KLAMATH COUNTY EMS STANDING ORDERS

Effective February 1, 2025

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EMS ADMINISTRATION

SECTION A

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

Crater Lake National Park

Keno Rural Fire Protection District

Kingsley Field Fire Department

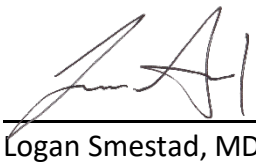
Klamath County Fire District 1

Klamath County Fire District 3

Bly Rural Fire Protection District

These written standing orders 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. Success of these standing orders depends on the training, continuing education, clinical judgment, and personal integrity of all who provide medical services under these standing orders.

These standing orders shall be in effect December 1, 2023. These standing orders supersede and make void any and all standing orders approved prior to this date. These standing orders will remain in effect until revised, amended or revoked. The supervising physician's signature below should be no more than 12 months old.



Logan Smestad, MD

2/1/2025
Date

SUPERVISING PHYSICIAN RESPONSIBILITY

Per OAR 847-35-0001, -0020, and -0025 the supervising physician shall:

- Be responsible for the issuance, review and maintenance of medical standing orders within the scope of practice not to exceed the education, training, and licensure of EMRs, EMTs and Paramedics. Standing orders shall be reviewed and revised at least annually.
- Explain standing orders to EMRs, EMTs and Paramedics to ensure they understand their responsibilities and do not exceed their scope of practice as defined by OAR 847-35-0030.
- Be responsible for ensuring EMRs, EMTs and Paramedics are currently licensed and in good standing with the Oregon Health Authority.
- Provide review of EMR, EMT and Paramedic practices in person or by an appropriate designee. This review will include one or more of the following:
- Direct observation of field performance.
- Review of pre-hospital care reports.
- Individual case review with EMRs, EMTs, Paramedics, and supervised agencies to correct and/or enhance the delivery of emergency medical services.
- Report to the Oregon Health Authority and employer any action or behavior by EMRs, EMTs or Paramedic which could be cause for disciplinary action.
- Suspend or revoke 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.
- Designate a qualified physician to perform the duties of supervising physician in the case of an extended absence.
- Meet with supervised Paramedics, EMTs and EMRs at least 2 hours every year.

STANDARD OF CARE

- A patient is a person who is ill or injured or who has a disability and who receives emergency or nonemergency medical care from an emergency medical services provider (OAR 333-265-0000).
- All patients accessing the 911 system will be transported by ambulance to a hospital emergency department unless the patient expressly refuses transport. At no time shall an EMS provider encourage a patient not be transported by ambulance.
- All Klamath County EMRs, EMTs and Paramedics are expected to conduct themselves in a professional manner.
- EMRs, EMTs and Paramedics will treat all patients with dignity and respect. Patient's medical information will be treated in a confidential manner.
- EMS personnel's priority in the field is scene safety for themselves, patients and the public.
- 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 treat illness or injury. Treatment and drug standing orders will be followed based on the patient's condition and the EMR's, EMT's, or Paramedic'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.
- Patient care will include documentation in a professional and timely manner to facilitate further evaluation and treatment.
- 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 & EMS PROVIDER REQUIREMENTS

EMRs, EMTs and Paramedics must be licensed by the Oregon Health Authority to provide emergency medical services in order to function under these standing orders.

All EMRs, EMTs, and Paramedics authorized to provide patient care under these orders shall function within their scope of practice. 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 unless otherwise restricted by these standing orders or by on-line medical control.

Oregon Administrative Rule	**Provider Level / Licensure**
847-035-0030 (8)	Emergency Medical Responder (EMR)
847-035-0030 (9)	Emergency Medical Technician (EMT)
847-035-0030 (10)	Advanced Emergency Medical Technician (AEMT)
847-035-0030 (11)	EMT-Intermediate (EMT-I) (Oregon-specific)
847-035-0030 (12)	Paramedic

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 BLS CPR credential, (2) current ACLS credential, (3) current PALS credential, (4) current PHTLS, BTLS TEAM or TNCC credential (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 Paramedics.

EMRs, EMTs, AEMTs, EMT-Is, and Paramedics functioning under these standing orders must hold a valid American Heart Association (AHA) BLS CPR credential or equivalent.

All personnel providing advanced life support (EMT-I & Paramedic) must hold valid AHA Advanced Cardiac Life Support (ACLS) & AHA Pediatric Advanced Life Support (PALS) credentials. Equivalent certifications must be approved by the medical director on a case by case basis.

SCENE AUTHORITY

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.

Medical Professionals on the Scene: Medical professionals at the scene of an emergency may help 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.

Disputes on Scene:

- Disagreements about care should be handled in a professional manner so as not to detract from patient care.
- Standing orders should be followed whenever possible and should be the basis for resolving disputes.
- 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.
- A written incident report should be prepared concerning any dispute arising at the scene and given to the supervising physician for review.

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

- 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.
- If the patient requires immediate intervention beyond the capabilities of on-scene personnel, the quick responder, whether ALS or BLS may transport immediately.
- 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.
- 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.
- Any BLS responder who transports a patient that might benefit from ALS treatment must request an ALS intercept.

MEDICAL CONTROL

Off-Line Medical Control - includes the following:

- Standing orders approved by the supervising physician.
- Written patient orders and protocols pertaining to a specific transport.
- Individual criticism, counseling, or advice concerning the care rendered to specific patients.
- Coordination with the directors of local hospitals´ emergency departments.

On-Line Medical Control - includes the following:

- 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.
    - Emergency physicians should be familiar with pre- hospital care protocols and the capabilities of local EMS providers.
    - On-line medical control may override written protocols when appropriate; such as:
    - Directs medical care for patients within pre-hospital care provider's scope of practice.
    - Routes 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.

Procedure for Obtaining On-Line Medical Control

1. 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.
2. All emergency departments and pre-hospital care providers operating under these standing orders shall maintain radio communication equipment which meets the standards of the Oregon Health Authority. All first response units will have Klamath County MedNet (155.340) frequency. If conditions require, contact the receiving Emergency Department via cell phone.
3. 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.
4. Any difficulties or problems that arise within the medical control system shall be communicated to the supervising physicians for clarification or resolution.

PERSONAL PROTECTION & INFECTION CONTROL

- All EMS providers will observe and employ universal precautions when there is potential exposure to blood or other potentially infectious materials in accordance with OSHA 29CFR1910.1030(d)(1).
- Medical exam gloves shall be worn when it can be reasonably anticipated that the EMS provider may have contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin; when performing vascular access; and when handling or touching contaminated items or surfaces.
- Masks in combination with eye protection devices shall be worn by EMS providers when splashes, spray, spatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can be reasonably anticipated. Droplet precautions including eye protection will be taken for patients that can generate droplets during coughing, sneezing, or the performance of procedures, such as placing an airway.
- Appropriate protective clothing such as gowns, aprons, or similar outer garments shall be worn in occupational exposure situations. The type and characteristics will depend upon the task and degree of exposure anticipated.
- EMS providers shall utilize airborne precautions including 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:
    - Measles
    - Varicella (chicken pox)
    - Tuberculosis

DOCUMENTATION & ePCR REQUIREMENTS

- All contacts with patients must be documented on a pre-hospital care report. All handwritten reports must be converted to electronic Patient Care Report (ePCR) format as soon as possible to comply with state and federal regulations.
- All Pre-Hospital Care Report (PHCR) entries are to be dated and timed appropriately. Times are to be recorded as accurately as possible. Times should represent the course and duration of events.
- 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.
- PCHRs are to be filled out completely with all pertinent information. Reports shall be concise, written legibly, and spelled correctly. Providers shall use acceptable terminology and approved abbreviations only.
- 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.
- 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.
- If a non-treating EMS provider disagrees with the care given, it is that provider´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 provider 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.
- Pre-hospital care reports should be done in the SOAP format, or a consistent format that includes the following:

SUBJECTIVE

- 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

OBJECTIVE

- 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.
- Information not covered previously in Patient Care Report

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

CONTINUOUS QUALITY IMPROVEMENT

- It is important that all areas of pre- hospital care be monitored and improved upon where possible. All agencies shall participate in the Klamath County Continuous Quality Improvement Plan.
- This plan provides a mechanism for review of selected pre-hospital care, with emphasis on cases with high risk issues and procedures on a continuous basis.
- Issues identified 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.
- Quality Assurance (retrospective) Reviews
  - Field Delivery
  - Needle Decompression
  - Intraosseous Infusion
  - Cricothyrotomy (needle or percutaneous)
  - Cath Alert
  - Rapid Sequence Intubation (RSI)
  - Major MPS/MCI – involving more than 2 agencies
  - Pre-hospital death in field
  - Random Review 10% of charts per month (minimum 5 charts per agency)
- As designated by the supervising physician:
  - Endotracheal Intubation
  - Trauma System Activation
  - Non-Transport
  - Code 3 transport to Sky Lakes Medical Center
  - Contact with Medical Control
  - Defibrillation/Cardioversion
  - Prolonged scene time (greater than 30 minutes)
- In addition to patient care report reviews, the supervising physician may also utilize several other methods to monitor the EMS system for Quality Assurance.
  - Direct observation of EMS provider field performance
  - Monitoring and or review radio communications
  - Conducting post-run interviews
  - Conducting periodic case conferences
  - Investigation of complaints
- Quality Improvement (prospective) Review as designated by the supervising physician.
  - IV Starts
  - RSI
  - Cardiac arrest management
  - Seizure
  - Poisoning/Overdose

KLAMATH COUNTY QUALITY ASSESSMENT FORMS

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 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:

EQUIPMENT & SUPPLIES

1. The minimum equipment and supplies are those required by the Oregon Health Authority OAR 333-255-0072 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.
3. All transporting vehicles covered by these standing orders shall carry a copy or have electronic access to these standing orders.

CONTINUING EDUCATION REQUIREMENTS

- 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:
  - Case Review Conferences.
  - Multi-Disciplinary Trauma Conferences.
  - Special EMS Conferences organized by the Emergency and/or Education Departments of each hospital or by local EMS agencies.
- As one of the state requirements for Oregon re-licensure (OAR 847-035- 0025-3), each EMS provider affiliated with a Klamath County EMS agency must have 2 hours contact per year (4 hours / 2-year EMT re-licensure cycle) with your agency's supervising physician.

STANDING ORDER REVIEW & REVISION

- There shall be at least an annual review of these standing orders by the supervising physician with input from signatory agency representatives.
- Education programs to update EMS providers on pertinent changes in and additions to the standing orders shall be organized by each EMS agency covered by these standing orders within a reasonable period after release of any revisions.

KLAMATH COUNTY EMS APPROVED ABBREVIATIONS

A-fib atrial fibrillation
AAA abdominal aortic aneurysm
ABD abdomen
AMA against medical advice ASA aspirin
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
CO2 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
H2O 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
MgSO4 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
N2O nitrous oxide
OG orogastric tube
OPA oropharyngeal airway
oz ounce
O2 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
VD 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
SpO2 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

EMS OPERATIONS

SECTION B

AMBULANCE RESPONSE

- EMS response vehicles including ambulances will be driven in a manner consistent with public safety and the patient's condition as judged by the attending EMS provider.
- Lights & siren response may be appropriate based on the information received by dispatch and forwarded to the EMS providers responding.
- Lights & siren transport may be appropriate if the patient's condition warrants expedited transport to definitive care and transport time will be significantly reduced.
- The risks associated with emergency response and transport must be balanced with the patient's need to quickly reach definitive care.

PATIENT CONSENT

Patient Defined

A patient is a person who is ill or injured or who has a disability and who receives emergency or nonemergency medical care from an emergency medical services provider (OAR 333-265-0000). In addition, under these standing orders a person is considered a patient in the pre-hospital setting if the responding EMS provider has the duty to act and the victim meets at least one of the following criteria:

- Complains of being ill or injured to the EMS provider; or
- Has experienced a mechanism to cause injury, whether obvious or hidden; or
- Shows signs of altered level of consciousness from baseline mentation; or
- Requests an assessment, treatment, and/or transport.

Patient Competency & Capacity

Per 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, per 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.

In the medical environment, a patient proves capacity by demonstrating the following:

- Understanding of information relevant to the decision in question
- Ability to weigh risks and benefits, and to assess alternative options
- Communicate clearly with medical providers about the decision in question, and verbalize the ultimate decision

- Consistency of logic and decision making throughout the encounter

Determining a patient's capacity as a competent decision maker can be difficult. 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 EMS provider in charge to deduce when the patient cannot make competent decisions and document how they arrived at that decision. Contact on-line medical control if unsure or unable to determine competency.

Medical Consent

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

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

Implied Consent gives EMS providers permission to render emergency treatment to patients who act toward consent or have a serious medical condition that prohibits informed consent.
Thoroughly document the reason(s) if rendering emergency treatment under implied consent.

- Under the doctrine of implied consent, the EMS provider can assume consent is implied when:
  - A patient is incapacitated and unable to exercise informed judgment, or
  - A patient has a life or health-threatening injury or disease that requires immediate treatment and is unable to provide informed consent.

TIME ON SCENE

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

- If at any time an EMS provider cannot establish or protect a patent airway for a patient, he/she is required to transport the patient immediately.
- If at any time an EMS provider 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.
- 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.
  - When more than 3 patients are involved, the 10-minute scene rule begins when late arriving units receive their patient.
- Establishing an IV line in the field should not delay transport unless there is an immediate need for parenteral therapy.

GUIDELINES FOR TRANSPORTING ALS & BLS

BLS Guidelines

- If only BLS providers are on scene, the personnel on scene will perform a primary and secondary assessment, treatment, and transport in the accordance with their agency standards and their scope of practice within these standing orders.
- If both BLS and ALS providers are on scene, the patient will be jointly evaluated by both ALS and BLS providers. 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 ALS provider, the transfer of patient care from ALS to BLS will follow the procedures outline below in the "ADVANCED LIFE SUPPORT (ALS) to BASC LIFE SUPPORT (BLS) GUIDELINES" of this section.
- When ALS providers 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.
- Any patient requiring change of care from BLS to ALS, after the patient was deemed appropriate for BLS transport by both ALS and BLS providers, will be reported to the supervising physician.

ALS Guidelines

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

The following conditions alone do not represent an initial need for ALS care unless they lead to a criteria listed above:

- Grand Mal Seizures followed by post-ictal
- Dystonic Reaction
- Stroke
- DNR
- Pain Management
- Nosebleed
- Hypothermia
- Hypertensive
- Near Drowning
- Nausea/Vomiting
- Snake Bite
- Spine Trauma
- Syncope

Transfer of Care from ALS to BLS Guidelines

1. Care of a BLS patient may be transferred from an ALS provider to a BLS provider. A BLS patient must have been evaluated by both a BLS and ALS provider. Further, both providers 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:
   - IV or IO access
   - ALS procedures and / or cardiac monitoring
   - ALS medication
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.

EMS COMMUNICATION PROCEDURES

- 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:
    1. Unit transporting and response code of transport.
    2. Patient information including age, sex, and reason for dispatch.
    3. Patient status including vitals, history and treatment.
    4. Patient meds and allergies if pertinent to the call.
    5. ETA to hospital
- Communication with the receiving hospital should be established as soon as practical once transport is begun.
- 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.

KLAMATH COUNTY EMS RADIO FREQUENCIES

- Klamath County EMS providers shall have radios capable of accessing Klamath County 911 FIRECOM, TAC, and MEDNET frequencies.
- EMS agencies providing 911 response, ambulance transport, or non-emergency medical transport under these standing orders shall have an agreement with Klamath County 911 for dispatch service and radio frequency access.
- FIRECOM: EMS units shall be dispatched on FIRECOM. FIRECOM should be used as the primary frequency to contact Klamath County 911.
- MEDNET: EMS units shall contact Sky Lakes Medical Center ED on MEDNET. MEDNET may also be used for air-ground communication during helicopter operations.
- TAC: EMS units shall utilize their local TAC channel for on-scene operations.
- EMS providers covered by these standing orders shall treat dispatch personnel with courtesy, respect, and a high degree of professionalism always.

EVALUATE, TREAT, & REFER

- If the patient has a minor or stable medical condition and does not wish to be transported to the hospital by ambulance, the following protocol may be used to determine the appropriateness of a patient refusal.
  - The patient must be of legal age and mentally competent.
  - The EMS provider has conducted a thorough medical examination and documented all pertinent findings and treatment in a pre-hospital care report.
  - The patient's condition is medically stable.
  - An alternative method of transport to a medical care facility is immediately available to the patient.
- The following medical and injury conditions mandate consultation with on-line medical control; otherwise EMS transport to a medical facility is indicated:
  - Unstable vital signs.
  - Altered consciousness or a history of loss of consciousness, or any acute onset neurological deficit **EXCEPT** in the following instances:
    - ❖ Hypoglycemia in patients with Diabetes Mellitus: A patient with diabetes mellitus who is taking insulin has a documented episode of hypoglycemia and returns to their neurologic baseline 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. A patient care report is required and should contain clear documentation of the event.
    - ❖ 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 and is compliant with medications AND the seizure is typical for the patient. A patient care report is required and should contain clear documentation of the event.
  - Respiratory distress or pulse oximetry less than 90% (room air).
  - Patients over 40 years old with a complaint of chest pain consistent with heart or lung disease or of abdominal pain.
  - Severe headache or a high fever (>40 C/104 F) in any age group.
  - Trauma incident with high index of suspicion for injury including vehicular intrusion, injuries to others on scene, distance of fall or other EMS provider judgment.

REFUSALS & NON-TRANSPORTED PATIENTS

Ambulance transportation of a patient to definitive care should be the goal of EMS providers regardless of the acuity of the patient's condition or complaint.

No Patient

Under these Standing Orders the lead EMS provider must determine if there is a "patient" on scene. There is no patient if all conditions are met:

- No person on scene wishes to be assessed, treated, or transported by EMS.
- There is no significant mechanism of injury.
- There are no signs of traumatic injury or acute medical condition.
- There are no behavioral issues that place a person at risk.
- All people on scene are capable and competent decision makers, or in the case of a minor there is an adult with legal decision-making capacity in charge of the minor.
- If there is no patient on scene, complete your agency's required documentation. No PCR is necessary.

Patient Refusing Medical Care or Transport

Once the EMS provider determines there is a patient and the patient is refusing medical care and/or transport, determine if the patient is capable and competent to make decisions. If the patient is capable and competent, the following apply:

- Attempt to conduct a physical assessment including vital signs.
- Explain the risks and possible consequences of refusing care and/ or transport.
- If a serious medical condition or traumatic injury exists, contact on-line medical control for assistance.
- Enlist family, friends, or law enforcement to help convince the patient to be transported to definitive care.
- If the patient continues to refuse, complete your agency's Patient Refusal form and obtain the patient's signature. Give the patient a copy of the form and encourage them to seek definitive care.
- Complete a thorough PCR. The signed refusal form must be attached to your PCR.

When a patient is determined not to have capacity as a decision-maker, they cannot refuse medical care on their own. If the patient is NOT capable and/ or competent to refuse medical care, the following apply to protect the patient:

- Treat and transport any person who is incapacitated and has a medical need.
- Patients with impaired decision-making capacity should **NOT** sign a refusal form.
- Attempt to contact the patient's family or friends so they can take control of the patient and encourage ambulance transport.
- Call for law enforcement to assist in assessing for intoxication and thus helping document the patient's inability to make competent decisions.

- Contact on-line medical control for advice.

Documenting Refusals

- The Agency's patient's refusal form must be signed, witnessed, and made a part of the permanent PCR record.
- The PCR must record how decision-maker status was established including mental status and any other means used to determine the patient's competency.
- The PCR must include documentation of the circumstances surrounding the patient refusal, and all actions taken by the EMS provider related to the attempted medical treatment.
- Each agency's QA officer is encouraged to review at least 30% of patient refusal PCRs.

