insert catheter in the large, thin-walled, single vessel for 2 cm then check for blood return. If no blood returns keep advancing in 1 cm increments until blood return or catheter has been inserted 6 cm. Do not use catheter if no blood return.
7. If blood returns, secure catheter with tape, cover with gauze pad.
8. Frequently flush with 1-2 ml crystalloid.

EMR **EMT** **AEMT** **EMT- I**	Assist in set up within their respective scope
Paramedic	Full performance

Vagal Maneuvers

Indications

Narrow complex tachycardia in stable patients

Contraindications

An unstable patient, patient refusal, altered mental status, or any cardiac dysrhythmia except for a narrow complex tachycardia.

Procedure

1. Trendelenburg position
   a. Raise patient's feet 6-18 inches relative to his or her head.
2. Increased intra-abdominal pressure
   a. Ask the patient to cough
   b. Ask the patient to close his or her mouth and bear down – "like having a bowel movement", "like having a baby", "like blowing up a balloon" or "tighten up your stomach muscles and push".
3. Vagal stimulation
   a. Ask the patient to swallow water.
   b. Ask the patient to splash ice water on his or her face.

EMR **EMT** **AEMT**	Assist in set up within their respective scope
EMT- I **Paramedic**	Full performance

Mass Casualty Incident

(MCI) Protocols

Section E

Introduction

This plan has been prepared to provide a management plan for coordinated response to the single or multiagency MCI, This plan is meant to give guidance to the Incident Commander (IC), Medical Branch Director, Triage, Treatment and Transport Group Supervisors, and the Staging Area Manager. The duties for specific positions that are outlined in this plan can be made into checklists to be used on scene or for reference during an MCI.

Under these orders, the MCI scene shall be managed using the National Incident Management System (NIMS) form of the Incident Command System (ICS). Command Staff and General Staff positions are filled as needed, dictated by the complexity of the incident, and the ”span of control” rule of supervising 3 – 7 people. The positions outlined within this plan are activated when the IC or their designee assigns a person to a position and delegate duties to them.

The IC is responsible for all jobs on the incident until he or she delegates such duties to others. Therefore, when an MCI occurs within an area that is serviced by a small response team, such as in rural areas, the IC may initially be responsible for several positions.

During incident demobilization when tasks have been completed, personnel may no longer be needed. Therefore, resource re-assignment within the incident or resource demobilization may occur.

If the incident is multi-jurisdictional or if the incident has multi-disciplinary considerations, a unified command structure may be employed following the NIMS-ICS model.

Overview of MCI Plan

1. Assume Command

The first emergency response unit on scene assumes command using the following format or according to its agency's protocol. It will perform a scene size up and report the following conditions:

a. State the location of the incident
b. Describe the type of incident (traffic crash, fire, plane crash, explosion, hazmat, etc.)
c. Assume command and name incident
d. Designate best access or a staging area.
e. Assign an on scene tactical channel
f. Report critical hazards of the scene

i.e. "FireCom 3114 is on scene, we have an explosion and hazmat release at the Phillips plant. 3114 will be Phillips command. All units stage at the corner of Main and Commercial streets. On scene units switch to tactical channel 3." …

"All units from Phillips Command, be advised there is a chemical cloud moving to the South of the plant approach from the North"

2. Declare an MCI

Definition: More than five critical patients or more than 10 total patients that will be transported for treatment

a. To activate this plan, the IC must declare the incident an MCI.
b. Report the estimated number of patients, including as much detail as possible.
c. Request additional resources needed.

i.e. "FireCom from Phillips Command I am declaring this incident an MCI. We have about 15 patients including 5 or 6 critical. I would like a second alarm medical"

d. Declaring an MCI automatically implies the following will occur:

i. All personnel, responding and on scene, will operate under MCI patient care protocols, including suspension of CPR and use of START Triage.

ii. Transporting ambulances not involved in the MCI perform shorter MEDNET radio reports.
iii. Non licensed transportation modes such as mass transit may be used to transport patients.