PRE-HOSPITAL DEATH

Withholding / Terminating Resuscitation

- EMT-B may withhold resuscitation efforts and / or stop the efforts of bystanders if the patient has no spontaneous pulse or respirations AND any one of the following are present:
  - Valid POLST / DNR
  - Decapitation
  - Incineration of the face, neck, or torso
  - Skin discoloration in dependent parts of the body (dependent lividity)
  - Rigor mortis in a warm environment
  - Any stage of decomposition or putrification
  - Avulsion or traumatic removal of any vital body organ
  - Major blunt trauma remaining pulseless and apneic after opening the airway
  - Pulseless & apneic in a mass casualty incident
- EMT-I and Paramedics may withhold resuscitation with any of the above conditions present. EMT-I and Paramedics *may contact* medical control for consult prior to withholding or stopping resuscitation in the following circumstances:
  - PEA and EtCO2 of 10 or less after 20 minutes of ACLS
  - Patient found in asystole, ACLS asystole treatment administered, and asystole persists with verification in 3 separate leads
- EMT Intermediates and Paramedics **must contact** online medical control before withholding or stopping resuscitation efforts in the following circumstance:
  - Refractory ventricular fibrillation lasting longer than 5 rounds of ACLS including 2 antiarrhythmic medications

Trauma Arrest

- Blunt force trauma arrest
  - Patients in cardiac arrest due to blunt force trauma have a very low statistical save rate. If mechanism correlates with blunt force trauma arrest, withhold or terminate resuscitation efforts.
  - If the mechanism of trauma does not correlate with the arrest, consider the possibility the patient suffered a medical event prior to the trauma
    - ❖ Apply cardiac monitor; presence of ventricular fibrillation may suggest a viable patient. Follow ACLS protocols.
- Penetrating trauma arrest
  - Patients in cardiac arrest due to penetrating trauma may respond to aggressive care.
  - Attach cardiac monitor
    - ❖ Terminate resuscitation for patients in asystole
    - ❖ Patients presenting with a viable rhythm may reflect the presence of cardiac

tamponade or tension pneumothorax. Continue aggressive treatment and transport to definitive care

Scene Considerations

- Upon determining the patient deceased, contact law enforcement. Do not move the body. Leave all invasive equipment (IV/IO, ETT, EKG pads) in place.
- Consider calling chaplain if requested by family.
- Consider the scene for law enforcement investigations. Do not move items if not necessary.
- Dead bodies shall not be transported by ambulance.

MEDICAL HELICOPTER SCENE RESPONSE

Helicopter based EMS (HEMS) shall be requested through Klamath County 911. Klamath County 911 will contact the closest appropriate HEMS provider and put HEMS on "standby" or "launch" the helicopter based on the requesting EMS provider's instructions. EMS providers should consider HEMS if patient access is difficult, the patient is in a remote area, or the patient is entrapped and will require extended extrication. HEMS transport may be beneficial in the care of a medical or trauma patient if the total out of hospital time can be reduced by 10 minutes or more.

Trauma Considerations

- Glasgow Coma Scale <8
- Need for advanced airway management
- Respiratory rate <10 or >30; peds resp rate <10 or >60
- Severe uncontrolled bleeding OR hemorrhagic shock
- Penetrating injuries to the head, neck, chest, abdomen, or pelvis
- Amputation PROXIMAL to the wrist or ankle
- Flail chest
- Two or more obvious long bone fractures
- Significant ADULT or PEDIATRIC trauma, multi-system trauma
- Pelvic fractures
- Significant burns (>10% BSA and/or airway involvement)
- Obvious or Suspected Head Trauma

Medical Considerations

- Cardiac chest pain, STEMI, or CVA
- Cardiac arrest with ROSC; patient must have a pulse to fly
- Near drowning with hypoxia
- Significant hypothermia with active rewarming
- Complicated poisoning or overdose
- Non-specific medical condition with unstable vital signs requiring rapid in-hospital treatment or surgical intervention

Contraindications and Precautions

- Patients in cardiac arrest
- Patients in active labor or imminent delivery
- Patients contaminated by hazardous materials prior to decontamination
- Pts exceeding weight or width restrictions of the aircraft

INTERFACILITY TRANSFER

Policy

A patient is identified for interfacility 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. Physician orders for interfacility transfer are the responsibility of the sending physician and are limited to the scope of the EMS provider and by these standing orders.

Procedure

1. The patient's sending (transferring) physician must contact the physician receiving the patient and the receiving hospital.
2. The patient must be stabilized to the best of the sending hospital's ability prior to transfer.
   - Patient is assured of an adequate airway and ventilation.
   - Control of hemorrhage has been initiated.
   - Patient's spine and fractures have been appropriately stabilized.
   - An adequate access route for fluid administration is established and appropriate fluid therapy has been initiated.
3. 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.
4. Proper equipment and trained personnel will be utilized to handle the problems specific to the patient's condition.
5. Instructions will be given to the personnel transferring the patient by the sending physician or nursing staff.
6. It is essential that all transfer paperwork accompany the patient including:
   - Patient information.
   - History of injury or illness.
   - Patient condition: vital signs, pertinent physical findings and neurological status.
   - Treatment rendered, including medications and fluids.
   - Diagnostic findings: including laboratory, ECG, CT scan and x-ray films.
   - Pre-hospital report.
7. 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.

PATIENT CARE PROTOCOLS

SECTION C

UNIVERSAL PATIENT CARE

TREATMENT

EMR EMT	• Assess scene safety and use appropriate personal protective equipment • Complete an initial patient assessment, determine chief complaint and obtain GCS • Secure airway and start oxygen as needed per General Airway Management protocol • Monitor vital signs and SpO2 • Obtain pain severity scale if applicable • Follow appropriate Patient Care Treatment Protocol if patient's chief complaint or assessment findings change • Complete focused & on-going assessments
EMT	• Obtain blood glucose reading via capillary blood sample
AEMT	• Establish vascular access (IV or IO) as appropriate for patient's condition
EMT-I PARAMEDIC	• Monitor ECG, 12 lead, & ETCO2 • Perform advanced procedures per Patient Care & Procedures orders

KEY CONSIDERATIONS

All providers are responsible for knowing and adhering to their scope of practice. If patient is unable to provide medical history, check for medical bracelets and necklaces which can provide critical medical information and treatment.

ABDOMINAL PAIN

TREATMENT

EMR EMT	• Treat per Universal Patient Care protocol. • Place patient in a position of comfort. • If systolic blood pressure is < 90 mmHg systolic follow Shock Protocol. • If traumatic injury is suspected, enter patient into Trauma System. • Nothing by mouth.
AEMT	• Establish IV NS TKO. • If patient has a suspected abdominal aortic aneurysm: titrate IV to maintain systolic blood pressure of 90 mmHg.
EMT-I PARAMEDIC	• Obtain 12 lead ECG as indicated. • Treat pain per Pain Management Protocol. Administer Naloxone for respiratory depression/compromise, shock, or altered mental status due to analgesic administration.

PEDIATRIC PATIENTS: Consider non-accidental trauma. Closely monitor vital signs, blood pressure may drop quickly. Treat pain per pain management protocol.

NOTES & PRECAUTIONS:

Abdominal pain may be the first sign of catastrophic internal bleeding (ruptured aneurysm, liver, spleen, ectopic pregnancy, perforated viscous, etc.). Since the bleeding is not apparent you must think of volume depletion and monitor the patient closely for signs of shock.

KEY CONSIDERATIONS:

Inferior MI, ectopic pregnancy, abdominal aortic aneurysm, recent trauma, perforated viscous, emesis type and amount, last meal, bowel movements, urinary output, ruptured spleen or liver, GI bleed, abnormal vaginal bleeding.

ACUTE DYSTONIC REACTION

TREATMENT

EMR EMT	• Treat per Universal Patient Care protocol. • Place patient in a position of comfort. • Administer Oxygen for SpO2 94-99%
AEMT EMT-I	• Establish IV NS TKO. • If unable to establish IV, consider IO
PARAMEDIC	• Diphenhydramine 25 – 50 mg IV, IM, IO

Pediatric diphenhydramine 1-2 mg/kg IV, IO, IM

NOTES & PRECAUTIONS:

Strongly consider acute dystonia if patient presents with involuntary movement(s) of the trunk, limbs, or face following the administration of anti-psychotic medications (Perphenazine/Trilafon, Triflouperazine/Stelazine, Fluphenazine/Prolixin, Haloperidol/Haldol, or some anti-nausea medications.

KEY CONSIDERATIONS:

Distressing and uncomfortable, but rarely life-threatening. Acute dystonic reactions may look like seizure activity but last hours to days, seizures are generally minutes in length. Patients with acute dystonic reaction generally are awake and alert, seizure patients are generally altered or unconscious.

ANAPHYLAXIS

TREATMENT

EMR	• Oxygen to maintain SpO2 94-99% • Remove allergen if possible • Epinephrine via EpiPen • Airway management & respiratory support as needed
EMT	• Epinephrine IM • Basic airway management
AEMT	• IV with isotonic solution; if IV is unsuccessful consider IO • Epinephrine IV, IM, IO • Albuterol
EMT-I	• Cardiac monitor • Diphenhydramine
PARAMEDIC	• Advanced airway management • Epinephrine IM/IV or Push-Dose Epinephrine

NOTES & PRECAUTIONS:

See epinephrine in Pharmacology section for dosing orders.

Allergic reactions, even systemic in nature, are not necessarily anaphylaxis. Treatment may not be indicated if only hives and itching are present.

Epinephrine increases cardiac workload and may cause angina or AMI in some individuals. Dose pediatric patients appropriately.

Common side effects of Epinephrine include anxiety, tremor, palpitations, tachycardia and headache particularly with IV administration.

Epinephrine IV should not be given unless signs of cardiovascular collapse or respiratory distress are present. Contact Medical control if after Epinephrine administration symptoms persist.

KEY CONSIDERATIONS:

Toxic exposure, insect bites, recent exposure to allergen, dyspnea or hives, abdominal cramps, known allergens, chest or throat tightness, swelling, numbness.

BEHAVIORAL / PSYCHIATRIC & COMBATIVE PATIENTS

TREATMENT

EMR	• Treat per Universal Patient Care protocol • Attempt to establish rapport • Do not leave the patient alone • Remove dangerous objects • Oxygen to maintain SpO2 94-99% • Restrain if necessary
EMT	• Check blood glucose level • Oral glucose
AEMT	• IV with isotonic solution; if IV is unsuccessful consider IO • Dextrose as needed per Hypoglycemia standing order
EMT-I	• Cardiac monitor • Diazepam 2-10 mg IV, IO, IM, IN ~or~ • Midazolam 1-5 mg IV, IO, IM, IN over 1-2 minutes; repeat up to max dose of 5 mg
PARAMEDIC	• Haloperidol 2.5-5 mg IV, IO, IM; may repeat to max dose of 10 mg. • Diphenhydramine 25-50 mg IV, IO, IM • Diazepam 2-10 mg IV, IO, IM, IN ~or~ • Midazolam 1-5 mg IV, IO, IM, IN over 1-2 minutes; repeat up to max dose of 5 mg • Ketamine 2 mg/kg IV, IO or 3 mg/kg IM

NOTES & PRECAUTIONS:

Any patient requiring restraints must be monitored closely.

Observe for decreased LOC, focal neurological findings, and hypothermia.

If patient is suicidal, do not leave alone.

Inquire specifically about depression and thoughts of suicide.

KEY CONSIDERATIONS:

If patient is disoriented, consider medical causes. Look for medical alert tags.

Conduct a thorough scene survey. Look for signs of trauma, injury, ingestion, or injection.

CARDIAC - CHEST PAIN

TREATMENT

EMR	• Oxygen to maintain SpO2 94-99% • Aspirin 324 mg PO
EMT	• Assist patient with their own sublingual nitroglycerin
AEMT	• 18 or 20g IV on saline lock unless medication required • If IV is unsuccessful consider IO • Nitroglycerin 0.4 mg SL if SBP > 100 mmHg, may repeat x 2 at 3-5 minutes if SBP remains > 100 mmHg
EMT-I PARAMEDIC	• Cardiac monitor • 12 lead ECG (see STEMI protocol if detected) • Fentanyl 50 mcg IV, IM, IN, IO (may repeat per pain mgt orders) ~or~ • Morphine 2-5 mg IV, IO; 10 mg IM (may repeat per pain mgt orders)

NOTES & PRECAUTIONS:

All patients complaining of chest pain should be treated as having a myocardial infarction unless other signs indicate pain is obviously from another source.

DO NOT administer nitroglycerin to patients who have taken Viagra, Revatio (sildenafil), Levitra (vardenafil), or Cialis (tadalafil) within the past 48 hours. Contact medical control for orders.

DO NOT administer nitroglycerin to patients with a systolic blood pressure below 100 mmHg. Contact medical control for orders.

KEY CONSIDERATIONS:

Strongly consider chest pain to be cardiac in nature for patients with history of bypass surgery, angioplasty, angina, heart attack or myocardial infarction.

- 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 of anterior, lateral or inferior MI:

Chest pressure, ache, heaviness, crushing sensation lasting minutes to hours – not seconds or days; may radiate to any arm or jaw

Typical presentation of inferior MI:

Epigastric distress, pain or “indigestion”; atypical presentations may include no discomfort.

CARDIAC - STEMI

TREATMENT

EMR	• Oxygen to maintain SpO2 94-99% • Aspirin 324 mg PO
EMT	• Assist patient with their own sublingual nitroglycerin
AEMT	• 18 or 20g IV on saline lock unless medication required; avoid R wrist if possible. Obtain 2nd IV if able. • If IV is unsuccessful consider IO • Nitroglycerin* 0.4 mg SL if SBP > 100 mmHg, may repeat x 2 at 3-5 minutes if SBP remains > 90 mmHg
EMT-I	• Cardiac monitor • 12 lead ECG • Fentanyl 50 mcg IV, IM, IN, IO (may repeat per pain mgt orders) ~or~ • Morphine 2-5 mg IV, IO; 10 mg IM (may repeat per pain mgt orders)
PARAMEDIC	• Transmit ECG to SLMC ER if able • Treat dysrhythmias per standing orders

NOTES & PRECAUTIONS:

DO NOT administer nitroglycerin to patients who have taken Viagra, Revatio (sildenafil), Levitra (vardenafil), or Cialis (tadalafil) within the past 7 days. Contact medical control for orders.

DO NOT administer nitroglycerin to patients with a systolic blood pressure below 90mmHg. Contact medical control for orders.

*Use caution when administering nitroglycerin to patients with an inferior MI (ST elevation in II, III, AVF) as hypotension may result due to right ventricle involvement.

DO NOT administer benzodiazepines in the presence of a STEMI.

KEY CONSIDERATIONS:

12 lead ECG without LBBB or paced rhythm 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, V4, V5 & V6)
   b. ≥ 1 mm ST elevation in 2 contiguous inferior leads (II, III, & aVF)
   c. ≥ 2 mm ST elevation in 2 contiguous chest leads (V1, V2, & V3)

OR

2. Automatic ECG interpretation of “Acute MI Suspected”

Document ABCs, medical history, onset of signs and symptoms, activity at time of onset, cardiac rhythm, any therapy withheld AND why (especially ASA, SPO2, complete vital signs, GCS, color and diaphoresis, lung sounds, and response to any treatments.

CARDIAC ARREST – GENERAL CARE

TREATMENT

EMR	• Initiate chest compressions according to AHA guidelines for healthcare providers • Call for ALS if not already en route • Attach AED and follow prompts while continuing CPR • Insert OPA and initiate respiratory support with BVM attached to oxygen
EMT	• Check blood sugar if hypoglycemia is suspected • Secure airway with supraglottic device
AEMT	• Initiate IV or IO
EMT-I	• Initiate cardiac monitoring & change from AED to manual defibrillator • Initiate capnography • Treat arrhythmia(s) per ACLS guidelines
PARAMEDIC	• Secure definitive airway • Initiate capnography

NOTES & PRECAUTIONS:

Refer to the appropriate Cardiac Arrest Dysrhythmia standing order.

Pediatric / Infant / Neonate: Oxygenation and ventilation is of upmost importance in cardiac arrest care. Use a length-based tape to assess and determine correct dosing regimen.

Adults >18 years of age: Rapid defibrillation is key.

Preferred Defibrillator Pad Placement: When using Lucas Device pad placement is anterior/lateral. When not using Lucas Device pad placement is anterior posterior.

Maintain a respiratory rate of 6-8 per minute; do not hyperventilate the patient.

KEY CONSIDERATIONS:

Minimize interruptions in chest compressions.

If “no shock advised” perform CPR for 2 minutes, then check pulse & reanalyze rhythm if no pulse is detected. If unable to start an IV, go IO immediately. Humeral head IO preferred.

If the patient regains a pulse, follow Post Cardiac Arrest standing orders.

If EtCO2 is less than 10, increase CPR performance. If EtCO2 rapidly rises, check for ROSC.

CARDIAC ARREST – ASYSTOLE & PEA

TREATMENT

EMR	• Initiate chest compressions according to AHA guidelines for healthcare providers • Call for ALS if not already en route • Attach AED and follow prompts while continuing CPR • Insert OPA and initiate respiratory support with BVM attached to oxygen
EMT	• Check blood sugar if hypoglycemia is suspected
AEMT	• Initiate IV or IO
EMT-I	• Initiate cardiac monitoring & change from AED to manual defibrillator • Initiate capnography • Epinephrine 1:10,000 1 mg every 3-5 minutes
PARAMEDIC	• Endotracheal intubation • Consider transcutaneous pacing for PEA • Sodium bicarbonate 1mEq/kg IV or IO if tricyclic antidepressant overdose is suspected

PEDIATRIC PATIENTS:

- Begin CPR and airway management.
- Use a length-based tape to assess and determine correct dosing regimen.
- Administer **1:10,000 Epinephrine 0.01 mg/kg IV/IO**, repeat every 3-5 minutes. If no IV access, give **1:1,000 Epinephrine 0.1 mg/kg** *in 4 cc normal saline via ET* (ET Epinephrine should be considered a last resort after attempts at IV/IO have failed).
- Consider and treat other possible causes.

NOTES & PRECAUTIONS:

Minimize interruptions in chest compressions.

Maintain a respiratory rate of 6-8 per minute; do not hyperventilate the patient.

KEY CONSIDERATIONS:

H's & T's. Consider possible reversible causes of PEA such as hypovolemia, hypoxia, tension pneumothorax, cardiac tamponade, hypothermia, acidosis, drug overdose, hyperkalemia, acute MI, or pulmonary embolism. Consider possible reversible causes of ASYSTOLE such as hypoxia, acidosis, drug overdose, or hypothermia. Treat within scope.

For persistent PEA or asystole, refer to "Pre-Hospital Death" standing order. Transcutaneous

Pacing is not indicated for patients in asystole.

If EtCO2 is less than 10, increase CPR performance. If EtCO2 rapidly rises, check for ROSC.

CARDIAC ARREST – VENTRICULAR FIBRILLATION & PULSELESS VENTRICULAR TACHYCARDIA

TREATMENT

EMR	• Initiate chest compressions according to AHA guidelines for healthcare providers • Call for ALS if not already en route • Attach AED and follow prompts while continuing CPR • Insert OPA and initiate respiratory support with BVM & oxygen
EMT	• Supraglottic airway • Capnography
AEMT	• Initiate IV or IO
EMT-I	• Defibrillation @ max output per device manufacturer (200-360j) • Epinephrine 1:10,000 IV/IO 1mg every 3-5 minutes • Defibrillation @ max output per device manufacturer (200-360j) • Amiodarone 300mg push IV/IO • Defibrillation @ max output per device manufacturer (200-360j) • Amiodarone 150mg push IV/IO
PARAMEDIC	• Endotracheal intubation • Magnesium sulfate 1-2 grams in 10mL normal saline IV/IO for Torsades de Pointes • Sodium bicarbonate 1mEq/kg IV or IO if tricyclic antidepressant overdose is suspected

PEDIATRIC PATIENTS:

- Follow adult orders, use the following for medication dosing:
- Defibrillation: 1st shock 2j/kg, 2nd & subsequent shocks 4j/kg; max dose = 360j
- 1:10,000 Epinephrine: 0.01 mg/kg IV/IO, repeat every 3-5 minutes.
- Amiodarone: 5mg/kg IV/IO. May repeat once. ~OR~
- Lidocaine: 1mg/kg IV/IO.

NOTES & PRECAUTIONS:

Minimize interruptions in chest compressions.

Maintain a respiratory rate of 6-8 per minute; do not hyperventilate the patient. EMT-I or Paramedic may substitute Lidocaine in place of Amiodarone.

- Lidocaine: 1st dose 1.5mg/kg IV/IO push, 2nd & subsequent doses 0.75mk/kg. Max dose 3mg/kg.

KEY CONSIDERATIONS:

Follow each medication dose given by peripheral injection (IV/IO) by a 20mL flush of normal saline. If EtCO2 is less than 10, increase CPR performance. If EtCO2 rapidly rises, check for ROSC.

CARDIAC ARREST – POST ARREST CARE

This order only applies to patients resuscitated from cardio-pulmonary arrest who have a perfusing rhythm and pulse, and who remain unresponsive.

TREATMENT

EMR	• Call for ALS if not already en route • Continue respiratory support with BVM attached to oxygen • Do not hyperventilate the patient
EMT	• Secure the airway with supraglottic airway if not already done • Attach capnography & titrate ventilation to 35-45 mmHg EtCO2
AEMT	• Initiate IV or IO if not already done
EMT-I	• Stabilize dysrhythmias (see key considerations) • If initial arrest rhythm = VT or VF, administer Amiodarone 150mg over 10 minutes • If dysrhythmia was converted by Lidocaine or Amiodarone use the drip rate for that medication • Obtain 12-lead EKG & transmit if possible
PARAMEDIC	• Support blood pressure (see key considerations) • Endotracheal intubation

NOTES & PRECAUTIONS:

Maintain normal ventilation rate. Initially ventilate at 8-10 breaths per minute for first 8-10 minutes. Attach EtCO2 and titrate ventilation to an EtCO2 of 35-45 mmHg.

Adults >18 years of age: Rapid defibrillation is key.

Maintain a respiratory rate of 6-8 per minute after 10 minutes; do not hyperventilate the patient.

KEY CONSIDERATIONS:

Stabilize dysrhythmias:

Unstable tachydysrhythmias – treat with cardioversion
Unstable bradydysrhythmias – consider pacing
Stable tachycardia or bradycardia – treat per appropriate standing order

Support blood pressure:

1. Administer 250mL boluses of normal saline to maintain SBP 110 – 140 mmHg
2. If SBP remains below 90 mmHg after 500mL, start:
    a. Epinephrine push-dose or infusion to maintain SBP greater than 90 mmHg
    b. Norepinephrine infusion can be considered instead for non-bradycardic patient or added for persistent hypotension after fluids and epinephrine.

CARDIAC – BRADYCARDIA (ADULT)

HEART RATE < 50 AND INADEQUATE FOR CLINICAL CONDITION

Is the patient experiencing signs & symptoms of bradycardia (altered mental status, ischemic chest discomfort, acute heart failure, hypotension, or other signs of shock)? If yes, continue to treatment. If no, observe & monitor patient during transport.

TREATMENT

EMR/EMT	• Oxygen to maintain SpO2 94-99% • Call for ALS
AEMT	• IV or IO with crystalloid solution
EMT-I	• Cardiac monitor • Obtain 12 lead ECG • Atropine 1 mg IV or IO, may repeat 5 times every 3-5 minutes; total max dose 3 mg
PARAMEDIC	• Push-Dose Epinephrine see Medications Section for Dosage • Transcutaneous pacing per standing order; Use pacing FIRST for high degree heart blocks (2nd degree type II & 3rd degree with wide QRS) • Consider Midazolam 2.5 mg IV/IO/IN or 5mg IM; may repeat once • Levophed 4 mcg/min

NOTES & PRECAUTIONS:

If 12 lead ECG indicates ACUTE MI, contact medical control for orders BEFORE administering Atropine.

Bradycardia may be cardioprotective in the setting of cardiac ischemia and should only be treated if associated with serious signs & symptoms of hypoperfusion.

Paramedics should immediately go to pacing for symptomatic bradycardic patients with high degree heart blocks.

If capture is not achieved, reposition pads.

KEY CONSIDERATIONS:

Treat pain from pacing with Midazolam.

Evaluate for chest pain, nausea & vomiting, drug overdose (Beta blocker OD), speed of onset, previous MI, fever or recent illness, medical history, and medications.

CARDIAC – BRADYCARDIA (PEDIATRIC)

BRADYCARDIA WITH PULSE CAUSING CARDIORESPITORY COMPROMISE

Immediately support airway, breathing, and circulation. Is the bradycardia still causing cardiorespiratory compromise? If no, support ABCs as needed. Monitor patient & contact medical control during transport for assistance if needed. If yes, continue.

TREATMENT

EMR/EMT	• Oxygen & ventilation • Start CPR if heart rate remains < 60 & patient remains unstable • Call for ALS • Reassess after 2 minutes of CPR
AEMT	• IV or IO with crystalloid solution
EMT-I	• Cardiac monitor • Obtain 12 lead ECG • 1:10,000 Epinephrine 0.01 mg/kg (0.1mL/kg) IV or IO
PARAMEDIC	• Push-Dose Epinephrine see Medication Section for Dosage • Transcutaneous pacing per standing order • Consider Midazolam 2.5 mg IV/IO/IN or 5mg IM; may repeat once

NOTES & PRECAUTIONS:

If increased vagal tone is suspected or AV block is present, consider Atropine 0.02 mg/kg IV/IO.

Minimum dose = 0.1 mg

Max single dose = 0.5 mg

KEY CONSIDERATIONS:

If capture is not achieved, apply new pads in different position.

CARDIAC – NARROW COMPLEX TACHYCARDIA (PEDIATRIC)

Are signs or symptoms of poor perfusion caused by the dysrhythmia present?

If no, see treatment 1 for stable patients. If yes, go to treatment 2 for unstable patients.

TREATMENT 1 (STABLE)

EMR/EMT	• Oxygen & ventilation • Treat per Universal Patient Care • Call for ALS
AEMT	• IV or IO with crystalloid solution
EMT-I	• Cardiac monitor • Obtain 12 lead ECG • If rhythm is regular with QRS< 0.12 sec, HR >220 (age <2), HR >180 (age 2-10) probable SVT
PARAMEDIC	• Attempt vagal maneuvers, if stable • Adenosine 0.1 mg/kg rapid IVP • Adenosine 0.2 mg/kg rapid IVP • Obtain post treatment 12 lead ECG

NOTES & PRECAUTIONS:

Possible causes of tachycardia: fever, pain, infection, tamponade, pneumothorax, hypovolemia, hypoxia, hypoglycemia, pulmonary embolus, etc.

KEY CONSIDERATIONS:

If patient is not symptomatic with a narrow regular QRS and has a HR <220 (age <2) or HR <180 (child 2-10) consider sinus tachycardia. Evaluate for possible causes.

If QRS is narrow and irregular, consider atrial fibrillation, atrial flutter, multifocal atrial tachycardia. Call medical control for orders.

TREATMENT 2 (UNSTABLE)

EMR/EMT	• Oxygen & ventilation • Treat per Universal Patient Care • Call for ALS
AEMT	• IV or IO with crystalloid solution
EMT-I	• Cardiac monitor • Obtain 12 lead ECG
PARAMEDIC	• If pt. is conscious Midazolam 0.1 mg/kg IV/IO or 0.2 mg/kg IM. Do not delay cardioversion for sedation • Synchronized cardioversion 1j/kg • Synchronized cardioversion 2j/kg

CARDIAC – WIDE COMPLEX TACHYCARDIA (PEDIATRIC)

Are signs or symptoms of poor perfusion caused by the dysrhythmia present?

If no, see treatment 1 for stable patients. If yes, go to treatment 2 for unstable patients.

TREATMENT 1 (STABLE)

EMR/EMT	• Oxygen & ventilation • Treat per Universal Patient Care • Call for ALS
AEMT	• IV or IO with crystalloid solution
EMT-I	• Cardiac monitor • Obtain 12 lead ECG • If rhythm is regular with QRS> 0.12 sec, HR >150 • Amiodarone 5 mg/kg IV/IO over 10 minutes • May repeat Amiodarone x2 if needed; do not exceed adult dose ~or~ • Lidocaine 1 mg/kg IV/IO; may repeat once after 15 minutes • Obtain post treatment 12 lead ECG
PARAMEDIC	• If Torsades de Pointes, Magnesium Sulfate 25 mg/kg IV/IO over 1-2 minutes • Obtain post treatment 12 lead ECG

NOTES & PRECAUTIONS:

See key considerations.

KEY CONSIDERATIONS:

If patient is not symptomatic with a narrow regular QRS and has a HR <220 (age <2) or HR <180 (child 2-10) consider sinus tachycardia. Evaluate for possible causes.

If QRS is wide and irregular, WPW & Afib with aberrancy. Call medical control for orders.

TREATMENT 2 (UNSTABLE)

EMR/EMT	• Oxygen & ventilation • Treat per Universal Patient Care • Call for ALS
AEMT	• IV or IO with crystalloid solution
EMT-I	• Cardiac monitor • Obtain 12 lead ECG
PARAMEDIC	• If pt. is conscious Midazolam 0.1 mg/kg IV/IO or 0.2 mg/kg IM. Do not delay cardioversion for sedation • Synchronized cardioversion 1j/kg • Synchronized cardioversion 2j/kg

CARDIAC – NARROW COMPLEX TACHYCARDIA

Are signs or symptoms of poor perfusion caused by the dysrhythmia present?

If no, see table 1. If yes, go to table 2.

TREATMENT TABLE 1 (STABLE)

EMR/EMT	• Oxygen & ventilation • Treat per Universal Patient Care • Call for ALS
AEMT	• IV or IO with crystalloid solution
EMT-I	• Cardiac monitor • Obtain 12 lead ECG • If rhythm is regular with QRS< 0.12 sec, HR >150
PARAMEDIC	• Attempt vagal maneuvers, if patient is stable • Adenosine 6 mg rapid IVP • Adenosine 12 mg rapid IVP, may repeat once • A-Fib/Flutter with RVR or new onset A-fib: Magnesium Sulfate 2g in 10ml saline IV/IO over 1-3 minutes • Obtain post treatment 12 lead ECG

NOTES & PRECAUTIONS:

If patient presents with signs & symptoms of poor perfusion caused by dysrhythmia, go to TABLE 2.

KEY CONSIDERATIONS:

If patient is not symptomatic with a narrow regular QRS and has a HR <150 sinus tachycardia. Evaluate for possible causes.

If QRS is narrow and irregular, consider atrial fibrillation, atrial flutter, multifocal atrial tachycardia. Call medical control for orders.

TREATMENT TABLE 2 (UNSTABLE)

EMR/EMT	Oxygen & ventilation Treat per Universal Patient Care Call for ALS
AEMT	IV or IO with crystalloid solution
EMT-I	Cardiac monitor Obtain 12 lead ECG
PARAMEDIC	If pt. is conscious Midazolam 2.5 mg IV/IO/IN. May repeat once as needed. **Do not delay cardioversion for sedation** Synchronized cardioversion x3 if no change in rhythm Contact medical control for sustained SVT

CARDIAC – WIDE COMPLEX TACHYCARDIA

Are signs or symptoms of poor perfusion caused by the dysrhythmia present?

If no, see table 1.

If yes, go to table 2.

TREATMENT TABLE 1 (STABLE)

EMR/EMT	• Oxygen & ventilation • Treat per Universal Patient Care • Call for ALS
AEMT	• IV or IO with crystalloid solution
EMT-I	• Cardiac monitor • Obtain 12 lead ECG • If rhythm is regular with QRS> 0.12 sec = wide complex tachycardia • Amiodarone 150 mg IV/IO over 10 minutes • May repeat Amiodarone x1 if needed ~or~ • Lidocaine 0.5-0.75 mg/kg IV/IO every 5 minutes to max 3 mg/kg • Obtain post treatment 12 lead ECG
PARAMEDIC	• If Torsades de Pointes, Magnesium Sulfate 1-2 grams IV/IO over 5 minutes • Obtain post treatment 12 lead ECG • Contact medical control for sustained wide complex tachycardia

NOTES & PRECAUTIONS:

Asymptomatic tachycardia may only require monitoring & transport.

KEY CONSIDERATIONS:

If QRS is wide and irregular, WPW & Afib with aberrancy. Call medical control for orders.

In a stable monomorphic wide complex tachycardia, consider Adenosine if SVT with aberrancy.

TREATMENT TABLE 2 (UNSTABLE)

EMR/EMT	• Oxygen & ventilation • Treat per Universal Patient Care • Call for ALS
AEMT	• IV or IO with crystalloid solution
EMT-I	• Cardiac monitor • Obtain 12 lead ECG
PARAMEDIC	• If pt. is conscious Midazolam 2.5 mg IV/IO/IN, may repeat once. **Do not delay cardioversion for sedation** • Synchronized cardioversion x3 if rhythm continues • Contact medical control for sustained wide complex tachycardia

CVA / STROKE

TREATMENT

EMR	Treat per Universal Patient Care orders Oxygen to maintain SpO2 94-99% STROKE ALERT if B.E.F.A.S.T. is positive
EMT	Obtain blood glucose level Treat hypoglycemia if indicated Airway management
AEMT	IV, 16-18g in the antecubital fossa or proximal site preferred Humeral head IO if unable to establish IV
EMT-I	Cardiac monitor Obtain 12 lead ECG
PARAMEDIC	Advanced airway management

NOTES & PRECAUTIONS:

Do not treat hypertension or give aspirin.

Acute interventions, if indicated, generally must begin within 6 hours of symptom onset.

Negative BEFAST screenings do not rule out large vessel occlusions or intracerebral hemorrhage. Ambulance transport to the ED for CT scan is indicated.

KEY CONSIDERATIONS:

Time last seen normal/ onset of symptoms, pertinent medical history including history of GI bleeding, trauma or surgery in last 3 months, history of prior CVA/TIA, CBG, neurological exam (including pupils), currently taking blood thinners.

BE FAST Stroke Screen (Balance - Eyes - Face - Arm - Speech - Time)	**Normal**	**Abnormal**	
Balance-Finger to nose, gait test Normal: Not dizzy, steady gait Abnormal: Inability to walk, abnormal gait, ataxia	Normal	Balance	Gait/Ataxia
Eyes-Visual Acuity, visual field assessment Normal: Vision normal for patient, with or without correction Abnormal: Sudden double or blurred vision, blindness, visual field cut	Normal	Left	Right
Face-Have patient smile or show teeth Normal: Both sides of face move equally Abnormal: One side of face weak/unequal/movement absent	Normal	Left	Right
Arm-Arm-Extend arms, close eyes, palms down Normal: Both arms move equally or not at all Abnormal: One arm drifts compared to the other	Normal	Left	Right
Speech-Ask patient to repeat, "You can't teach an old dog new tricks' Normal: Patient uses correct words with no slurring Abnormal: Speech fluency disruption, slurred speech or is mute	Normal	Slurred	Fluency/ Comprehension
Time- Onset and Last seen normal	**Time**		
New onset of neurologic deficit within the last 6 hours?	**Yes**		**No**
New onset of neurologic deficit within the last 24 hours?	**Yes**		**No**

*One abnormal finding = POSITIVE

CHILDBIRTH – IMMINENT DELIVERY

If imminent birth is not present, transport mother on left side. Notify receiving hospital as early as possible. If you suspect imminent delivery, follow orders below.

TREATMENT

EMR EMT	• Oxygen titrated to SpO2 94-99% • Position of comfort in area that will provide you with adequate working area • Open OB pack and set up; prepare for 2 patients • Assist with delivery of head by applying gentle pressure and continue to support the head as it delivers (do not slow or speed up delivery) • When head is delivered, feel around neck for nuchal cord; if present, gently slip cord around head freeing the neck • Support 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 the baby's body and cut the cord between the clamps • See "Childbirth – Care of the Newborn" standing order • Apply direct pressure to any bleeding area on the mother; DO NOT pack the inside of the vagina • Let placenta deliver and transport it to the hospital with mom & baby • After placenta delivers, massage uterus by rubbing the abdomen firmly for bleeding control
AEMT	• Establish IV (mother), consider IO if IV unsuccessful and access is required
EMT-I PARAMEDIC	• Cardiac monitor if indicated

KEY CONSIDERATIONS

Assess gravida, parity, due date, vaginal bleeding, high risk OB issues, substance abuse, past medical history, contractions (frequency & duration), ruptured membranes, urge to push, pain.

Visually inspect perineum for bulging or crowning, vaginal fluid, bleeding, meconium, or abnormal presentation.

Childbirth is a natural event and is usually uncomplicated. If you suspect complications, refer to the appropriate Childbirth standing order. Contact on-line medical control as needed.

CHILDBIRTH – IMMINENT DELIVERY: COMPLICATIONS

If imminent birth is not present, transport mother on left side. Notify receiving hospital as early as possible. If your assessment finds potential complications, follow orders below.

TREATMENT

EMR EMT	• Full performance of standing orders except those listed in AEMT, EMT-I, and Paramedic boxes
AEMT	• Establish IV, consider IO if IV unsuccessful and access is required
EMT-I PARAMEDIC	• Cardiac monitor if indicated

BREECH PRESENTATION (Buttocks first)

ALL PROVIDERS	• Imminent delivery: prepare the mother as usual and allow the buttocks and trunk to deliver spontaneously then support and lower the body to help the head pass. As the hairline appears, raise the body by the ankles upward to fully deliver the head. • If the head does not deliver within three minutes suffocation can occur. Place a gloved hand into the vagina, with your palm toward the baby's face. Form a "V" with your fingers on either side of the baby's nose and push the vaginal wall away from the baby's face to create airspace for breathing. • Assess for the presence of pulse in umbilical cord if presenting.

SHOULDER DYSTOCIA (Shoulders unable to pass through pelvis)

ALL PROVIDERS	• Perform McRoberts Maneuver: Pulling the women's knees towards her chest, applying suprapubic pressure.

PROLAPSED CORD

ALL PROVIDERS	• With a gloved hand, gently attempt to push the baby back up the vagina several inches • Do not attempt to push the cord back. • Assess for the presence of pulse in umbilical cord. • Use saline soaked gauze to prevent cord from drying • Move mother to Trendelenburg position or knees to chest. This will help with cord pressure and increase fetal circulation

LIMB PRESENTATION

ALL PROVIDERS	• The presentation of an arm or leg through the vagina is an indication for immediate transport to the hospital. • Assess for presence of pulse in umbilical cord if presenting. • Do not pull on limb.

NOTES & PRECAUTIONS:

Be prepared to provide advanced post-partum care to mother and baby.

Notify receiving facility as early as possible. Include maternal assessment including vital signs, infant assessment (if delivered) including APGAR and SpO2 values.

KEY CONSIDERATIONS:

Consider air resources for prolonged transport times.

Contact on-line medical control for guidance early.

CHILDBIRTH – CARE OF THE NEWBORN

This is for the care of a newborn immediately following home delivery or precipitous delivery outside the hospital. Most newborns respond quickly to stimulation (gently drying and/or placing the infant on the mother's chest & encouragement to nurse).

TREATMENT

EMR EMT AEMT EMT-I PARAMEDIC	• Remove wet blankets or towels and dry the infant • Cover the infant including head with dry blanket or towel • Suction mouth, then nose with bulb syringe to remove secretions and/ or blockages • Blow-by oxygen to maintain SpO2 indicated in table below • Assess 1 & 5 minute APGAR per table below

Newborn Target Spo2 after birth:

***1 min Assess APGAR**	**60-65%**
2 min	**65-70%**
3 min	**70-75%**
4 min	**75-80%**
***5 min Assess APGAR**	**80-85%**
10 min	**85-95%**

APGAR SCORE:	**0**	**1**	**2**
Appearance	Blue/Pale	Body pink, blue extremities	Completely pink
Pulse	Absent	Slow (< 100 bpm)	≥ 100 bpm
Grimace	No response	Grimace	Cough or sneeze
Activity	Limp	Some flexion	Active motion
Respirations	Absent	Slow, irregular	Good, crying

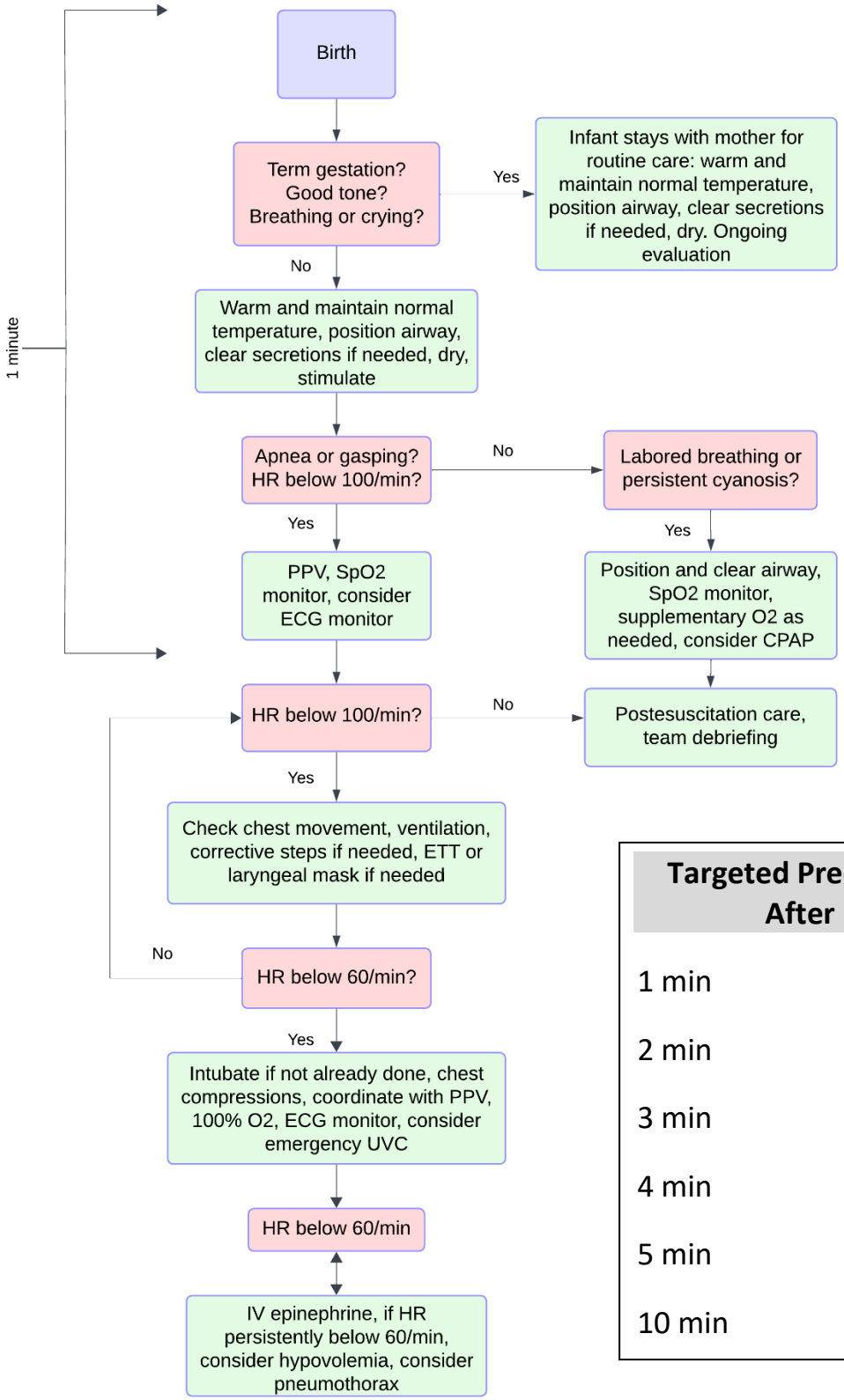
NOTES & PRECAUTIONS

For infants not meeting acceptable SpO2 and/ or APGAR scores, refer to "Childbirth – Care of the Newborn – Complications" standing order. Contact on-line medical control for assistance.