iv. Transporting ground ambulances are assigned to the MCI to make round trips from the scene to hospitals or designated alternate care sites until released by the IC,

v. The dispatch center notifies the nearest hospital's Emergency Department of the initial estimated patient numbers, and notifies air medical ambulances.

vi. On scene physicians may not automatically assume positions within the ICS. Their position must be assigned.

vii. In extraordinary circumstances, direct orders from an on scene physician who is caring for a patient may supersede these protocols on a patient by patient basis.

viii. On scene nurses and other medically trained personnel not covered under these Standing Orders must act under their own orders.

ix. A patient's Triage Tag is considered a sufficient pre-hospital care report form until a follow up prehospital report can be written.

x. Patients may be entered into the Oregon State Trauma System and issued a trauma system identification band in the MCI pre-hospital setting. However the usual notification given to the receiving hospital of the trauma system entry is not required.

3. Establish Incident Facilities

a. There will only be one Incident Command Post (ICP) per incident. It must be recognizable and a safe distance away from the hazard zone.
b. A Staging Area or areas should be located where it best meets the incident traffic flow and will facilitate quick rotation.
c. Alternate patient care sites may be established as needed. These sites may be predetermined by the hospital plan or set up as a temporary facility by the IC.

4. Manage transporting ambulances assigned to the MCI

a. The transporting ambulance will report to the Staging Area. Any unit arriving on scene prior to the establishment of a staging area must receive assignment from the IC or their designee.

b. The transporting ambulance will receive patients, and destination hospital assignment from the Transport Group Supervisor.

c. After delivering their patient, all efforts shall be made to return to the MCI staging area in a serviceable condition creating a "Round Robin" system.

d. The transporting ambulance crew should remain together and not get involved in the Treatment Area during their patient loading.

e. The transporting ambulance will notify dispatch when they are on scene, enroute to the hospital, arriving at the hospital and when returning to the scene.

f. The MEDNET report will consist of only the following items:
    i. The transporting unit ID
    ii. The number of patients and their respective triage codes
    iii. The ETA to the receiving facility.

Overview of Position Duties

Duties of the IC until delegated:

a. Determine the incident priorities and an Incident Action Plan (IAP)

b. Determine the location of incident facilities

c. Provide for the safety of the responders. A Safety Officer MUST be appointed if the MCI is considered a hazardous materials incident.

d. Provide information to the public

e. Provide coordination between assisting agencies

f. Direct resources to complete the IAP

g. Order resources

h. Develop a plan for the next operational period

i. Be responsive to additional incident needs.

Duties of Medical Branch Director

a. Don vest. Radio call sign is "*incident name* Medical".
b. Report directly to IC or the Operations Section Chief if one is assigned, and be responsible for Triage Treatment and Transport Group Supervisors
c. Oversee all medical service delivery aspects of the IAP and coordinates with the any other appropriate ICS position.
d. Contact hospitals with patient count and determine their ability to receive patients. Briefly discuss injuries to determine if specialists are available.
e. Contact outlying hospitals and determine their ability to receive patients. Communicate this information to the Transport Group Supervisor.
f. Ensure all Group Supervisors get the support they need to fulfill their responsibilities, and reassign or realign resources within the Medical Branch to facilitate the needs of the Medical Branch.
g. Communicate and coordinate with their supervisor regarding their additional resource needs.

h. Coordinate the setup of a Mass Care site.

i. Coordinate with Transport Group Supervisor regarding the need for air medical transport and assign Landing Zone(s) (LZ) if needed.

Duties of Triage Group Supervisor

a. Determine if incident dictates whether or not additional chemical or fire service PPE should be donned as patients may be involved in hazardous materials.

b. Don vest. Radio call sign is "*incident name* Triage".

c. Report directly to the IC or Operations Section Chief or the Medical Branch Director, whichever is the lowest position activated.

d. This position is responsible for any crew assigned to them.

e. Perform a primary scene search for victims, counting and sorting victims according to START criteria using the RED, YELLOW, GREEN or BLACK colored START triage categories. The use of either a standardized Triage Tag or a temporary colored ribbon system is appropriate during this initial triage.

f. Communicate initial patient count to their supervisor including numbers within each category.