KEY CONSIDERATIONS

Consider skin to skin contact between mom and baby if both are stable and able/ willing to have contact. Encourage the mother to breastfeed as this will help with post-partum bleeding.

CHILDBIRTH – NEWBORN CARE: COMPLICATIONS



Targeted Preductal SpO2 After Birth	
1 min	60%-65%
2 min	65%-70%
3 min	70%-75%
4 min	75%-80%
5 min	80%-85%
10 min	85%-95%

CHILDBIRTH – POST PARTUM HEMORRHAGE

TREATMENT

EMR EMT	• Oxygen to maintain SpO2 94-99% • External fundal (uterine) massage • Allow infant to nurse or have patient simulate her own nipples; leads to uterine contractions • Apply direct pressure to active external perineal bleeding
AEMT	• IV access • Administer crystalloid fluid
EMT-I	• Cardiac monitor
PARAMEDIC	• Oxytocin/Pitocin 10u in 500 mL in Normal Saline IV/O. Run wide open until bleeding is controlled • TXA 1g • Oxytocin 10u IM (thigh) • For continued bleeding administer Oxytocin/Pitocin 10-20u in 1000mL; rate of administration as needed to control bleeding

NOTES & PRECAUTIONS:

Immediate post-partum hemorrhage (within 24 hours of delivery) is usually due to poor uterine muscle tone, cervical tears, or perineal tears.

Late post-partum hemorrhage is usually caused by retained placental parts.

KEY CONSIDERATIONS:

Normal Maternal Changes:

HR increases 15-20 BPM

B/P decreases 5-15mmHg in 2nd trimester Plasma increases 40%

Increase in clotting factors, increased risk of Pulmonary Embolus (PE)

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DO NOT RESUSCITATE

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.

NOTES & PRECAUTIONS

Physician Orders for Life-Sustaining Treatment (POLST) or other recognized Advanced Directive must be provided prior to withholding life sustaining or resuscitative care.

Information must be on the POLST or other recognized form signed by the patient and physician. These are the only acceptable DNR instructions in Klamath County.

POLST/DNR instructions are only valid if the patient is unresponsive, pulseless, and apneic and does not meet death in the field criteria; or the patient has end of life signs such as decreasing consciousness, impending respiratory or cardiac failure with death being imminent.

KEY CONSIDERATIONS

See the following pages for POLST examples.

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).

For permission to use the copyrighted form contact the OHSU Center for Ethics in Health Care at polst@ohsu.edu or (503) 494-3965. 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)

TREATMENT

EMR	• Calm patient • Instruct patient to blow nose to expel clots & apply direct pressure (patient to pinch soft part of nose, distal nasal septum, for ten minutes or until bleeding stops)
AEMT EMT-I	• IV with isotonic solution • If IV is unsuccessful consider IO
PARAMEDIC	• Oxymetazolone 2 sprays per affected nostril, repeat as needed

NOTES & PRECAUTIONS:

Note estimated blood loss, trauma, recent upper respiratory infection, intranasal drug use
Determine if patient is on blood thinners (aspirin, Coumadin, Eliquis, etc.)

KEY CONSIDERATIONS:

Posterior nosebleeds require medical intervention and may bleed significantly.

Patient may experience nausea and vomiting. Have an emesis basin readily available.

ENVIRONMENTAL EMERGENCY - HYPERTHERMIA

TREATMENT

EMR EMT	• Remove patient from heated environment • Oxygen to maintain SpO2 94-99% • Obtain peripheral body temperature • Active cooling if heat stroke • Give PO fluids if pt is alert and able to protect own airway
AEMT	• IV with isotonic solution; if IV is unsuccessful consider IO • Administer isotonic solution
EMT-I PARAMEDIC	• Cardiac monitor

NOTES & PRECAUTIONS:

Heat cramps: muscle cramping.
Heat exhaustion: muscle cramping plus profuse sweating & nausea.
Heat stroke: body temperature greater than 104^{o}f with neurological abnormalities including altered mental status and no diaphoresis. Heat stroke is a medical emergency.

KEY CONSIDERATIONS:

Active cooling measures include removing clothing, spraying with tepid water, cool wipes, & fanning to maximize evaporation.

Placing wet sheets on a patient without adequate airflow will INCREASE body temperature.

ENVIRONMENTAL EMERGENCY - HYPOTHERMIA

TREATMENT FOR PATIENT IN CARDIAC ARREST

EMR EMT	• Treat per universal patient care • Allow up to 45 seconds to confirm respiratory arrest, bradycardia, and/ or cardiac arrest. • Initiate CPR for profound bradycardia or cardiac arrest • Handle gently, remove wet clothing
AEMT	• IV with isotonic solution; if IV is unsuccessful consider IO • Administer warmed isotonic solution
EMT-I	• Cardiac monitor, defibrillate VT/VF once at 360j • If patient temp <86°f, withhold IV/IO meds & additional defibrillation • If patient temp >86°f, resume ACLS medications and defibrillation attempts
PARAMEDIC	• Intubate and ventilate with warm, humidified oxygen if available

NOTES & PRECAUTIONS:

If patient has frozen tissues and is lifeless, consider declaring death in the field. Contact online medical control for directions if needed.

Pt with tympanic temperature of < 32° C or < 90° F should have a rectal temperature assessed

The hypothermic heart may not respond to medication, pacer stimulation, or defibrillation.

TREATMENT FOR PERFUSING PATIENTS

EMR EMT	• Treat per universal patient care • Handle gently, remove wet clothing • Warm patient with warmed blankets, warm environment, and warm packs
AEMT	• IV with isotonic solution; if IV is unsuccessful consider IO • Administer warmed isotonic solution
EMT-I PARAMEDIC	• Cardiac monitor

NOTES & PRECAUTIONS:

Hypothermia may be preceded by other conditions (intoxication, drug use, trauma). Look for signs of underlying conditions and treat appropriately. Pt with tympanic temperature of < 32° C or < 90° F should have a rectal temperature assessed

HYPERGLYCEMIA

TREATMENT

EMR	• Treat per universal patient care orders • Oxygen to maintain SpO2 94-99%
EMT	• Obtain blood glucose level reading
AEMT	• IV with isotonic solution; if IV is unsuccessful consider IO • If blood glucose level is >300mg/dL, administer 250-500mL isotonic solution IV • Repeat glucose monitoring and IV treatment every 10 minutes as needed
EMT-I PARAMEDIC	• Cardiac monitor

NOTES & PRECAUTIONS:

Obtain thorough medical history including medications.

If patient is a known diabetic, determine patient's "normal" blood sugar levels. If patient is insulin dependent, determine last time administered.

If you must manage a hyperglycemic patient's airway, attempt to get an accurate respiratory rate prior to intubation. If rapid, attempt to match the patient's pre-intubation respiratory rate as the patient is likely compensating for metabolic acidosis.

KEY CONSIDERATIONS:

Patients experiencing hyperglycemia may have an underlying medical condition such as infection, recent trauma, AMI, or viral syndrome.

Some patients discover new onset of diabetes with acute hyperglycemia.

HYPOGLYCEMIA

TREATMENT

EMR	• Treat per universal patient care orders • Oxygen to maintain SpO2 94-99% • Oral glucose if no airway risk
EMT	• Obtain capillary blood glucose level reading (CBG)
AEMT	• IV with isotonic solution; if IV is unsuccessful consider IO • If CBG < 80 mg/dL, administer Dextrose 10% per table below for adult dosing; titrate to consciousness • Repeat glucose monitoring • If unable to obtain IV or IO access, administer Glucagon 1mg IM
EMT-I PARAMEDIC	• Cardiac monitor

CBG	D10%	D50%
60-69	80mL	16mL
50-59	100mL	20mL
40-49	120mL	24mL
30-39	140mL	28mL
20-29	160mL	32mL
10-19	180mL	36mL

PEDIATRIC PATIENTS:

IV/IO:

INFANTS <10kg (Birth to 1 year) with CBG < 40 mg/dL: D10% 2.5 – 5 mL/kg

***titrate to consciousness**

CHILDREN 10 – 35kg (1 year – puberty, not to exceed adult dosage) with CBG < 60 mg/dL: D10% 2.5 – 5 mL/kg

***titrate to consciousness**

IM:

Patients < 5 yrs old, < 20 kg Glucagon 0.5 mg to a maximum of 1 mg

KEY CONSIDERATIONS:

D10% is the preferred dextrose concentration. D50% remains in standing orders in case of D10% or/and mixture (normal saline) shortage.

HYPERTENSIVE CRISIS

TREATMENT

EMR EMT	• Treat per Universal Patient Care • Oxygen to maintain SpO2 94-99%
AEMT	• IV with crystalloid • If IV is unsuccessful consider IO
EMT-I	• Cardiac monitor
PARAMEDIC	• Nitroglycerin 0.4mg SL repeat as needed every 3-5 minutes; dose may be doubled if patient routinely uses NTG

NOTES & PRECAUTIONS:

Applicable to patients with sustained systolic BP > 220mmHg; diastolic BP > 130 mmHg and symptoms CHF, Pulmonary Edema, unstable angina, changes in mental status, CNS changes and renal disease.

DO NOT administer nitroglycerin to patients who have taken Viagra, Revatio (sildenafil), Levitra (vardenafil), or Cialis (tadalafil) within the past 7 days. Contact medical control for orders.

KEY CONSIDERATIONS:

If patient is pregnant, consider pre-eclampsia.

NAUSEA & VOMITING

TREATMENT

EMR EMT	• Treat per Universal Patient Care • Oxygen to maintain SpO2 94-99%
AEMT	• IV with crystalloid
EMT-I PARAMEDIC	• Consider cardiac monitor • Ondansetron ODT PO 4 mg • Ondansetron IV/IO 4-8 mg

Pediatric Patients

For children < 40 kg administer Ondansetron 0.1mg/kg slow IV/IO push over 2 minutes
Do not exceed 4 mg total dose

NOTES & PRECAUTIONS:

If patient continues to be symptomatic after Ondansetron administration, administer fluid challenge & consider other causes.

Do not administer ondansetron (Zofran) to patients with a hypersensitivity to the drug or other 5-HT3 type serotonin receptor agonists (dolasetron/ Anzemet & granisetron/ Kytril).

Do not administer alkaline medications or preparations in the same IV as ondansetron as it may cause precipitation.

KEY CONSIDERATIONS:

Consider other causes if patient does not respond to Ondansetron.

NERVE AGENT & ORGANOPHOSPHATE POISONING

TREATMENT

EMR EMT	• Treat per Universal Patient Care • Oxygen to maintain SpO2 94-99%
AEMT	• Once patient is decontaminated, transport as soon as possible • Mild Symptoms without Respiratory Distress 1. Mark 1 kit auto injector should not be used • Mild Symptoms with Respiratory Distress 1. Administer one Mark-1 kit; 2. Repeat as needed every 5 – 10 minutes – max. 3 Mark-1 kits • Moderate Symptoms 1. Administer 1-2 Mark-1 kits 2. Repeat as needed every 5 – 10 minutes – max. 3 Mark-1 kits • Severe Symptoms 1. Administer up to 3 Mark-1 kits • BLS airway and assist ventilations
EMT-I	• Cardiac monitor
PARAMEDIC	• Diazepam 2-10 mg IV, IO, IM; repeat every 5 minutes as needed to maximum total dose of 20 mg • Diazepam pediatric 0.1 – 0.3 mg/kg IV, IO, IM to max dose of 5 mg

NOTES & PRECAUTIONS:

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

KEY CONSIDERATIONS:

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). Diazepam is included in the Chempack.

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.

OB GYN – PRE-ECLAMPSIA & ECLAMPSIA

TREATMENT

EMR EMT	• Treat per Universal Patient Care protocol. • Oxygen to maintain SpO2 94-99% • Position patient on left side • Keep environmental stimulation at a minimum
AEMT	• Establish IV with crystalloid solution
EMT-I	• Cardiac monitor

PARAMEDIC	• Magnesium Sulfate 4-6 grams in 10mL saline over 15 minutes IV
	• Use of Midazolam or Diazepam may only be used if Magnesium Sulfate is ineffective to control seizures
	  • Midazolam 2 mg IV/IO every 5-10 minutes, max 5 mg; 5 mg IM
	  ~or~
	  • Diazepam 2-10 mg IV/IO/IM every 3-5 minutes, max 20 mg

NOTES & PRECAUTIONS:

Pre-eclampsia is a pregnancy related condition involving hypertension, proteinuria and edema.

When seizures occur, it is eclampsia.

Suspect eclampsia in third trimester pregnant patients who are seizing.

KEY CONSIDERATIONS:

These patients will need magnesium sulfate 1st potentially followed by a benzodiazepine 2nd if magnesium sulfate does not control the seizure.

OB GYN – VAGINAL BLEEDING

TREATMENT

EMR EMT	• Treat per Universal Patient Care protocol. • Oxygen to maintain SpO2 94-99%
AEMT	• Establish IV with crystalloid solution
EMT-I PARAMEDIC	• Cardiac monitor

NOTES & PRECAUTIONS:

Abruptio Placentae – Occurs in the third trimester of pregnancy when the placenta prematurely separates from the uterine wall leading to intrauterine bleeding.

- The patient experiences lower abdominal pain and the uterus becomes rigid.
- Shock may develop without significant vaginal bleeding.

Placenta Previa – Occurs when the placenta covers the cervical opening and can result in vaginal bleeding and prevents delivery of the infant through the vagina. The infant needs to be delivered via caesarian section.

KEY CONSIDERATIONS:

Patients may be miscarrying and unaware they were pregnant.

Attempt to bring tissue or clots to the ED with the patient for analysis.

Patients with 3rd trimester bleeding should be transported to SLMC Obstetrics.

Contact ED to make notification and follow ED instructions.

OVERDOSE & POISONING

Use appropriate PPE. Decontaminate patients prior to transport. Contact HazMat if needed.

TREATMENT

EMR	• Treat per Universal Patient Care • Oxygen to maintain SpO2 94-99% • For poisoning, call Poison Control 1-800-222-1222 • Airway management & respiratory support as needed
EMT	• Check CBG & treat per standing order • Mark 1 Auto injector for organophosphate or nerve agent poisoning
AEMT	• IV with isotonic solution; if IV is unsuccessful consider IO • Naloxone*
EMT-I	• Cardiac monitor
PARAMEDIC	• Advanced airway management • Atropine ** • Sodium Bicarbonate*** • Calcium Chloride 10%**** • Glucagon*****

PHARMACOLOGY NOTES:

***Naloxone:** For treatment of suspected opioid overdose. 0.4 – 2.0 mg IV, IO, IM, or 2-4 mg IN; titrated to reverse respiratory depression

Pediatric: 0.1 mg/kg (max 0.4mg/dose) IV, IO, IM titrated to reverse respiratory depression

****Atropine:** For treatment of organophosphate poisoning. 1 – 5 mg slow IV or IO every 5 minutes until symptoms improve

*****Sodium Bicarbonate:** For treatment of tricyclic antidepressant OD if patient exhibits arrhythmia or a widening QRS complex. 1mEq/kg IV/ IO

******Calcium Chloride 10%:** For treatment of calcium channel blocker OD; contact medical control for consult, 10mL over 5 – 10 minutes

*******Glucagon:** For treatment of beta blocker OD; 3 – 5 mg IV or IO every 5 minutes up to max dose of 15 mg

Pediatric: 50 – 150 mcg/kg IV or IO

NOTES & PRECAUTIONS:

Contact on-line medical control for advice on activated charcoal for ingested poisons including acetaminophen and aspirin.

Treat seizures per seizure standing order.

Treat shock per shock standing order.

OVERDOSE & POISONING (cont.)

KEY CONSIDERATIONS:

For suspected carbon monoxide poisoning, all symptomatic patients should be transported (headache, dizziness, nausea). Administer high flow oxygen & obtain a SpCO level if available. If SpCO is ≥ 15, contact receiving ED for early notification. SpCO may be elevated in smokers. SpO2 may provide a false reading in CO poisoning. Apply cardiac monitor and check for ischemia.

For organophosphate poisoning, be prepared to suction copious amounts of secretions.

PAIN MANAGEMENT

TREATMENT

EMR EMT	• Treat per Universal Patient Care • Attempt to place patient in position of comfort • Oxygen to maintain SpO2 94-99%
AEMT	• Establish IV, if unable consider IO
EMT-I	• Morphine 2 – 5 mg IV, IO every 5 minutes to max dose of 20 mg • Morphine 10 mg IM if IV is unavailable • Fentanyl 25-100 mcg IV, IO, IN slow over 30-60 seconds, additional 25 – 50 mcg every 3 – 5 minutes as needed; max dose 200 mcg
PARAMEDIC	• Ketamine 15 mg IV, IO

Pediatric Doses

Morphine: 0.05 – 0.2 mg/kg IV or IO every 5 minutes; max dose 10 mg. IM dose 0.1 – 0.2 mg/kg, max dose 10 mg.

Fentanyl: 1 mcg/kg IV, IM, IN, IO slow over 30-60 seconds, additional 0.5 – 1 mcg/kg every 3-5 minutes as needed; max dose 4 mcg/kg not to exceed 200 mcg.

NOTES & PRECAUTIONS:

Monitor SpO2 and EtCO2 prior to administering pain medication.

Morphine & Fentanyl are central nervous system depressants respiratory depression; may cause hypotension. DO NOT administer if systolic BP < 90mmHg or SpO2 < 90%.

KEY CONSIDERATIONS:

Evaluate patient's pain on a 1-10 or FACES scale before and after medication administration. Include in your ePCR.

Consider Ondansetron for nausea.

RESPIRATORY – GENERAL & UPPER AIRWAY

TREATMENT

EMR	• Treat per Universal Patient Care • Oxygen to maintain SpO2 94-99% • Position of comfort
EMT	• Airway management • Follow appropriate airway management, cardiac dysrhythmia, or respiratory order (Asthma, COPD, CHF/Pulmonary Edema) • For obstructed airway, attempt to remove object if you can see it
AEMT	• IV, if unsuccessful consider IO
EMT-I	• Cardiac monitor • For croup/epiglottitis, Epinephrine 1:1000 3 mL nebulized
PARAMEDIC	• Direct laryngoscopy for foreign body obstruction

PEDIATRIC PATIENTS

Croup/ epiglottitis: Patients 6 months – 6 years of age with audible stridor at rest, administer 1 mg (mL) of 1:1,000 Epinephrine in 2 ml saline via nebulizer. Provide respiratory support with BVM; only intubate if you cannot effectively ventilate with BVM.

NOTES & PRECAUTIONS:

The best indicator for the cause of respiratory distress is medical history.

KEY CONSIDERATIONS:

Consider underlying cause of respiratory distress. Obtain a thorough medical history including time and speed of onset, recent surgeries, recent trauma, prior heart or lung problems, and current medications.

RESPIRATORY – ASTHMA

TREATMENT

EMR	• Treat per Universal Patient Care • Oxygen to maintain SpO2 94-99% • Position of comfort
EMT	• Airway management • Nebulizer • Albuterol 2.5mg in 3mL, may repeat twice • Ipratropium bromide 0.5 mg in 3 mL, may repeat twice; can be mixed with Albuterol • CPAP
AEMT	• IV, if unsuccessful consider IO
EMT-I	• Cardiac monitor
PARAMEDIC	• Epinephrine 1:1000 0.3 mg IM OR Push-Dose Epinephrine for Severe Asthma • Magnesium Sulfate 1-2 g in 10 mL over 1-3 minutes IV

PEDIATRIC PATIENTS

Asthma: Administer DuoNeb per adult guidelines. If patient continues to deteriorate give Epinephrine 1:1000 0.01 mg/kg IM every 15 minutes (max single dose = 0.3 mg) up to 3 doses.

Contact on-line medical control for consideration of Magnesium Sulfate 50 mg/kg in 10mL IV given slowly over 10-20 minutes.

NOTES & PRECAUTIONS:

Use epinephrine with caution in patients over age 50 with cardiac history.

KEY CONSIDERATIONS:

Place EtCO2 monitoring device under CPAP mask before initiating CPAP. Monitor EtCO2 values and waveform.

Continue albuterol and ipratropium bromide during CPAP therapy if able.

RESPIRATORY – CHF / PULMONARY EDEMA

TREATMENT

EMR	• Treat per Universal Patient Care • Oxygen to maintain SpO2 94-99% • Sit patient upright
EMT	• Airway management • CPAP
AEMT	• IV, if unsuccessful consider IO
EMT-I	• Cardiac monitor • Nitroglycerin 0.4 mg SL, repeat every 3-5 minutes if SBP > 100 mmHg
PARAMEDIC	• Advanced airway management • If SBP < 100 mmHg, treat for cardiogenic shock ○ Norepinephrine infusion 4 mcg/min; if no response increase by 4 mcg/min every 5 minutes to a max dose of 12 mcg/min

NOTES & PRECAUTIONS:

DO NOT administer nitroglycerin to patients who have taken Viagra, Revatio (sildenafil), Levitra (vardenafil), or Cialis (tadalafil) within the past 7 days. Contact medical control for orders.

KEY CONSIDERATIONS:

Place EtCO2 monitoring device under CPAP mask before initiating CPAP. Monitor EtCO2 values and waveform.

RESPIRATORY – COPD

TREATMENT

EMR	• Treat per Universal Patient Care • Oxygen • Position of comfort
EMT	• Airway management • Nebulizer • Albuterol 2.5mg in 3mL, may repeat twice • Ipratropium bromide 0.5 mg in 3 mL, may repeat twice; can be mixed with Albuterol • CPAP
AEMT	• IV, if unsuccessful consider IO
EMT-I	• Cardiac monitor
PARAMEDIC	• Advanced airway management

NOTES & PRECAUTIONS:

Expect chronically high EtCO2 values. SpO2 levels may be chronically low.

KEY CONSIDERATIONS:

Place EtCO2 monitoring device under CPAP mask before initiating CPAP. Monitor EtCO2 values and waveform.

Continue albuterol and ipratropium bromide during CPAP therapy if able.

SEIZURES

TREATMENT

EMR	• Move patient to safety, remove nearby objects • Oxygen to maintain SpO2 94-99% • Place pt in recovery position once seizure has stopped
EMT	• Check blood sugar • Treat hypoglycemia with oral glucose if no airway risk
AEMT	• IV with crystalloid • If IV is unsuccessful consider IO • IV Dextrose if indicated
EMT-I	• Cardiac monitor • Midazolam 2 mg IV, IO; may repeat in 5-10 minutes to max dose of 5 mg. 5 mg IM/IN ~or~ • Diazepam 2-10 mg IV, IO, IM, IN; repeat every 3-5 minutes Max dose 20 mg
PARAMEDIC	• Advanced airway management

PEDIATRIC PATIENTS

If patient is in status seizure (continuous seizure or repetitive seizures without regaining consciousness):

- Midazolam 0.1 mg/kg IV/IO to a maximum initial dose of 2 mg. May repeat to a maximum dose of 5 mg for seizures lasting longer than five minutes. ~or~
- Midazolam 0.2 mg/kg IM to a maximum initial dose of 2 mg. May repeat to a maximum dose of 5 mg. ~or~
- Diazepam 0.1 – 0.3 mg/kg IV, IO, IM to max dose of 5 mg. May repeat once.
- Diazepam 0.5 mg/kg rectal to max dose of 5 mg. May repeat once.

NOTES & PRECAUTIONS:

Seizures in patients > 50 years of age are frequently caused by arrhythmias. Treat per appropriate protocol.

New onset of seizures in a pregnant patient, especially in the third trimester, may indicate toxemia of eclampsia. Refer to OB Pre-Eclampsia / Eclampsia standing order.

Check a pulse once a seizure stops. Seizure activity may be the sign of hypoxia or dysrhythmias.

In newborns seizure most commonly is related to hypoglycemia, treat under hypoglycemia protocol.

SHOCK

TREATMENT

EMR	• Oxygen to maintain SpO2 94-99% • Prevent loss of body heat • Elevate pt's legs if hypovolemic shock is suspected
EMT	• Airway management
AEMT	• Large bore IV with crystalloid • Second large bore IV with crystalloid • 500 mL fluid bolus for **distributive shock**; may repeat to total of 1000 mL if no pulmonary edema is present • 500 mL fluid bolus for **hypovolemic shock**; repeat bolus if no pulmonary edema is present • For penetrating chest trauma or AAA, do not fluid overload; goal is SBP of 100 mmHg
EMT-I	• Cardiac monitor • For **cardiogenic or suspected obstructive shock**, follow the appropriate cardiac arrhythmia standing order; administer 250 mL fluid bolus if no pulmonary edema is present
PARAMEDIC	• Advanced airway management • Push-Dose Epinephrine see Medications for dosage • Norepinephrine 4 mcg/min; see norepinephrine in Medications for further dosing instructions and for pediatric patients

PEDIATRIC PATIENTS

Treat as outlined above except for the following fluid administration guidelines:

- Infants: 10 mL/kg
- Children: 20 mL/kg
- Maximum fluid amount for cardiac and obstructive shock is 20 mL/kg

NOTES & PRECAUTIONS:

DO NOT administer norepinephrine for treatment of hypovolemic shock. Provide fluid resuscitation.

Hypovolemic Shock: caused by loss of blood or other body fluids

Cardiogenic Shock: caused by heart failing to pump blood adequately to vital body parts

Distributive Shock: neurogenic, anaphylactic, septic, psychogenic, metabolic – increase in vascular dilatation or permeability

Obstructive Shock: physical obstruction of the great vessels or the heart itself (PE, tamponade, etc.)

SYNCOPE

TREATMENT

EMR	• Oxygen to maintain SpO2 94-99% • Place pt in recovery position, consider elevating legs
EMT	• Check blood sugar • Treat hypoglycemia with oral glucose if no airway risk
AEMT	• IV with crystalloid • If IV is unsuccessful consider IO • IV Dextrose if indicated
EMT-I PARAMEDIC	• Cardiac monitor • 12 lead EKG

NOTES & PRECAUTIONS:

Syncope is a brief loss of consciousness and a rapid return of consciousness.

Seek out underlying cause and treat.

Check orthostatic blood pressures.

KEY CONSIDERATIONS:

Consider underlying causes of syncope including vasovagal & idiopathic (unknown cause), GI bleed, AAA, cardiac arrhythmia, pulmonary embolism and stroke.

TRAUMA – UNIVERSAL CARE

TREATMENT

EMR	• Ensure scene safety, don required PPE • Check for level of consciousness, AVPU & GCS • Perform rapid trauma assessment • Treat the greatest threat to life FIRST • Protect neck, consider application of cervical collar • Secure airway with OPA if gag is absent, suction as needed • Support or provide respirations with BVM • Assess for bleeding and immediately control hemorrhage; apply direct pressure, if uncontrolled apply tourniquet (2nd tourniquet may be necessary) • Protect spine, consider use of long back board • Splint injured extremities in position of function • Monitor vital signs every 5 minutes, administer oxygen to maintain SpO2 94-99% • Keep patient warm, monitor for shock • Perform focused assessment if time permits • Keep patient NPO • Notify ED of Trauma System Entry
EMT	• Check blood sugar
AEMT EMT-I	• IV with crystalloid • If IV is unsuccessful consider IO • Initiate fluid boluses if systolic BP < 90mmHg • Cardiac monitor (EMT-I)
PARAMEDIC	• Advanced airway procedures • Cricothyrotomy • Needle thoracostomy

NOTES & PRECAUTIONS:

Time matters. Do not delay transport to perform interventions that can be done en route.

Assess – intervene – reassess.

Did the intervention work?

Is the patient's physiology returning to normal?

KEY CONSIDERATIONS:

Use a team approach. Teams can manage competing priorities at the same time.

Notify the receiving ED early.

Assess mechanism of injury, evidence of high-energy impact, and special patient considerations.

TRAUMA – ABDOMINAL

TREATMENT

EMR EMT	• Trauma Universal Care • Oxygen to maintain SpO2 94-99% • Keep patient warm • Cover open wounds with sterile dressing, moisten with saline
AEMT	• 1-2 large bore IVs with crystalloid • If IV is unsuccessful, consider IO • In suspected AAA, do not increase SBP >90 mmHg
EMT-I	• Cardiac monitor
PARAMEDIC	• Advanced airway procedures

NOTES & PRECAUTIONS:

Keep patient warm. Hypothermic patients do not clot.

Titrate fluid administration not to exceed 90 mmHg for AAA.

Titrate fluid administration not to exceed 90 mmHg for suspected hemorrhage from trauma.

If time permits, listen to bowel sounds.

KEY CONSIDERATIONS:

Determining abdominal trauma requires history of traumatic event, palpation, and visual assessment. For blunt trauma, determine type of impact, speed of impact, and area (anatomically) of impact.

For penetrating trauma, determine type of weapon used (if applicable), caliber of weapon (if applicable), or length of penetrating object (if applicable).

TRAUMA – BITE & STING

Applies to bites & stings from humans, animals, spiders, & insects; see below for snakes

TREATMENT

EMR
EMT
	• Trauma Universal Care
	• Oxygen to maintain SpO2 94-99%
	• General wound care
	• Remove constricting items
	  ○ Insect stings: gently remove stinger
	  ○ Tick: do not remove; defer to hospital
	  ○ Animal bites: notify law enforcement
	• Epi pen for anaphylaxis

EMT	• Epinephrine 1:1,000 0.3 mg IM for anaphylaxis
AEMT	• IV with crystalloid • If IV is unsuccessful, consider IO
EMT-I	• Cardiac monitor • Epinephrine 1:10,000 0.1 mg (1mL) IV or IO for anaphylaxis • Fentanyl 25-100 mcg IV, IM, IN, IO; may repeat every 3-5 minutes to max dose of 200 mcg • Morphine 2-10 mg IV, IO
PARAMEDIC	• Advanced airway management • Ketamine 15 mg IV or IO • Diazepam 2-10 mg IV, IM, IO every 3-5 minutes to max dose of 10 mg

NOTES & PRECAUTIONS:

Protect yourself first.

DO NOT bring the biting/stinging animal or insect to the ED.

KEY CONSIDERATIONS:

Animal/insect identification may be important to determine course of treatment.
Attempt to obtain digital images or a description from the patient or bystanders.

Applies to snake bites

TREATMENT

EMR EMT	• Trauma Universal Care • Oxygen to maintain SpO2 94-99% • Minimize patient's physical activity • Splint bitten extremity in depended position below level of heart • Remove constricting items
EMT	• Epinephrine 1:1,000 0.3 mg IM for anaphylaxis
AEMT	• IV with crystalloid • If IV is unsuccessful, consider IO
EMT-I PARAMEDIC	• Cardiac monitor • Fentanyl 25-50 mcg IV, IM, IN, IO; may repeat every 3-5 minutes to max dose of 200 mcg • Morphine 2-10 mg IV, IO

NOTES & PRECAUTIONS:

Protect yourself first.

DO NOT bring the snake to the ER.

KEY CONSIDERATIONS:

Document the time of bite, snake identification (if available), and any treatment rendered on scene. Provide early notification to the ED.

TRAUMA – BURNS

TREATMENT

EMR EMT	• Trauma Universal Care • Basic airway management • Oxygen to maintain SpO2 94-99% • Remove smoldering clothing & restrictive objects • Keep patient warm • Large burns (>20% BSA) cover with dry sterile dressing • Small burns (<20% BSA) apply cool wet dressings • Chemical burns: flush area with copious amounts of water; dilute & remove chemical • Initiate EtCO2 and CO monitoring if able
AEMT	• 1-2 large bore IVs with crystalloid • If IV is unsuccessful, consider IO • Apply Parkland formula for initial fluid administration
EMT-I	• Cardiac monitor • Morphine 2-10 mg IV, IO • Fentanyl 50 mcg IV, IO, IM, IN; repeat 25-50 mcg every 3-5 minutes as needed to max dose of 200 mcg
PARAMEDIC	• Advanced airway management • Calcium Chloride topically for hydrogen fluoride or hydrofluoric acid exposure or burns

NOTES & PRECAUTIONS:

Expect significant fluid 3rd spacing due to swelling.

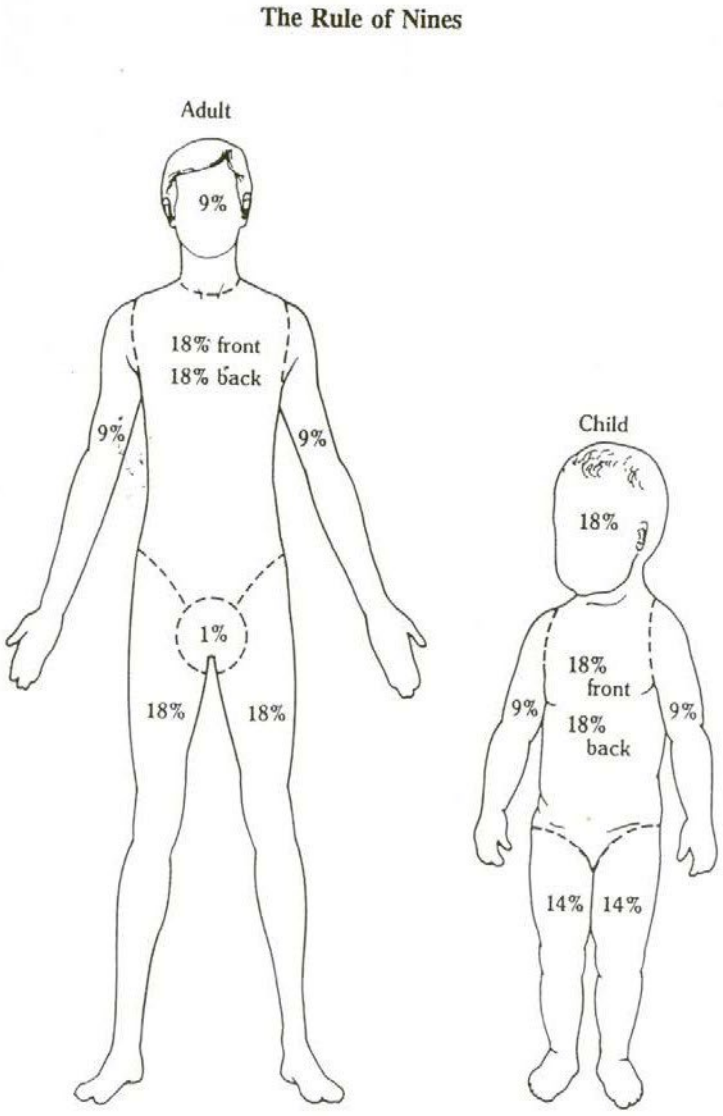
Do not intentionally rupture blisters.

Protect burned tissue from exposure and infection.

Remove clothing and jewelry.

KEY CONSIDERATIONS:

Paramedics: for suspected upper respiratory burns, consider early intubation. Look for signs including soot or blisters around the mouth, singed nasal or facial hair, hoarseness, cough, carbonaceous sputum, or respiratory distress.



Palm = 1% BSA

Parkland Formula for fluid replacement:

% BSA burned x pt weight in kg x 4mL = total to be infused.

Infuse 50% of total to be infused in first 8 hours.

Infuse 50% of total to be infused in hours 16-24.

TRAUMA – CHEST / THORACIC

TREATMENT

EMR	• Trauma Universal Care • Oxygen to maintain SpO2 94-99% • Cover open chest wounds with occlusive dressing • Consider spinal immobilization
EMT	• Basic airway management
AEMT	• 1-2 large bore IVs with crystalloid • If unable to establish IV, consider IO
EMT-I	• Cardiac monitor
PARAMEDIC	• Advanced airway management • Chest decompression

NOTES & PRECAUTIONS:

Assess for flail chest; if present apply bulky dressing & tape to stabilize. DO NOT wrap ribs.

Stabilize impaled objects. Secure Vaseline gauze at base of impaled objects.

Apply occlusive dressing on exhalation. Watch for signs of increased respiratory distress and decreasing blood pressure. If this occurs, lift one edge of the dressing long enough to allow air to escape.

KEY CONSIDERATIONS:

Penetrating trauma causing cardiac arrest:

- Patients in cardiac arrest due to penetrating trauma may respond to aggressive care.
- Attach cardiac monitor.
- Terminate resuscitation for patients in asystole.
- Patients presenting with a viable rhythm may reflect the presence of cardiac tamponade or tension pneumothorax. Continue aggressive treatment and transport to definitive care.

TRAUMA – DECOMPRESSION & BAROTRAUMA

TREATMENT

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

NOTES & PRECAUTIONS:

For Kingsley ANG response, follow directions of Flight Surgeon if on scene. Permit Flight Safety Officer to accompany pilot if present.

Watch for signs of hypothermia, pulmonary edema, rash, crepitus, unequal pupils, widening pulse pressures, decreased or absent breath sounds, seizures, paralysis, coma, and sudden cardiac arrest.

KEY CONSIDERATIONS:

If a diving incident, obtain a diving history or profile including onset of symptoms, type of breathing apparatus used, depth, number & duration of dives, rate of ascent, air travel after diving, use of medication or alcohol.

Notify SLMC ED early as patient will likely require transfer to decompression chamber after initial stabilization.

TRAUMA – EYE & OCULAR

TREATMENT

EMR EMT AEMT	• Trauma Universal Care • Transport patient seated with HOB elevated to 30 degrees • Basic airway management • Chemical burns: irrigate eye with sterile water or isotonic solution for 30 minutes; do not delay transport • Direct trauma: Protect the affected eye and its contents with a hard shield or similar device and cover the other eye • Impaled object: stabilize object in place; do not remove
EMT-I PARAMEDIC	• Follow pain management orders • Ondansetron 4mg IV, IO, IM, ODT for nausea

NOTES & PRECAUTIONS:

Transport patient seated with head of bed elevated to 30 ^{o} to reduce

pressure on eye. Remove contact lenses if possible.

Document new onset of blurring, double vision, perceived flashes of light or other visual changes.

KEY CONSIDERATIONS:

For foreign body on external eye, do not wipe. Irrigating the area.

TRAUMA – HEAD & BRAIN INJURY

TREATMENT

EMR	• Trauma Universal Care
	• High flow oxygen via non-rebreather mask
	  ○ Avoid hypoxia, titrate SpO2 to 94-99%
	• Support ventilations (consider oral airway)
	  ○ Carefully manage ventilations to minimize hyperventilation

EMT	• Basic airway management • Monitor EtCO2 with a goal of 40 mmHg; adjust ventilation rate to maintain goal
AEMT	• IV with crystalloid • If unable to secure IV, consider IO • Provide fluid boluses if patient is hypotensive; SBP goal >100 mmHg
EMT-I	• Cardiac monitor

PARAMEDIC	• Advanced airway management
	• Provide chemical restraint as needed
	  1. Haldol 2.5-5 mg IV, IO, IM
	  2. Midazolam 1-5 mg, do not use if hypotensive

PEDIATRIC PATIENTS

SBP goals: children age <10 = 70 mmHg + (age in years x2) children age >10 same as adult

Ventilatory rates: 0-24 months = 25 breaths per minute

2-14 years = 20 breaths per minute

15 years and older = 10 breaths per minute, same as adults

NOTES & PRECAUTIONS:

A single episode of hypoxia is associated with DOUBLING the mortality rate in TBI patients.