g. Continually search the scene for additional patients to ensure no one is left behind or unnoticed. Update their immediate supervisor regarding patient numbers if additional patients are found.

h. Triage criteria are used for setting priority when moving victims to the on-scene treatment area.

i. Work closely with any rescue effort when determining the next priority patient to rescue.

j. May need to triage patients prior to decontamination from hazardous materials. If this occurs, ensure all patients that enter the treatment area have been properly decontaminated.

k. A final triage will be performed prior to the patient being received into the appropriate treatment area, and a standardized triage tag must replace any colored ribbon used during the initial triage.

l. When completed, all patients will be triaged into RED, YELLOW, GREEN or BLACK categories. All Triage Tag stubs are forwarded to the Transport Group Supervisor.

Duties of Treatment Group Supervisor

a. Don vest. Radio call sign is "*incident name* Treatment".

b. Report directly to the Medical Branch Director and be responsible for anyone working in the Patient Treatment Area.

c. Supervise treatment of on scene patients which may or may not include direct patient care.

d. Designate location and provide supplies for RED, YELLOW and GREEN Treatment Areas. Provide enough room between the colored areas to avoid "blending", and provide enough room for patient service areas between each patient.

e. Prioritize treatment effort according to RED, YELLOW or GREEN categories.

f. Document as much as possible using the space provided on the triage tags. Include time, injuries and/or medical condition, actions taken, procedures and medications.

g. Regularly update their Supervisor regarding specific numbers of patients in each triage category that are located in the Treatment Area.

h. Communicate anytime a patient status changes to a different priority level.

i. Coordinate with the Transportation Group Supervisor to determine

Duties of Transport Group Supervisor

a. Don vest. Radio call sign is "*incident name* Transport".

b. Report directly to the Medical Branch Director and be responsible for any crew assigned to them.

c. Build a patient transport plan using the attached EMS Transportation Log which assigns a destination hospital to each patient leaving the scene.

NOTE: *Information regarding the number of patients, the number of ambulances and bed availability should come from the Medical Branch Director if one is assigned.*

d. Designate an on scene traffic flow pattern from the Staging Area to Patient Loading Area and then departing the scene or to LZ.

e. Log all patients transported from the scene using the Triage Tag serial number on the EMS Transportation Log.

Duties of Staging Area Manager

a. Don vest if available. Radio call sign is "*incident name* Staging".

b. Report directly to IC or if one is assigned, the Operations Section Chief and may be responsible for an assistant Staging Area Manager.

c. Maintain a log of all available resources in the Staging Area.

d. When directed, assign resources that are in the Staging Area to the proper location within the incident and provide information regarding their contact person and assignment.

e. If needed appoint an assistant Staging Area Manager, who reports directly to the Staging Area Manager.

f. Transporting ambulances may need to be marshaled into a separated portion of the staging area to facilitate quick rotation.

Duties for setting up Helicopter Landing Zone (LZ)

a. Person assigned to set up LZ must be familiar with helicopter operations.

b. Landing area must be fairly level at about 8 degrees slope max.
c. An area of 75 X 75 minimum must be chosen that is free of obstacles and clear of overhead wires etc.
d. Establish LZ in a location that considers noise interference and rotor wash effect on the scene.
e. Notify Medical Branch Director and Transport Group Supervisor of LZ location.
f. Maintain close security on the LZ.

Conclusion of an MCI

Demobilizing an MCI

a. Before releasing resources from the incident that have completed their task, any ICS position responsible for resources should consider re-assigning them to the Staging Area for possible re-assignment to active incident areas.
b. At least one ambulance should remain on scene until all emergency operations have ceased as additional patients may be discovered or workers may be injured.
c. The Medical Branch Director or Transport Group Supervisor shall notify all receiving hospitals, alternate care sites and assisting agencies when the transportation of last patient is complete.
d. An on scene briefing of at least the medical branch should be done to determine what it will take to put resources back in service, sort out supplies and determine what will need to be replaced.
e. With approval of the IC, the Public Information Officer (PIO) or Joint Information Center (JIC) should prepare a final press release.
f. Any personnel on scene can request critical incident stress debriefing. This may be time sensitive and should be handled by a professional.