Hyperventilation may also increase the mortality rate; monitor BVM respirations carefully.

A single episode of hypotension can DOUBLE the mortality rate in TBI patients; sustained hypotension increases the mortality rate by EIGHT times or more.

KEY CONSIDERATIONS:

Consider and treat reversible causes of altered mental status including hypoxia, hypoglycemia, and overdose.

Use oral airway adjunct for patients with significant facial trauma or suspected basal skull fracture. Nasal airway adjuncts are contraindicated.

Consider mild hyperventilation for signs of herniation (blown pupil, posturing); EtCO2 goal of 35 mmHg.

Consider transporting patient with head of bed elevated 30^{o} if normotensive.

TRAUMA – INHALATION INJURY

TREATMENT

EMR	• Trauma Universal Care • Remove patient from toxic environment • Administer high flow oxygen via non-rebreather
EMT	• Basic airway management • Initiate SpO2, SPCO, & EtCO2 monitoring if available
AEMT	• IV with crystalloid • If unable to secure IV, consider IO
EMT-I	• Cardiac monitor
PARAMEDIC	• Advanced airway management

NOTES & PRECAUTIONS:

Protect yourself from a possibly toxic environment.

Conduct air monitoring.

CO poisoning may cause false high reading on SpO2 monitor.

Patients may rapidly deteriorate; be prepared for aggressive advanced airway management. Multiple patients presenting with similar symptoms may suggest toxic inhalation.

KEY CONSIDERATIONS:

Consider length of exposure & type of exposure (steam, gases, fire victim).

Consider OSFM Regional HazMat team if needed to manage a toxic gas environment.

TRAUMA – NEAR DROWNING

TREATMENT

EMR	• Trauma Universal Care • Suction airway as needed • Oxygen to maintain SpO2 94-99% • Remove wet clothing and warm patient
EMT	• Basic airway management
AEMT	• IV with crystalloid • If unable to secure IV, consider IO
EMT-I	• Cardiac monitor
PARAMEDIC	• Advanced airway management • OG or NG tube

NOTES & PRECAUTIONS:

Determine length of exposure to water.

Determine type of water (fresh, salt, and temperature).

KEY CONSIDERATIONS:

Assess for other injuries (shallow water diving may include blunt trauma; SCUBA diving may include barotrauma).

TRAUMA – NECK & SPINE

TREATMENT

EMR	• Trauma Universal Care • Oxygen to maintain SpO2 94-99% • Full spinal immobilization or spinal motion restriction • Check motor & sensory function before and after immobilization/ restriction; reassess frequently • Evaluate for other injuries • Keep patient warm
EMT	• Basic airway management
AEMT	• IV with crystalloid • If unable to secure IV, consider IO • Administer fluid bolus for hypotension
EMT-I	• Cardiac monitor
PARAMEDIC	• Advanced airway management • Treat for neurogenic shock 1. Norepinephrine 4 mcg/min titrate to max dose of 12 mcg/min

NOTES & PRECAUTIONS:

Refer to Spinal Motion Restriction and Immobilization standing order for

criteria & procedure. If in doubt, immobilize.

Norepinephrine is the preferred pharmacological intervention due to its α & β activity; treats hypotension and

bradycardia simultaneously.

Spinal injuries can impair diaphragmatic function and may lead to respiratory compromise.

KEY CONSIDERATIONS:

Neurogenic shock results in a sudden loss of sympathetic tone (hypotension, bradyarrhythmia, and temperature dysregulation).

Spinal cord injuries can mask signs and symptoms of other significant injuries.

Consider mechanism and force of injury (high energy transfer, ejection from a motor vehicle, helmet damage, etc.).

Assess for head injury if spinal injury is determined or suspected.

TRAUMA – ORTHOPEDIC & SOFT TISSUE

TREATMENT – AMPUTATION & LACERATION / SOFT TISSUE INJURY

EMR
EMT
	• Trauma Universal Care
	• Apply direct pressure to control bleeding
	  ○ If injury is on extremity, is not controlled with hemostatic dressing with direct pressure, and is life threatening apply a tourniquet
	  ○ If a junctional wound, is not controlled with a hemostatic dressing with direct pressure, and is life threatening, then pack wound with hemostatic dressing or with gauze
	• Administer oxygen to maintain SpO2 94-99%
	• Full or partial amputation:
	  ○ Cover stump with moist sterile dressing
	  ○ Splint partial amputations in position of function
	  ○ Wrap severed part in crystalloid soaked sterile dressing, place in sealed bag, place bag in ice water

AEMT	• 1-2 large bore IVs with crystalloid • If unable to secure IV, consider IO ○ SBP goal of 90 mmHg
EMT-I	• Morphine 2-10 mg IV, IO, IM ~or~ • Fentanyl 25-100 mcg IV, IO, IM, IN
PARAMEDIC	• Diazepam 2-10 mg IV, IO, IM • Midazolam 1-5 mg IV, IO, IM • Ketamine 15 mg IV, IO • TXA 1g IV/IO over 10 min per premixed packaging

NOTES & PRECAUTIONS:

For patients with abdominal injuries, contact medical control for pain management orders.

Estimate blood loss and note on ePCR.

Document time of tourniquet application.

Notify ED staff of tourniquet application; point out location at time of handoff.

KEY CONSIDERATIONS:

For patients with severe bleeding/ hemorrhage use blood set for IV administration. Trauma System Entry required for all tourniquet and hemostatic dressing applications.

TRAUMA – ORTHOPEDIC & SOFT TISSUE

TREATMENT – FRACTURE, SPRAIN, DISLOCATION

EMR	• Trauma Universal Care • Sterile dressings to open wounds • Immobilize, splint, elevate, cold packs or ice
EMT	• Basic airway management • Initiate SpO2, SPCO, & EtCO2 monitoring if available
AEMT	• IV with crystalloid • If unable to secure IV, consider IO
EMT-I	• Cardiac monitor • Morphine 2-10 mg IV, IO, IM ~or~ • Fentanyl 25-100 mcg IV, IO, IM, IN
PARAMEDIC	• Diazepam 2-10 mg IV, IO, IM • Midazolam 1-5 mg IV, IO, IM • Ketamine 15 mg IV, IO

NOTES & PRECAUTIONS:

Check for circulation, motor function, and sensation (CMS) pre & post immobilization.

If CMS is compromised distal to a fracture, consider gentle axial traction to bring extremity into normal anatomical position. Stop if patient complains of pain or resistance is felt.

Contact medical control if CMS is compromised distal to dislocation

Authorized providers may repeat medication doses per pain management standing order.

KEY CONSIDERATIONS:

Use traction splint for mid-shaft femur fractures.

Consider non-accidental trauma as cause of injury for pediatric patients.

Treat pain per pain management standing order for pediatric patients.

TRAUMA SYSTEM ENTRY

TREATMENT

EMR EMT AEMT EMT-I PARAMEDIC	• Provide per Universal Trauma standing order • Treat trauma pathology per applicable standing order • Refer to the Trauma System Entry flowsheet on the next page • Notify the receiving ED as early as possible

NOTES & PRECAUTIONS:

Time matters. Do not delay transport to perform interventions that can be done en route. Assess – intervene – reassess.

Did the intervention work?

Is the patient's physiology returning to normal?

KEY CONSIDERATIONS:

Use a team approach. Teams can manage competing priorities at the same time. Assess mechanism of injury, evidence of high-energy impact, and special patient considerations. In addition to the following table, the following require Trauma System Entry:

1. Patients with tourniquets
2. Patients with hemostatic dressing

EXHIBIT 2
OAR chapter 333, division 200

National Guideline for the Field Triage of Injured Patients

RED CRITERIA
High Risk for Serious Injury

Injury Patterns	Mental Status & Vital Signs
• Penetrating injuries to head, neck, torso, and proximal extremities • Skull deformity, suspected skull fracture • Suspected spinal injury with new motor or sensory loss • Chest wall instability, deformity, or suspected flail chest • Suspected pelvic fracture • Suspected fracture of two or more proximal long bones (humerus or femur) • Crushed, degloved, mangled, or pulseless extremity • Amputation proximal to wrist or ankle • Active bleeding requiring a tourniquet or wound packing with continuous pressure	**All Patients** • Unable to follow commands (motor GCS less than 6) • RR less than 10 or greater than 29 breaths/min • Respiratory distress or need for respiratory support • Room-air pulse oximetry less than 90% **Age 0-9 years** • SBP less than 70 mmHg + (2 x age years) **Age 10-64 years** • SBP less than 90 mmHg OR • HR greater than SBP **Age 65 years or older** • SBP less than 110 mmHg OR • HR greater than SBP

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

YELLOW CRITERIA
Moderate Risk for Serious Injury

Mechanism of Injury	EMS Judgment
• High-Risk Auto Crash – Partial or complete ejection – Significant intrusion (including roof) ▪ Greater than 12 inches occupant site OR ▪ Greater than 18 inches any site OR ▪ Need for extrication for entrapped patient – Death in passenger compartment – Child (Age 0-9) unrestrained or in unsecured child safety seat – Vehicle telemetry data consistent with severe injury • Rider separated from transport vehicle with significant impact (e.g., motorcycle, ATV, horse, etc.) • Pedestrian/bicycle rider thrown, run over, or with significant impact • Fall from height greater than 10 feet (all ages)	**Consider risk factors, including:** • Low-level falls in young children (ages 5 years or younger) or older adults (ages 65 years or older) with significant head impact • Anticoagulant use • Suspicion of child abuse • Special, high-resource healthcare needs • Pregnancy greater than 20 weeks • Burns in conjunction with trauma • Children should be triaged preferentially to pediatric capable centers **If concerned, take to a trauma center**

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

UNRESPONSIVE PATIENT

TREATMENT

EMR	• Treat per Universal Patient Care orders • Oxygen to maintain SpO2 94-99% • Naloxone 2-4 mg IN, titrate dose to reverse respiratory depression
EMT	• Check blood sugar • Basic airway management
AEMT	• IV with crystalloid • If IV is unsuccessful consider IO • Naloxone 0.4 – 2 mg IV, IO, IM; titrate dose to reverse respiratory depression; may repeat every 3-5 minutes as needed, max dose 10mg • IV Dextrose if indicated
EMT-I	• Cardiac monitor • 12 lead EKG
PARAMEDIC	• Advanced airway management

NOTES & PRECAUTIONS:

Patient unconscious & unresponsive may have normal vital signs. Check for evidence of trauma, injury, ingestion, or injection.

Check for medical alert tag.

Check orthostatic blood pressures.

Monitor cardiac and respiratory function closely.

KEY CONSIDERATIONS:

There may be no obvious cause, injury, or other reason for the patient's condition.

AUTHORIZED PROCEDURES

SECTION D

UNIVERSAL PROCEDURES

EMR EMT AEMT EMT-I PARAMEDIC	• Only perform procedures within your scope • Obtain consent prior to initiating any procedure • Use aseptic or sterile technique when indicated • Check devices to ensure proper functioning prior to use • Only use appropriately sized equipment • Ensure proper PPE is in place prior to initiating procedures • Only perform procedures that are beneficial to the patient • Procedures not explicitly authorized are prohibited without receiving orders from online medical control

NOTES & PRECAUTIONS:

Do not perform procedures if you are not trained and competent with the procedure.

Do not use equipment outside your scope; do not use without proper training.

KEY CONSIDERATIONS

Agencies must obtain medical director approval for new devices & procedures prior to implementation.

AIRWAY – ENDOTRACHEAL INTUBATION

EMR- EMT-I	• Assist paramedic with patient management within scope
PARAMEDIC	• Full performance; See procedure below

INDICATION

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

PROCEDURE:

1. Prepare equipment. Video laryngoscopy preferred.
    1. Laryngoscope and blade(s)
    2. Endotracheal tube based on estimation; have 1 size smaller and 1 size larger immediately available with syringe to inflate cuff
    3. Suction unit & tubing
    4. Magill forceps
    5. GUM bougie
    6. Tube securing device, EtCO2 monitor, stethoscope
2. Put patient in “sniffing” position
3. Preoxygenate patient
4. Open airway, insert laryngoscope/video laryngoscope & visualize cords
5. Insert endotracheal tube between cords into trachea, advance tube 2-3 cm past cords
6. If GUM bougie used to advance through cords, slip ET tube over bougie and advance
7. Ensure proper tube depth
8. Inflate cuff (if present)
9. Auscultate for breath sounds over all lung fields and epigastrium during positive pressure ventilations
10. Attach numeric/waveform capnography EtCO2 monitoring to verify tube placement and initiate ventilations to desired EtCO2 reading

NOTES & PRECAUTIONS:

Verify tube placement after each significant patient movement (to stretcher, to ambulance, etc.). Waveform or numeric capnography required. Colormetric sensors are no longer acceptable.

AVERAGE ENDOTRACHEAL TUBE SIZE

Adult female: 6.5-8.0 Adult male: 7.0-8.5 Child: 4.0-6.0 Infant: 3.5-4.0 Newborn: 2.5-3.5

AIRWAY MANAGEMENT & OXYGEN ADMINISTRATION

EMR EMT AEMT EMT-I PARAMEDIC	• Open airway • Insert oropharyngeal airway (OPA) in unconscious or altered patients unable to maintain their airway and do not have an intact gag reflex • Insert a nasopharyngeal airway (NPA) in unconscious or altered patients unable to maintain their airway but will not accept an OPA • Use a Bag Valve Mask (BVM) on patients with a compromised respiratory drive needing ventilatory assistance or are apneic

OXYGEN ADMINISTRATION:

Administer per oxygen order in pharmacology section. Titrate oxygen to maintain SpO2 of 94-99%.

Use a nasal cannula to deliver low flow oxygen (1-6 liters per minute).

Use a non-rebreather mask to deliver high flow oxygen (10-15 liters per minute).

Use blow by oxygen to deliver oxygen to infants & toddlers or those who cannot tolerate a cannula or mask.

NOTES & PRECAUTIONS:

Ensure a proper seal between the patient and BVM when providing respiratory support.

Utilize waveform capnography, chest rise & fall, and auscultation to monitor for proper ventilation.

KEY CONSIDERATIONS:

Strongly consider cervical spine control while performing airway procedures on trauma patients.

AIRWAY – CRICOTHYROTOMY

EMR- EMT-I	• Assist paramedic with patient management within scope
PARAMEDIC	• Full performance; See procedure below

INDICATIONS:

This technique is to be used only when other attempts to establish an airway have been unsuccessful (i.e., you are unable to intubate or ventilate using BVM) and respiratory obstruction exists. Such conditions are most likely to be found with foreign-body obstruction; facial and laryngeal trauma; inhalation, thermal, or caustic injury to the upper airway; angioedema; upper airway bleeding; epiglottitis; and severe croup.

PROCEDURE:

Place the patient in a supine position with support under the shoulders and mild hyperextension of the neck. Palpate the neck in the midline and locate the cricothyroid membrane.

QUICK-TRACH

1. Place the patient supine. Assure stable positioning and hyperextend the neck.
2. Locate the cricothyroid membrane (midline between the thyroid cartilage and the cricoid cartilage).
3. Secure the larynx between thumb & middle finger; reconfirm the location of the cricoid membrane.
4. Using a scalpel, puncture the skin and trachea transversely.
5. Firmly hold the device & puncture the cricothyroid membrane at a 90-degree angle.
6. Verify the needle has passed into the trachea by aspirating air through the syringe. +air = needle is in the trachea.
7. Change the angle of the needle to 60-degrees and advance the device into the trachea to the level of the stopper.
8. Remove the stopper. Ensure the device is not advanced further into the trachea.
9. Hold the needle and syringe and slide only the plastic cannula along the needle into the trachea until the flange rests on the neck. Remove the needle and syringe.
10. Secure the device to the neck.
11. Apply connecting tube to the device and ventilate.
12. Medicate the patient (consider versed).

NOTES & PRECAUTIONS:

Hazards in performing this procedure are primarily those of damage to nearby structures (major vessels to either side of the midline, to the vocal cords if the puncture is made too high, or a through and through injury of the trachea if the puncture is made too deeply).

Palpation of the cricothyroid membrane is very difficult in the infant and young child.

AIRWAY – PEEP VALVE (POSITIVE END-EXPIRATORY PRESSURE) OPTIONAL

EMR EMT AEMT EMT-I PARAMEDIC	• Full Performance see procedures below

INDICATIONS:

Most patients receiving assisted ventilations via bag-valve-mask

Hypoxia, either prior to or post intubation despite appropriate bag ventilation with 100% oxygen

May be used to increase and improve Oxygenation

CONTRAINDICATIONS:

Tension Pneumothorax

Conditions that require hyperventilation (severe DKA)

PROCEDURE:

1. Remove the plastic diverter from the end of the BVM and attach the PEEP valve
2. Turn the dial at the end of the PEEP valve to the appropriate setting
   - Start at 3 cmH_20 and increase to a max 5 cmH_20 for Asthma or COPD, severe shock, or moderate to severe brain injury
   - Start at 5 cmH_20 and increase to a max of 15 cmH_20 for pneumonia or other suspected lung infection, pulmonary edema (heart failure), drowning, neonatal resuscitation, or other undifferentiated respiratory distress
3. Reassess oxygenation via SpO2, skin signs and mentation frequently and increase PEEP in increments of 5 cmH_20 every 3-5 five minutes to a max of 15 cmH_20 to improve oxygenation
   - Maximum PEEP in pediatrics is 5 cmH_2O

NOTES & PRECAUTIONS:

PEEP is especially important in conditions where lung surfactant has been disturbed, such as neonatal resuscitation (immature surfactant), drowning, pulmonary edema, and pneumonia

Patients must always be ventilated slowly (6-10 breaths per minute) when using a PEEP

AIRWAY – RAPID SEQUENCE INTUBATION

EMR- EMT-I	• Assist paramedic with patient management within scope
PARAMEDIC	• Full performance; See procedure below

INDICATIONS:

RSI is indicated for patients requiring endotracheal intubation and have a clenched jaw or active gag reflex, are combative to the point their airway is threatened, or the patient is conscious.

CONTRAINDICATIONS:

RSI is contraindicated for patients that cannot be adequately ventilated with a BVM in the event of a failed intubation.

Succinylcholine is contraindicated in patients with crush or burn injuries more than 24 hours old, penetrating eye injuries, medical history (malignant hyperthermia, myasthenia gravis, muscular dystrophy, or known hypersensitivity. Monitor patient's temperature for malignant hyperthermia after administering succinylcholine.

PROCEDURE:

1. Position the patient. Place the patient supine, trachea midline, head slightly forward in the sniffing position.
2. Preparation. Ensure the patient has a patent IV, is on the cardiac monitor, and initiate SpO2 monitoring. Prepare suction equipment. Prepare intubation equipment (video or standard laryngoscope, 2 sizes of ET tubes, GUM bougie or stylet, tube securing device). Have alternate airway device immediately available. Draw up medications and LABEL them (1 induction agent, 1 paralytic, 1 post intubation sedative).
3. Pre-oxygenate. Administer high flow oxygen via nonrebreather mask or BVM. Apply nasal cannula with oxygen at 10 liters per minute. Attempt to achieve SpO2 of 100%.
    a. Administer Atropine 0.02 mg/kg for pediatric patients less than 1-year-old.
    b. Administer Atropine 0.02 mg/kg for pediatric patients greater than 1-year-old and experiencing bradycardia and not responding to oxygen therapy.
4. Administer induction agent. GIVE ONLY 1.
    a. Etomidate 0.3 mg/kg IV/IO push
    b. Ketamine 2 mg/kg IV/IO push
    c. Midazolam 0.1 mg/kg IV/IO push
5. Administer paralytic. GIVE ONLY 1.
    a. Succinylcholine 2 mg/kg IV/IO push (preferred)
    b. Rocuronium 1.5 mg/kg IV/IO push
6. No DESAT. Increase nasal cannula oxygen to 15 liters per minute.

7. Assess the patient for apnea & mandibular relaxation. Proceed with intubation.
8. Confirm ETT placement. Secure the endotracheal tube. Attach waveform/numeric EtCO2. Reassess vitals.
9. Administer post-intubation sedation & analgesics.
    a. Midazolam 0.05 – 0.1 mg/kg IV/IO. Single max dose 5 mg.
    b. Fentanyl 1-2 mcg/kg IV/IO.
10. Continue paralysis as needed.
    a. Rocuronium 0.1 – 0.2 mg/kg IV/IO

NOTES & PRECAUTIONS:

Unrecognized esophageal intubation is a **NEVER EVENT.**

Do not use repeat boluses of Etomidate after intubation.

Strongly consider the use of Ketamine for induction agent if the patient has a suspected difficult airway or lower airway obstruction (asthma, COPD, bronchiolitis).

Ensure meticulous documentation including accurate times, complete vital signs, doses, number of intubation attempts, barriers to care, etc.

See Medication section for pediatric doses.

AIRWAY – SUPRAGLOTTIC AIRWAY

EMR	• Assist paramedic with patient management within scope
EMT-B/A/I PARAMEDIC	• Full performance; See procedure below

INDICATIONS:

Supraglottic airway adjuncts are indicated for patients without a gag reflex and unable to protect their own airway. Supraglottic airway adjuncts are the primary device for non-paramedic providers. Supraglottic airways are backup adjuncts to endotracheal intubation for paramedics.

PROCEDURE:

1. Ventilate the patient with BVM and OPA/NPA with supplemental oxygen while preparing equipment.
2. Prepare equipment.
   - Supraglottic airway device
   - In line EtCO2 monitoring
   - Suction
   - Device lubricant
3. Position patient supine with head in a neutral position. Lift the patient's tongue & jaw upward with one hand and insert the airway blindly according to manufacturer directions. DO NOT force the airway into position.
4. Ventilate the patient using the adjunct, BVM & oxygen. Auscultate for bilateral breath sounds and verify placement with numeric/waveform capnography.
5. Secure the airway device per manufacturer directions.

NOTES & PRECAUTIONS:

Utilize continuous EtCO2 monitoring to ensure patency of airway.

Transport patient with head of cot slightly raised to facilitate passive drainage of airway secretions.

AIRWAY – TRACHEOSTOMY CARE

EMR EMT-B/A/I	• Assist paramedic with patient management within scope
PARAMEDIC	• Full performance; See procedure below

INDICATIONS:

Tracheostomies must be unobstructed for a patient to breathe. Trach crises may develop for a variety of reasons including mucous plug, accidental removal of the tracheostomy, or placement of the tracheostomy into a false passage.

PROCEDURE:

1. Prepare equipment.
   - BVM, oxygen, tracheal suction catheter, new trach tube, endotracheal tube, scissors.
2. Assess patient's breathing. Apneic patient
   1. Attach BVM to the tracheostomy and attempt to ventilate; continue if ventilations are adequate.
   2. If inadequate, attempt to suction tracheostomy with sterile technique & ventilate.
   3. If no improvement, remove the inner cannula of the tracheostomy tube. Ventilate.
   4. If no improvement, remove the entire tracheostomy tube.
   5. Cover stoma and attempt to ventilate with BVM over nose and mouth. If successful, insert new tracheostomy tube and attempt to ventilate.
   6. If unsuccessful, intubate orally. Cover stoma and continue to ventilate. Patient breathing with inadequate ventilation
   7. Suction tracheostomy tube with sterile technique.
   8. If no improvement, remove inner cannula. Reassess.
   9. If no improvement, remove entire tracheostomy tube and insert new tube. If no new trach tube is available, cut down an ET tube and pass through the stoma. Reassess. Ventilate & oxygenate as needed.

NOTES & PRECAUTIONS:

Family members regularly have extra supplies available.

When placing a new tracheostomy tube into the stoma, you may create a false passage by inserting the trach into tissue instead of the stoma. Patients may require intubation through the stoma in order to secure the airway.

CARDIAC – 12 LEAD ECG

EMR EMT/AEMT	• Obtain and electronically send
PARAMEDIC	• Obtain & interpret

INDICATIONS:

Indicated for patients experiencing non-traumatic chest pain, palpitations, syncope, stroke, shortness of breath, unexplained altered level of consciousness, or provider judgment.

PROCEDURE:

1. Apply cardiac leads per manufacturer specifications.
2. Obtain 12 lead ECG
3. EMR, EMT, AEMT electronically transmit the ECG to Sky Lakes ED.
4. EMT-I & Paramedic interpret
5. Leave a copy of the ECG with the receiving physician; maintain one copy for your PCR.

NOTES & PRECAUTIONS:

Do not delay treatment of life-threatening conditions to obtain a 12 lead ECG.

Obtain a 12 lead ECG before administering nitroglycerin.

KEY CONSIDERATIONS:

Consider obtaining a 12 lead ECG when the transport vehicle is not moving.

CARDIAC – AUTOMATIC EXTERNAL DEFIBRILLATOR (AED)

EMR EMT/AEMT PARAMEDIC	• Full performance

INDICATIONS:

Unconscious, unresponsive, pulseless, apneic patients suspected of being in cardiac arrest.

PROCEDURE:

1. Initiate CPR
2. Obtain AED
3. Turn on AED and follow instructions
4. Immediately resume CPR after shock delivered
5. If the patient's pulse returns, go to "Cardiac Arrest – Post Cardiac Arrest Care" orders

NOTES & PRECAUTIONS:

Use appropriately sized defibrillation pads per manufacturer requirements.

KEY CONSIDERATIONS:

Minimize interruptions in CPR for best outcome.

CARDIAC – LEFT VENTRICULAR ASSIST DEVICE (LVAD)

EMR EMT/AEMT EMT-I PARAMEDIC	• Full performance

INDICATIONS:

Assessment & treatment of a patient with an LVAD.

PROCEDURE:

1. Consult the patient's caregiver. They are likely familiar with the equipment & should be transported to the ED with the patient.
2. Contact the patient's LVAD coordinator. The contact information should be on a card with the patient.
3. All ALS & BLS standing orders are valid for an LVAD patient.
4. Use clinical judgment to determine if CPR is required.
   - Peripheral pulses may or may not be present
   - If a radial pulse is present, obtain a BP in the normal manner.
   - Listen over the pump for a mechanical "whirring" sound.
     - ❖ If the sound is present, no need for CPR
     - ❖ Look for another cause of the patient's decompensated state
5. If CPR is initiated, transport the patient to the hospital.
6. CPR is performed in the usual manner.
7. Defibrillation and cardioversion are performed in the usual manner.
8. If the pump is not working (no "whirring" sound):
   - Check the system control panel for alarms
   - Check power supply connection
   - NEVER disconnect both batteries at the same time
9. Always transport patient with travel bag containing extra controller, batteries, and cables to the ED.

NOTES & PRECAUTIONS:

Most LVAD patients are on sildenafil (Viagra, Revatio). Do not administer nitrates.

CARDIAC – LVAD (cont)

KEY CONSIDERATIONS:

The patient's caregiver and LVAD coordinator are the best sources of information. There are currently 2 implanting centers in Oregon:

1. Providence St. Vincent (Portland) 971-678-4042
2. Kaiser (Clackamas) 503-449-4672

There are currently 3 devices on the market: HeartMate 2, HeartMate 3, and Heartware. LVADs are implanted through open heart surgery.

Make sure all components are stable prior to transporting the patient. Do not remove dressings.

CARDIAC – SYNCHRONIZED CARDIOVERSION

EMR- EMT-I	• Assist paramedic with patient management within scope
PARAMEDIC	• Full performance; See procedure below

INDICATIONS:

Patient in narrow or wide complex tachycardia with signs and symptoms of hypoperfusion including (not limited to) altered level of consciousness, hypotension, or respiratory distress.

PROCEDURE:

1. Consider sedation with Midazolam (2.5mg IV/IO) if time permits
2. Perform SYNCHRONIZED cardioversion at 100j, 200j, 300j, 360j or the biphasic equivalent per manufacturer specifications. May perform up to 3 times.
3. If patient does not convert, consider unsynchronized cardioversion.
4. Contact on-line medical control for additional orders.
5. Obtain a post conversion 12 lead ECG.

PEDIATRIC PATIENTS

1. Select energy of 1-2 j/kg. DO NOT exceed adult dose.
2. Midazolam 0.1 mg/kg IV/IO

KEY CONSIDERATIONS:

Efforts should be made to perform cardioversion on sedated patients.
DO NOT delay cardioversion for sedation if the patient is critical.

NOTES & PRECAUTIONS:

Anterior – posterior pad placement is the preferred method.
Anterior – lateral may be used if anterior posterior placement is not a viable option.

CARDIAC – TRANSCUTANEOUS PACING

EMR- EMT-I	• Assist paramedic with patient management within scope
PARAMEDIC	• Full performance; See procedure below

INDICATIONS:

Patient presenting with non-traumatic atropine refractory symptomatic bradycardia.

PROCEDURE:

1. Attach pacing pads in the A-P position; anterior pad just left of the sternum, posterior pad just left of the spinal column. Ensure the monitor displays a rhythm. Limb leads may need to be placed depending on manufacturer's instructions.
2. Initiate pacing. Set rate to 80. Set current to 30 mA and increase current by 10 mA until you observe electrical capture on the monitor. Check for mechanical capture. Continue increasing current by 10 mA until mechanical capture is detected.
3. Confirm mechanical capture by checking pulses and blood pressure.
4. If patient is uncomfortable, administer 2.5 mg Midazolam IV/IO or 5 mg IM. May repeat dose 1 time to max of 5 mg.
5. In the event electrical capture is obtained and no pulses are detected, and the patient is unresponsive, treat as PEA.

PEDIATRIC PATIENTS

Follow above guidelines except:

1. Administer Midazolam 0.1 mg/kg to MAX of 2.5 mg. May repeat 1 time.
2. Use A-P pad placement for all patients less than 1 year of age.
3. Begin pacing at lowest mA output.
4. Increase current by 10 mA. Check for electrical & mechanical capture.
5. Confirm mechanical capture by checking pulses & BP.

NOTES & PRECAUTIONS:

Do not initiate transcutaneous pacing if:

- The patient is in asystole.
- Patient meets death in the field criteria.
- Patient is in traumatic cardiac arrest.

CARDIAC – VAGAL MANEUVERS

EMR- AEMT EMT-I	• Assist paramedic with patient management within scope
PARAMEDIC	• Full performance; See procedure below

INDICATIONS:

STABLE patient presenting with narrow complex tachycardia.

PROCEDURE:

1. Place patient in Trendelenburg position
    - Raise patient's feet 6-18 inches relative to their head
2. Increase intra-abdominal pressure
    - Ask the patient to cough
    - Ask the patient to "bear down"
3. Vagal stimulation
    - Ask the patient to swallow water
    - Ask the patient to splash ice water on their face

NOTES & PRECAUTIONS:

Do not initiate vagal maneuvers if:

- The patient is unstable.
- Altered mental status.
- Patient presents in ANY rhythm except narrow complex tachycardia.

GENERAL – OROGASTRIC & NASOGASTRIC TUBE

EMR- AEMT	• Assist EMT-I & Paramedic with patient management within scope
EMT-I	• Orogastric placement post supraglottic airway placement only
PARAMEDIC	• Full performance

INDICATIONS:

Place orogastric (OG) or nasogastric (NG) tube to alleviate gastric distention, reduce risk of aspiration, and facilitate ventilation in intubated/ supraglottic airway controlled patients.

CONTRAINDICATIONS:

Known alkali or acid ingestion

Known esophageal varices

Esophageal obstruction

Suspected epiglottitis or croup

Nasogastric: obvious skull fracture or severe facial injuries

OG TUBE PLACEMENT PROCEDURE:

1. Prepare equipment
    - Gastric tubes, large syringe, tape
2. Place patient supine with head in neutral, in line position
3. Measure the tube from the patient's mouth to their umbilicus
4. Insert tube into the mouth and advance into the stomach
5. Confirm proper placement by instilling air and listening to the epigastrium
6. Secure the tube with tape
7. Connect tube to suction (80-120 mmHg)
8. Document tube size & depth; document color, consistency, & amount of gastric contents

NG TUBE PLACEMENT PROCEDURE:

1. Prepare equipment
    - Gastric tubes, large syringe, lubricant, tape, Afrin
2. Place patient supine with head in neutral, in line position
3. Measure the tube from the patient's nose, over the top of the ear, and to the mid-umbilicus

GENERAL – OROGASTRIC & NASOGASTRIC TUBE (cont.)

4. Apply lubricant to the tip of the tube
5. Spray the nostril with Afrin
6. Insert tube into the nose posteriorly along the nasopharynx and advance into the stomach
7. Confirm proper placement by instilling air and listening to the epigastrium
8. Secure the tube with tape
9. Connect tube to suction (80-120 mmHg)
10. Document tube size & depth; document color, consistency, & amount of gastric contents

NOTES & PRECAUTIONS:

- Gastric tube placement may cause bradycardia
- DO NOT delay transport for this procedure
- Continuously monitor SpO2 and EtCO2

Gastric Tube Size Chart	
AGE	**SIZE**
Less than 1 year	Refer to pediatric guide/tape
1 year – 16 years	10 – 14 French
Older than 16 years	Up to 18 French

GENERAL – PATIENT RESTRAINT

EMR- EMT-I	• Physical restraint only
PARAMEDIC	• Full performance

INDICATIONS:

Patient restraint (physical and/or chemical) is indicated when a patient is exhibiting combative behavior, is a danger to self, or a danger to others. Patient restraints are only used to transport a patient under the Implied Consent law, under law enforcement arrest or hold, or under a physician hold requiring ambulance transport for medical evaluation.

PROCEDURE:

1. Ensure you have enough personnel to safely restrain the patient. Assess the need for chemical restraint.
2. Paramedic Only: If chemical restraint is necessary, administer ONE of the following:
   - Haloperidol (2.5-5 mg IV/IO/IM; may repeat to MAX dose of 10 mg) & Diphenhydramine (25- 50 mg IV/IO/IM)
   - Midazolam (1-5 mg IV/IM over 2 minutes; may repeat up to MAX dose 5 mg)
   - Ketamine (2 mg/kg IV, 3 mg/kg IM up to MAX dose 300mg IV and MAZ dose 500mg IM)
3. Restrain the patient on the stretcher in a supine or lateral recumbent position. Keep the airway open and accessible. DO NOT restrict respiratory function. Apply spinal precautions if indicated.
4. Ensure all 4 extremities are physically restrained even if a chemical restraint has been administered.
5. Document circulatory status of physically extremities frequently (at least every 5 minutes during transport).
6. Monitor vital signs frequently.

NOTES & PRECAUTIONS:

- DO NOT place a patient in the prone position for restraint purposes or after administering a chemical restraint medication.
- Ensure extremities have proper circulation distal to the restraint device. Restraints that are too tight may cause permanent vascular and/or nerve damage.
- Law enforcement must accompany patients restrained with law enforcement devices. Attempt to change out law enforcement restraint devices with soft restraints.

GENERAL – INTRAOSSEOUS ACCESS

EMR EMT	• Assist advanced provider
AEMT- PARAMEDIC	• Full performance

INDICATIONS:

Intraosseous (IO) access and fluid/medication administration is indicated for patients in cardiac arrest, profound hypovolemia with altered mental status, or when emergent peripheral access is required, and no suitable IV site is immediately available.

PROCEDURE:

1. Use aseptic technique throughout procedure
2. Prepare IO insertion device and needle
3. Locate insertion site
    - Proximal humerus (preferred)
        - CONTRAINDICATED FOR PEDIATRIC PATIENTS
    - Tibial plateau
4. Cleanse insertion site
5. Stabilize the extremity and insert the needle per manufacturer instructions
6. Remove driver from needle set while stabilizing the catheter hub
7. Remove stylette from needle set and place in a sharps container
8. Confirm placement. Attempt to aspirate marrow with a 20-30mL syringe
9. If the patient is conscious & alert: Prime all tubing with lidocaine 2% instead of saline. Push the lidocaine slowly over 30-60 seconds then allow another 30-60 seconds for the lidocaine to affect the visceral nerves. Follow with a 10 mL normal saline push. You may repeat the lidocaine 2% administration if needed.
10. Connect primed IV line
11. Place the infusion on a pressure bag or infusion pump
12. Secure tubing and dress site with commercially available stabilizer
13. Frequently monitor the IO site and patient condition

NOTES & PRECAUTIONS:

- DO NOT attempt IO insertion more than once in an extremity.
- Secure the upper extremity if used for IO insertion.

GENERAL – INTRAVENOUS ACCESS

EMR EMT	• Assist advanced provider
AEMT- PARAMEDIC	• Full performance

INDICATIONS:

Intravenous (IV) access is indicated for patients requiring out of hospital IV medication, rapid fluid replacement, or patients likely to decompensate before arriving at the hospital.

PROCEDURE:

1. Use aseptic technique throughout procedure
2. Select an appropriate peripheral site
   - External jugular vein is permissible
   - Upper extremity sites are preferred to lower extremity sites
3. Perform IV cannulation using aseptic technique and best practice

NOTES & PRECAUTIONS:

- DO NOT delay transport or patient care for IV placement.

GENERAL – TAZER DART REMOVAL

EMR - PARAMEDIC	• Full performance

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.

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 fishhook 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

NOTES & 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.

RESPIRATORY – NEEDLE THORACENTESIS

EMR - EMT-I	• Assist PARAMEDIC
PARAMEDIC	• Full performance

INDICATIONS:

Rapid decompression of tension pneumothorax;

Any patient with unilaterally absent breath sounds, hypotension, progressive respiratory distress, distended neck veins, asymmetrical breathing, hyper-expanded chest, tracheal shift and increased resistance to ventilation;

In trauma cases, a tension pneumothorax may be present without specific signs. Chest decompression may be useful for cardiac arrest or severe respiratory distress.

PROCEDURE:

1. Prepare Equipment
   - Oxygen with appropriate delivery device
   - 14 – 16 ga (5 – 8 cm long) IV catheters or 24ga (max length 2 cm long) or commercial device approved by the medical director
   - 10 ml syringe
   - Disinfectant solution
   - Tape
   - One-way valve (optional)
2. With the patient supine and the chest exposed, clean the insertion site:
   - Primary site: adult: 4th intercostal site in the anterior axillary line
   - Primary site: pediatric (secondary site for adults): second or third intercostal space in the mid clavicular line
   - Insert the catheter over the top of the rib until a “pop” is felt and air is released
   - Advance catheter while holding needle in place, once catheter is advanced, remove needle
   - For prolonged transport attach the one-way valve to the hub of the catheter and secure
3. Auscultate the chest and administer oxygen to maintain SpO2 94-99%.

NOTES & 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.

RESPIRATORY – CPAP

EMR	• Assist EMS provider
EMT - PARAMEDIC	• Full performance

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.

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
- 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 H2O.
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.

NOTES & 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

RESPIRATORY – CAPNOGRAPHY

EMR	• Assist provider
EMT - PARAMEDIC	• Full performance

INDICATIONS:

Any patient receiving ventilation through an endotracheal tube or supraglottic airway device;
Any patient with respiratory distress or respiratory failure

PROCEDURE:

1. Attach the capnography device in the respiratory circuit per manufacturer directions
   - Endotracheal tube/ supraglottic airway circuit
   - Nasal cannula if equipped with EtCO2 device
2. Attach the sampling tube to the capnography device per manufacturer directions
3. Clinically correlate the capnography reading and waveform (if equipped) with the patient's respiratory drive or with artificial ventilation
4. Adjust ventilatory rate to achieve and maintain a reading of 35-45 cm Hg

NOTES & PRECAUTIONS:

- Colormetric devices are no longer permitted in place of capnography. An electronic/ mechanical mainstream or side stream device capable of measuring expelled carbon dioxide and providing a constant numeric value is required. A device capable of providing a constant numeric value and CO2 waveform/ capnogram is highly recommended.
- Use a pediatric detector on patients per manufacturer guidelines.
- CO2 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.

RESPIRATORY – NEBULIZER SETUP

EMR	• Assist provider
EMT - PARAMEDIC	• Full performance

INDICATIONS:

Bronchospasm due to COPD exacerbation, asthma or anaphylaxis

PROCEDURE:

1. Prepare equipment.
   - Oxygen source.
   - Nebulizer system.
   - 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.

NOTES & PRECAUTIONS:

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

TRAUMA – PELVIC SLING

EMR - PARAMEDIC	• Full performance

INDICATIONS:

Stabilization of suspected unstable pelvis fractures.

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:
   - Bed sheet
   - Commercial devices, such as the SAM Sling®

NOTES & PRECAUTIONS:

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

TRAUMA – SPINAL MOTION RESTRICTION

EMR - PARAMEDIC	• Full performance

INDICATIONS:

Spinal immobilization is indicated for patients suffering blunt force trauma if evidence of spinal injury is present.