Post Incident

a. The IC or their designee will perform a final patient audit and send a completed report to each transporting agency which list the patients transported by their ambulances.
b. All agencies must complete pre-hospital patient care report forms on all patients transported by their agency.
c. The IC or their designee should schedule an After Action Review of the incident within 3-5 days. Include all appropriate agencies that were involved: fire, EMS, law enforcement, dispatch, air ambulance(s), hospital(s) and others.

Steps for Initial Size up At MCI

1.	FIRST UNIT ON SCENE ESTABLISH COMMAND		
2.	REPORT TYPE OF INCIDENT		
3.	REPORT INCIDENT LOCATION AND NAME		
4.	IDENTIFY ACCESS ROUTES AND STAGING AREA		
5.	IDENTIFY ON SCENE TACTICAL CHANNEL(S)		
6.	IDENTIFY ADDITIONAL OR HIDDEN SCENE HAZARDS		
7.	DECLARE INCIDENT AN MCI		
8.	REPORT APPROXIMATE NUMBER OF PATIENTS		
9.	REQUEST ADDITIONAL RESOURCES NEEDED		

Staging

	Unit #	Type	Time In	Time Out
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				

KLAMATH COUNTY FIRE DISTRICT NO. 1

EMS Transportation Log

Incident Location: | **Inc. #:** | **Date:**

Total Triage Count:

Red	Yellow	Green

Black

Responding Units

Number hospital can take >>>>>>>

Sky Lakes Medical Center			RRMC			PMMC			Bend			Redmond		
Red	Yellow	Green	Red	Yellow	Green	Red	Yellow	Green	Red	Yellow	Green	Red	Yellow	Green

Triage Tag # / Patient Name	Unit Number	Depart Time	Hospital	R	Y	G	Age	Sex	Injuries
								M / F	
								M / F	
								M / F	
								M / F	
								M / F	
								M / F	

Sky Lakes (541) 882-6311 RRMC (541) 789-7100 PMMC (541) 732-5145 Bend (541) 382-4321 Redmond (541) 382-4321

Triage Tag #/ Patient Name	Unit Number	Depart Time	Hospital	R	Y	G	Age	Sex	Injuries
								M / F	
								M / F	
								M / F	
								M / F	
								M / F	
								M / F	
								M / F	
								M / F	
								M / F	
								M / F	
								M / F	
								M / F	
								M / F	
								M / F	

Sky Lakes (541) 882-6311 RRMC (541) 789-7100 PMMC (541) 732-5145 Bend (541) 382-4321 Redmond (541) 382-4321

Post-Incident Analysis Report

Date:	Dispatch Time:

Agencies Involved:

Hospitals Transported to:

Position Titles:

Position	Name	Position	Name
Incident Command		Finance/Admin Chief	
Safety Officer		Logistics Chief	
Information Officer		Medical Branch Dir.	
Liaison Officer		Triage Supervisor	
Operations Chief		Treatment Super.	
Planning Chief		Transport Supervisor	

Patient Count:

Green	Yellow	Red	Black	Total

Post-Incident Transporting Agency Patient Audit

	Tag Number	Priority Color	Time in Treatment	Time out Treatment	Receiving Hospital	Transport Unit	Transport Time
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							
16.							
17.							
18.							
19.							
20.							

Glossary

Closed Incident:
A “Closed Incident” is an incident where access to victims is restricted, or where victims are within an enclosed area. All victims may not be accessible until some patients are moved or extricated.

Dynamic Incident
A “Dynamic Incident” is an incident where there is an increase in the number of patients, because the cause of the injuries is still present. Example: floating cloud of toxic fumes.

Helispot
Temporary location for landing helicopters which should be staffed with personnel equipped to secure the area.

ICS
The Incident Command System is a federally recognized standard incident management tool that uses common terminology, common position titles and common responsibilities and standardizes resources.

Mass Casualty Incident (MCI)
An MCI is any EMS incident involving more than five critical patients or more than ten total patients.

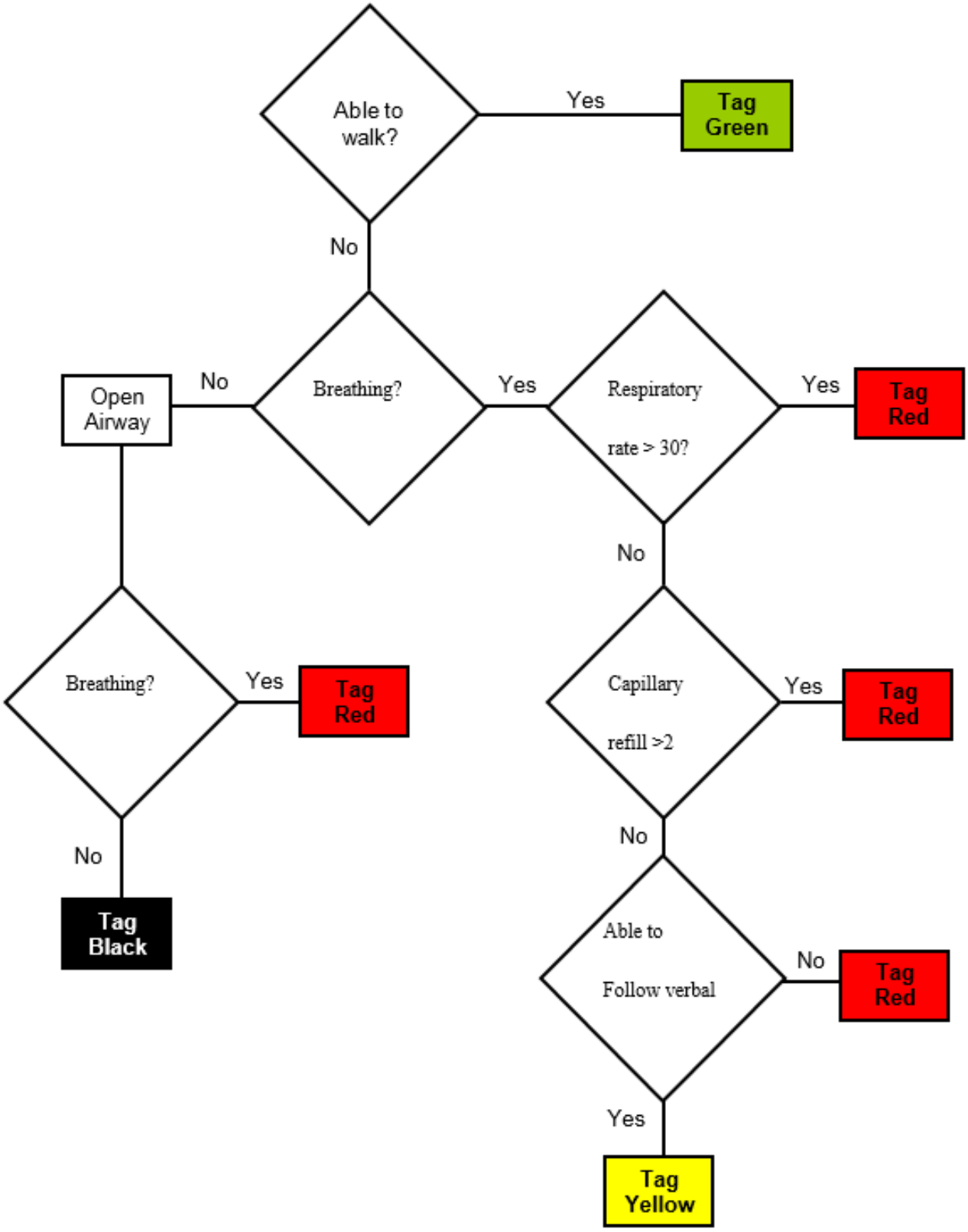
NIMS
The National Incident Management System is a detailed Federal plan for managing incidents that range from the small local to the nationally significant.

Open Incident:
An “Open Incident” is an incident where victims are all accessible for triage.

Patient Loading Area
An area set up near the Treatment Area for loading patients into transporting ambulances.

START Triage

START stands for Simple Triage and Rapid Treatment, and it follows the matrix below:



Static Incident
A “Static Incident” is an incident where, after an accurate patient count has been made, the number of patients will not increase. This is because the cause of the injuries to the victims has passed. Example: MVA.

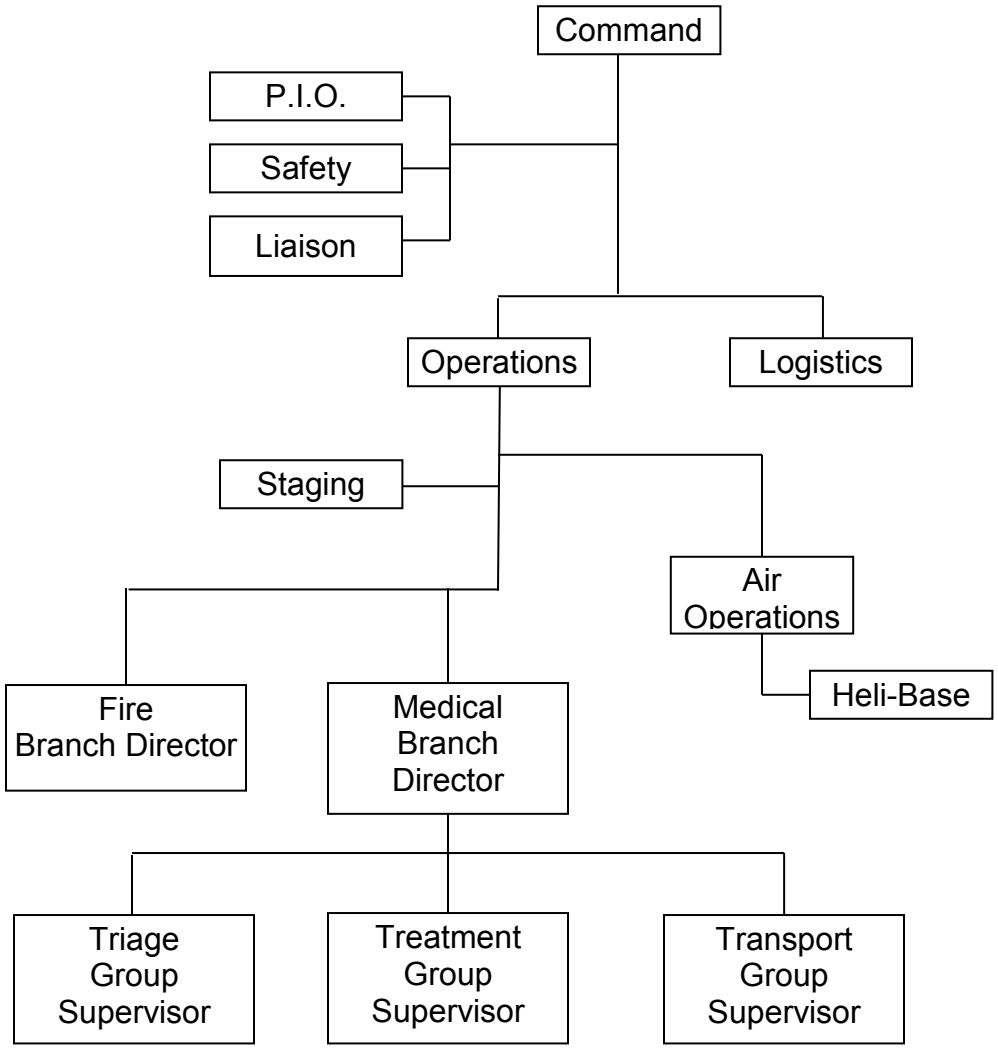
Treatment Area
An area set up to facilitate on scene treatment of patients while they wait for transport to a receiving hospital.

Triage
To sort victims or patients into four categories, and assign them a priority based on severity of injuries.

Triage Tag
The county-accepted triage tag as determined by the Ambulance Advisory Committee is a serial numbered multi-part tag used to identify triage categories and track specific patients during an MCI.

Suggested Organizational Chart

As personnel reach their maximum span of control ICS positions are appointed to manage people and procedures. Additional positions not listed may be appointed as necessary to deal with the incident. Please follow NIMS/ICS when assigning additional positions.



COVID-19 Pandemic

Patient Management

Section F

COVID-19 Patient Management: Purpose

This advisory is an overlay to existing patient care protocols and applies to the management of patients diagnosed with or suspected of having COVID-19 or an influenza like illness based on dispatch information, patient location/context (care facility, etc.), ongoing outbreak epidemiology, and provider obtained history, judgment and other information.

Procedure

High Risk Patients, Procedure Questions and Situational Awareness

1. Does the patient have a fever, cough, or respiratory distress?
2. Is the patient or facility suspected to have COVID-19?
3. Has the patient had prior contact with a known COVID-19 patient?
4. Could the patient require aerosol-generating procedures?

If the answer is “yes” to any of the above questions, the patient is a high-risk patient and is a potential COVID-19 patient. Considerations for PPE, treatment and procedure modifications should be made as indicated below. If the patient is from a high-risk facility (Assisted Care, Adult Foster Home, Nursing home, Clinic, Jail), you should have a heightened sense of situational awareness.

SYMPTOMS	SIGNS
1. ***Fever (observed or reported)***	1. Tachypnea (RR > 24/min)
2. ***Shortness of breath***	2. Tachycardia (HR > 100/min)
3. ***Cough***	3. Hypoxia (SpO_2 < 94%)
4. URI symptoms with sore throat, rhinorrhea	4. Hypotension (MAP < 65mmHg or SPB < 90 mmHg)
5. Chest pain	
6. Confusion	
7. Headache	
8. Fatigue/Myalgia (muscle aches)	
9. Anorexia	
10. Nausea, vomiting, diarrhea	
Primary symptoms	

A. Universal Patient Care

HIGH-RISK AEROSOLIZING PROCEDURES	HIGH-RISK PPE REQUIREMENTS (required for all those within 6 feet of the patient)
Bag-Valve-Mask Ventilation	Gloves
Endotracheal Intubation	Eye Protection
Supraglottic Airway Placement	Highest Available Respiratory Protection
Nasal and Oral Airway Placement	Gown
Non-Invasive Positive Pressure Ventilation	
Nebulized Treatments	
Suctioning	

1. Wear appropriate PPE for the appropriate patient and situation.
2. Review information provided by dispatch and request additional information from dispatch as needed.
3. Question the patient about a history of recent travel or contact with a known COVID-19 patient.
4. If possible, consider using reporting party phone number to communicate and obtain more information before entering a scene.
5. If possible, establish communication with the patient, family member(s) or caretaker(s), while maintaining at least 6 feet of distance.
6. If possible, have the patient move to an open area.
7. Equipment and bags (including drug boxes) should be kept >6 feet (or as far away from) the patient as possible.
8. Ensure proper provider donning/doffing for high-risk encounters/procedures.
9. EMS provider in charge should ensure or designate the role to an on-scene provider, that personnel are maintaining proper PPE and distancing themselves as much as possible from patient. If possible, personnel should stay out of the same room as the patient, if not actively providing hands-on care.
10. If possible, at a minimum, for patients with cough, shortness of breath, or fever, a simple surgical/medical mask should be given to the patient to wear over their mouth and nose.
11. When possible and safe, limit the number of personnel exposed to any known or potentially COVID-19 infected person. If safe for patient care, one provider should initially assess a patient.
12. When entering a care facility, including adult foster care homes, with known COVID-19 patients, consider the facility to be a high-risk area for both providers and patients and personnel exposure should be limited as feasible. Appropriate PPE should be worn inside the facility. EMS personnel are encouraged to ask facility staff to bring patients (wearing a simple mask) to a central area near the facility entrance for initial EMS evaluation.

B. PPE

1. For patient encounters with known or suspected COVID-19 infection, minimum PPE will include gloves, eye protection, and mask. Consider gown or coveralls if in physical contact with patient.
2. **If high-risk aerosolizing procedures are being performed, airborne-precautions and PPE must be used. This means, the above PPE with the addition of gowns and N95 or higher respiratory protection.**

C. Patient Transport Instructions

1. Contact the receiving facility as soon as possible and advise them that you have a patient needing isolation. Do not enter the ED or other patient care area until directed by the ED staff. This may include alternate locations within the facility such as temporary shelters and treatment areas.
2. Family members and contacts of patients with possible COVID-19 shall not ride in the transport vehicle except for pediatric patients or other vulnerable or special needs patients.
3. Isolate the driver from the patient compartment if possible; if unable, the driver should wear appropriate mask and eye protection.
4. During transport, open the outside air vents in the driver area and turn on the ventilation fans to the highest setting.

Treatment

A. Cardiac Arrest

1. All cardiac arrest patients are high-risk and high-risk PPE should be worn.
2. See airway management instructions and ETI guidance.

B. Respiratory Distress Protocol

1. Airborne precautions (high-risk PPE) are needed for any aerosol generating procedures as defined previously.
2. If using a nasal cannula or NRB, a simple mask should be applied over for this equipment on a patient's face if possible.
3. All personnel in the room with a patient receiving any high-risk procedures should use appropriate high-level PPE before treatment is initiated.
4. Nebulized meds should be used as a last resort - consider other appropriate treatments first. A patient with severe respiratory distress and wheezing can still receive nebulized treatments. Perform treatments on scene and outside if possible. Nebulizer treatments should not be performed during transport.
5. Instead of nebulized treatments for asthma, consider Epinephrine (0.3mg - 0.5 mg Epi 1:1000 IM every 5 minutes, repeated once). This applies for patients age 40 and younger without underlying heart disease (pervious MI, uncontrolled hypertension, etc.). For patients over 40 or with underlying heart disease, don high risk PPE and perform nebulizer treatment in open area prior to transport.
6. If available, use an albuterol Metered Dose Inhaler (MDI) in lieu of nebulizer treatments. If patient has their own MDI, consider bringing it with you for use in route. 4 puffs of an albuterol MDI is equivalent to 1 nebulized treatment; if available, use a spacer.
7. Avoid steroid administration in suspected COVID-19 patients.
8. BVMs should be equipped with Viral/HEPA filters, as available.

9. Maximize area ventilation during these procedures as able: open doors, use exhaust fans, etc.

C. General Airway Management

1. The most experienced provider should assume control of airway management in known or suspected COVID-19 patients.
2. The use of supraglottic airways is considered a continuously aerosolizing procedure.

D. Non-Invasive Positive Pressure Ventilation (CPAP/BiPaP)

1. This is an aerosolizing procedure and should be considered when performing advanced airway management and donning appropriate PPE. Attempt to minimize the performance of this procedure to only when necessary for respiratory distress.
2. **DO NOT** discontinue CPAP/BiPaP upon entering the ED.

E. Advanced Airway Management

1. If a patient responds to supplemental oxygen with SpO_2 levels above 90% (and can maintain adequate airway) defer advanced airway management and notify the hospital of a potential need for airway management upon arrival.
2. If advanced airway management is needed in a possible COVID-19 patient, the most experienced provider on-scene is encouraged to be the person in charge of the airway.
3. Preferred pre-oxygenation method is with a BVM with proper facemask-seal with viral/HEPA filter.
4. Do not squeeze BVM bag before intubation attempt. Hold facemask with good two-handed technique until initiating advanced airway attempt to maximize recruitment of alveoli. Set PEEP to 5-10 cm H_2O if equipped.
5. Ensure viral/HEPA filter is attached to BVM before intubation attempt, if available.
6. Intubation with video laryngoscopy (VL) and bougie is strongly preferred over direct laryngoscopy (DL). This is to maximize the distance from patient and limit exposure.
7. Endotracheal intubation is preferred over SGA.
8. After intubation, make sure that you have the viral/HEPA filter in place on the BVM, as able, to attach to the tube. Inflate the cuff before bagging the patient.
9. Confirm tube placement using standard verification methods, including $EtCO_2$ waveform capnography.

F. Suctioning

1. Suctioning is a high-risk aerosolizing procedure. Use appropriate PPE.