PROCEDURE:

1. Spinal motion restriction using a cervical collar only should be provided for trauma patients meeting any of the following:
   - Presence of midline bony tenderness of cervical spine or with movement
   - Focal neurologic deficit noted or reported
   - Age <8 or >65 years
   - Intoxication
   - Distracting injury present
   - High risk injury/ mechanism of injury
   - Provider discretion
2. Spinal motion restriction using a cervical collar and long spine board should be provided for trauma patients meeting any of the following:
   - Unconscious or altered mental status
   - Neurologic deficit noted or reported
   - Midline spinal tenderness or spinal deformity
   - New numbness or weakness
   - New spine deformity
   - Distracting circumstances or injury that impairs the patient from participating in a reliable exam
   - Provider discretion

KEY CONSIDERATIONS:

Penetrating trauma patients DO NOT require full spinal immobilization for transport.

If a long spine board is used for extrication purposes and the patient does not meet spinal immobilization criteria, the patient DOES NOT need full spinal immobilization for transport.

TRAUMA – TOURNIQUET

EMR - PARAMEDIC	• Full performance

INDICATIONS:

Life threatening bleeding from an extremity wound that is not controllable by direct pressure

Life threatening bleeding from a complete or nearly complete amputation proximal to the hand or foot.

CONTRAINDICATIONS:

- Non-extremity bleeding site
- Proximal long bone fracture
- Placement distal to the elbow or knee

PROCEDURE:

1. Remove patient's clothing to expose the extremity and bleeding site
2. Place tourniquet on a long bone site two inches proximal to the injury (or two inches proximal to elbow or knee if injury is distal to the joint). Do not cover the tourniquet with patient's clothing.
3. Apply the tourniquet tight enough to occlude arterial blood flow. If bleeding cannot be controlled apply a second tourniquet proximal to the first.
4. Pain management is required. Paramedics consider ketamine for hypotensive patients.
5. Record time of tourniquet placement by writing the time on the tourniquet.
6. Monitor for continued hemostasis or the return of significant bleeding.

KEY CONSIDERATIONS:

- Only firm, wide band commercial tourniquets will be used
- Document the time of tourniquet application and the application site
- Patient with tourniquet is Trauma System Entry

PRE-HOSPITAL MEDICATIONS

SECTION E

ACETAMINOPHEN (APAP)

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.

Route & Dosage

Paramedic	PEDIATRIC: 15 mg/kg oral if conscious Rectal suppository if patient is unconscious or airway is compromised

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.

Route & Dosage

EMR – Paramedic	4 x 81mg tablets oral

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 2nd or 3rd degree heart block without functioning pacemaker

Side Effects & Precautions

Transient asystole may occur.

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.

Route & Dosage

	ADULT	PEDIATRIC
Paramedic	6mg rapid IV/IO push followed by 10mL saline. Use proximal site. If no conversion: 12mg IV/IO push followed by 10mL saline. May repeat once.	0.1 mg/kg IV/IO push followed by 10mL saline. Use proximal site. If no conversion: 0.2 mg/kg IV/ IO followed by 10mL saline. May repeat once.

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, 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.

Route & Dosage

	ADULT	PEDIATRIC
EMT (Asthma & COPD only)	2.5 mg in 3mL solution via nebulizer with oxygen set at 6-10 L/minute. May repeat twice.	2.5 mg in 3mL solution via nebulizer with oxygen set at 6-10 L/minute. May repeat twice.
AEMT – Paramedic	2.5 mg in 3mL solution via nebulizer with oxygen set at 6-10 L/minute. May repeat twice.	2.5 mg in 3mL solution via nebulizer with oxygen set at 6-10 L/minute. 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.

Route & Dosage

	Ventricular Fibrillation Pulseless Ventricular Tachycardia	Ventricular Tachycardia with pulse	Post conversion from VF or VT to perfusing rhythm	Pediatric Dosage
EMT-I Paramedic	300 mg IV/ IO If no pulse, 150 mg IV/ IO over 3-5 mins	150 mg IV/ IO in 10-100 mL over 10 minutes May repeat once	150 mg IV/ IO in 10-100 mL over 10 minutes	5 mg/kg bolus for V-Fib & Pulseless V-Tach. May repeat twice. Max dose 300 mg

ATROPINE

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.

Treatment 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 3rd 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 & Dosage

	Symptomatic Bradycardia	PEDIATRIC Symptomatic Bradycardia	Organophosphate Poisoning
EMT-I	1 mg IV or IO push, repeat every 3-5 minutes to max of 3mg total		
Paramedic	1 mg IV or IO push, repeat every 3-5 minutes to max of 3mg total	0.02 mg/kg IV or IO • Minimum single dose 0.1 mg • Max dose 0.5mg in child 1.0 mg in adolescent	1 mg IV/ IO double dose every 5 minutes until symptoms are 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

Route & Dosage

	Calcium Channel Blocker OD or Magnesium Sulfate OD	PEDIATRIC Calcium Channel Blocker OD or Magnesium Sulfate OD	Hydrogen fluoride or hydrofluoric acid exposure
Paramedic	1 gram IV/ IO (slow, not to exceed 1 mL/ min) Repeat every 10 minutes as needed	20 mg/kg slow IV Repeat every 10 minutes as needed	Apply topically Mix 1 ampule in 30cc KY jelly

CRYSTALLOID

Trade Name
Normal saline, 0.9% saline

Action
Sterile isotonic fluid for intravenous use.

Indications
Intravascular volume expansion, medication administration, IV/IO catheter flush.

Contraindications
None.

Side Effects & Precautions
Administer with caution to patients with fluid overload.

For pediatric patients, use a pump, burette, or syringe to avoid excessive administration.

Route & Dosage

	ADULT Volume Expansion	PEDIATRIC Volume Expansion	Medication Administration	Catheter Flush
AEMT EMT-I Paramedic	200-1000 ml IV or IO, repeat as necessary	10-20 ml/kg IV or IO, repeat as necessary	10-200 ml IV or IO based on medication	2-5 ml

DIAZEPAM (OPTIONAL)

Trade Name
Valium

Action
Benzodiazepine. Anticonvulsant, skeletal muscle relaxant, anxiolytic, amnesic and sedative effects.

Indications
Sedation or painful procedures, amputations.
Combative patients.
Muscle relaxant for dislocations or significant fractures.
Seizures.

Contraindications
Known sensitivity to Diazepam.

Side Effects & Precautions
Respiratory depression, hypotension, sedation (particularly in elderly).

May cause paradoxical excitement in the presence of alcohol, barbiturates, other benzodiazepines, or opiates.

Route & Dosage

	ADULT	PEDIATRIC
EMT - I	2-10 mg IV, IO, IM every 3-5 minutes Max of 10 mg for agitation Max of 20 mg for seizure May be given rectally for seizures	0.1-0.3 mg/kg IV, IO, IM (max dose 5mg) for seizure 0.5mg/kg rectal (max dose 5mg) May repeat ONCE for continued seizures
Paramedic	2-10 mg IV, IO, IM every 3-5 minutes Max of 10 mg for sedation Max of 10 mg for agitation Max of 20 mg for seizure	0.1-0.3 mg/kg IV, IO, IM (max dose 5mg) 0.5mg/kg rectal (max dose 5mg) May repeat ONCE for continued seizures

DIPHENHYDRAMINE

Trade Name
Benadryl

Action
Anticholinergic agent. Blocks histamine receptors.

Indications
Allergic reactions.
Mild to moderate anaphylaxis.
Dystonic reactions (Paramedic only).

Contraindications
Known sensitivity to diphenhydramine.

Side Effects & Precautions
Sedating; may cause hyper-excitability (rare), most often in children. Anticholinergic & anti-parkinsonian effect.

Route & Dosage

	ADULT	PEDIATRIC
EMT-I Paramedic	25-50 mg IV, IO, IM, Oral	1-2 mg/kg IV, IO, IM, Oral

EPINEPHRINE

Trade Name
Adrenaline

Action
Catecholamine with α and β effects. Increases heart rate, myocardial contractility and oxygen consumption.

Causes systemic vascular restriction and bronchodilation.

Indications
Anaphylaxis.

Cardiac arrest (Pulseless VT, VF, PEA, asystole).

Symptomatic bradycardia.

Asthma.

Contraindications
Known sensitivity to epinephrine. Cardiac chest pain.

Side Effects & Precautions
Use with caution in patients over age 50 or with a history of coronary artery disease.
Anxiety, tremors, palpitations; may cause angina or myocardial infarction.

May be inactivated if mixed with alkaline solution (example: sodium bicarbonate)

Route & Dosage

Anaphylaxis

	ADULT	PEDIATRIC
EMR	Epi Pen after completing required additional training	
EMT	0.3 mg (1:1,000) IM May repeat every 3-5 minutes	0.01 mg/kg (1:1,000) IM Max single dose 0.5 mg
AEMT	0.3 mg (1:1,000) IM May repeat every 3-5 minutes	0.01 mg/kg (1:1,000) IM Max single dose 0.5 mg
EMT-I	0.3 mg (1:1,000) IM May repeat every 3-5 minutes	0.01 mg/kg (1:1,000) IM Max single dose 0.5 mg
PARAMEDIC	0.3 mg (1:1,000) IM For persistent symptoms, administer 0.3 mg (1:10,000) IV/IO over 60-120 seconds	0.01 mg/kg (1:1,000) IM For persistent symptoms, administer 0.01 mg/kg (1:10,000) IV/IO over 60-120 seconds

Route & Dosage

Cardiac Arrest (Pulseless VT, VF, PEA, asystole)

	ADULT	PEDIATRIC	NEONATE
EMT-I	1 mg (1:10,000) IV/IO Repeat every 3-5 mins	0.01 mg/kg (1:10,000) IV/IO Repeat every 3-5 mins	0.01 mg/kg (1:10,000) IV/IO Repeat every 3-5 mins
PARAMEDIC	1 mg (1:10,000) IV/IO Repeat every 3-5 mins	0.01 mg/kg (1:10,000) IV/IO Repeat every 3-5 mins	0.01 mg/kg (1:10,000) IV/IO/ETT/UV Repeat every 3-5 mins

Route & Dosage

Severe Bradycardia & Anaphylactic Shock

	ADULT	PEDIATRIC
EMT-I PARAMEDIC	0.3 mg (1:1,000) IM For persistent symptoms, administer 2-10 mcg per minute infusion. Titrate to patient response.	0.01 mg/kg (1:1,000) IM For persistent symptoms, administer 0.01 mg/kg (1:10,000) IV/IO over 60-120 seconds

Route & Dosage

Severe Asthma Croup/Epiglottitis (up to age 6)

	ADULT	PEDIATRIC
EMT-I PARAMEDIC	0.3 mg (1:1,000) IM For persistent symptoms, administer 0.5 mg (1:10,000) IV/IO over 60-120 seconds	0.01 mg/kg (1:1,000) IM For persistent symptoms, administer 0.01 mg/kg (1:10,000) IV/IO over 60-120 seconds **CROUP/EPIGLOTTITIS:** 1 mg/ml (1:1,000) in 2 ml saline May repeat every 5 minutes up to three doses

Route and Dosage:

Push-Dose Epinephrine:
Anaphylaxis, Asthma, Bradycardia and Shock (Non-Traumatic)

	ADULT	PEDIATRIC
PARAMEDIC	10 mcg (1 mL) IV/IO Repeat up to every minute as needed • Mix .1mg (100 mcg) epinephrine (1 mL 1:10,000) with 9 mL normal saline and shake well **OR** • Mix 1 mg (1,000 mcg) epinephrine (1 mL 1:1,000 or 10 mL 1:10,000) in 100 mL normal saline bag, shake well, and draw up to 10 mL	Under 1 year: 5 mcg (.5mL) repeat as needed Over 1 year: 10 mcg (1 mL)

Notes:

Make 1:10,000 by diluting 1 mg (1:1,000) in 100cc bag of normal saline or lactated ringers.

ETOMIDATE

Trade Name
Amidate

Action
Short acting sedative hypnotic.

Indications
Sedation for rapid sequence intubation.

Second line medication (Versed preferred) for continued sedation.

Contraindications
Known sensitivity to Etomidate.

Side Effects & Precautions
Respiratory depression, hypotension & cardiac arrest is more likely in the elderly, those with COPD, and those with renal, liver, or heart disease.
Administer in a large bore IV or IO.

Route & Dosage

	ADULT	PEDIATRIC
Paramedic	0.3 mg/kg IV/IO over 30-60 seconds 0.15 – 0.2 mg/kg IV/IO in elderly, debilitated or hypotensive pts.	0.3 mg/kg IV/IO over 30-60 seconds

FENTANYL

Trade Name
Sublimaze

Action
Potent narcotic analgesic.

Indications
Musculoskeletal pain in the absence of head, chest, or abdominal abnormalities. Extremity fractures, crush injuries, amputation injuries.

Severe burns without airway compromise. Cardiac chest pain.
Abdominal pain.

Contraindications
Known sensitivity to Fentanyl. Systolic BP < 90mmHg.

SpO2 < 90%.

Side Effects & Precautions
Rapid injection can cause respiratory arrest and/or chest wall rigidity.
CNS depressant, may lead to respiratory depression, peripheral vasodilation, decreased cardiac output, pupillary constriction.

Use with caution in elderly patients.
Naloxone will reverse respiratory effects of Fentanyl.

If morphine is used, wait at least 5 minutes prior to administering Fentanyl.

Route & Dosage

	ADULT	PEDIATRIC
EMT-I Paramedic	25-100 mcg IV, IO, IN, IM over 30-60 seconds Repeat every 3-5 minutes as needed in 25-50 mcg doses Max total dose 200 mcg	1mcg/kg IV, IM, IN, IO over 30-60 seconds Repeat every 3-5 minutes as needed in 0.5-1 mcg/kg Max total dose 4mcg/kg

GLUCAGON HYDROCHLORIDE

Trade Name
Glucagon

Action
Pancreatic hormone used to increase blood glucose by converting glycogen to glucose in the liver.

Indications
Hypoglycemia in an unconscious or semi-conscious patient when an IV or IO cannot be established. Significant beta blocker poisoning.

Contraindications
Known sensitivity to Glucagon.

Side Effects & Precautions
Nausea & vomiting.
Use only the diluent supplied by the manufacturer.
The patient may require 15 minutes (estimated) to awaken. Give supplemental carbohydrates as soon as possible.

Route & Dosage
Hypoglycemia

	ADULT	PEDIATRIC
AEMT EMT-I Paramedic	1 mg IM Repeat twice if needed.	<20 kg: 0.5 mg IM >20 kg: 1 mg IM

Route & Dosage
Beta blocker OD

	ADULT	PEDIATRIC
Paramedic	3-5 mg IV or IO every 3-5 minutes Max total dose 15 mg	50-150 mcg/kg IV or IO

GLUCOSE - DEXTROSE

Trade Name
D50, D10, Glutose

Action
Dextrose is a d-glucose, a six carbon sugar. Glucose is broken down into pyruvate during glycolysis resulting in the formation of ATP & NADH. ATP = intracellular energy.

Indications
Symptomatic hypoglycemia:
80 mg/dL in adult & children

60 mg/dL in an infant (8 weeks – 1 year) 40 mg/dL in a newborn (birth – 8 weeks)

Contraindications
None.

Side Effects & Precautions
Patient with acute CVA.

Ensure IV/IO is patent and free flowing prior to administering dextrose. Infiltration causes tissue necrosis.

Route & Dosage

	ADULT ORAL	PEDIATRIC ORAL
EMR EMT AEMT EMT-I Paramedic	12-48 g Glutose D-50 oral Pt must be able to protect own airway	0.5 mg/kg Pt must be able to protect own airway

	ADULT IV/IO	PEDIATRIC IV/IO
AEMT EMT-I Paramedic	D-10 titrate to consciousness D50 per hypoglycemia table (See hypoglycemia order)	D-10 titrate to consciousness

HALOPERIDOL

Trade Name
Haldol

Action
Potent neuroleptic and anti-psychotic agent.

Indications
Sedation and restraint of combative patients.

Contraindications
Known sensitivity to haloperidol. Prolonged QT syndrome.

Pregnancy.

Side Effects & Precautions
Hypotension.

Acute dystonic reactions.

Consider administering 25-50 mg diphenhydramine after haloperidol to prevent dystonic reaction.

Route & Dosage

	ADULT	PEDIATRIC
Paramedic	2.5-5 mg IV/IO/IM May repeat Max total dose of 10 mg	0.03-0.07 mg/kg IV or IO. Max dose 2.5 mg

INFLUENZA VACCINE – INJECTION

Trade Name
Fluzone, Flulaval, Argriflu, Fluarix

Action
Prevention of seasonal or pandemic Influenza A & B infections.

Indications
Recommendation from physician.

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.

Route & Dosage

	ADULT	PEDIATRIC
EMT-I Paramedic	Per vaccine manufacturer dosing regimen	Per vaccine manufacturer dosing regimen

INFLUENZA VACCINE – NASAL MIST

Trade Name
Flumist

Action
Prevention of seasonal or pandemic Influenza A & B infections.

Indications
Recommendation from physician.

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 area.

Contraindications
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 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.

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.

Route & Dosage

	ADULT	PEDIATRIC
EMT-I Paramedic	Per vaccine manufacturer dosing regimen	Per vaccine manufacturer dosing regimen

IPRATROPIUM BROMIDE

Trade Name
Atrovent

Action
Anticholinergic bronchodilator.

Indications
COPD, bronchospasm, asthma.

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

Contraindications
Known sensitivity to ipratropium bromide.

Route & Dosage

	ADULT	PEDIATRIC
EMT AEMT EMT-I Paramedic	1 unit dose via nebulizer May be mixed with albuterol Repeat as needed twice in 10-15 minutes Max total dose 3 units	Same as adult dosing

KETAMINE

Trade Name
Ketalar

Action
Acts on cortex and limbic receptors, exact mechanism is unknown. Produces dissociate anesthesia, analgesia, and CNS depression.

Indications
RSI induction agent.

Sedation for painful procedures.

Chemical sedation for excited delirium patients. Acute pain management.

PEDIATRIC: RSI Induction ONLY.

Precautions
Monitor closely for laryngospasm.

Contraindications
Pregnancy

Infants under 3 months of age Acute ocular injury

Route & Dosage

	Sedation	RSI Induction	Pain Management
Paramedic	2 mg/kg IV/IO (max 300 mg) 3 mg/kg IM (max 500 mg)	2 mg/kg Max total dose 200 mg	15 mg IV/IO

LIDOCAINE

Trade Name

Xylocaine

Action

Antiarrhythmic agent & local anesthetic

Indications

Cardiac arrest – ventricular fibrillation or ventricular tachycardia

Post ROSC prophylactic infusion

Ventricular tachycardia with a pulse

Local anesthetic for IO placement

Contraindications

Known sensitivity to Lidocaine.

Side Effects & Precautions

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

Route & Dosage

ADULT CARDIAC

	VT/VF Arrest	VT with pulse	Post-ROSC
EMT-I Paramedic	1.5 mg/kg IV/IO push Repeat 0.75 mg/kg every 5-10 minutes up to 3 mg/kg max total	1 mg/kg IV/IO push Repeat 0.5 mg/kg every 5-10 minutes up to 3 mg/kg max total	Infuse 1-4 mg/min within first hour during EMS transport

Route & Dosage

PEDS CARDIAC

	VT/VF Arrest	VT with pulse	Post-ROSC
EMT-I Paramedic	1 mg/kg IV/IO push Repeat every 10 minutes up to 3 mg/kg max total	Call on-line medical control	Infuse 25-50 mcg/kg/min within first hour during EMS transport

Route & Dosage

IO INSERTION

	ADULT	PEDIATRIC
AEMT EMT-I Paramedic	For conscious patients, 0.5 mg/kg through IO prior to flush	Same as adult

MAGNESIUM SULFATE

Trade Name

Magnesium Sulfate

Action

CNS depressant used as an antiarrhythmic, anticonvulsant, and bronchial smooth muscle relaxant.

Indications

Torsades de Pointes, refractory pulseless ventricular tachycardia & ventricular fibrillation

Eclampsia

Asthma

New onset Atrial Fibrillation / Atrial Flutter

Contraindications

Hypotension

Side Effects & Precautions

Toxicity can produce decreased level of consciousness, decreased reflexes, hypotension, and respiratory depression.

Rapid administration may cause flushing, sweating, mild bradycardia, or hypotension.

Route & Dosage

	Torsades, VT/VF Arrest	Eclampsia	A-Fib/Flutter with RVR or new onset A-Fib	Asthma
Paramedic	1-2 grams in 10ml saline IV/IO push	4-6 grams in 10ml saline IV/IO over 15 minutes	2 grams in 10 ml saline IV/IO over 1-3 minutes	1-2 grams in 10 ml saline IV/IO over 1-3 minutes

MARK 1 AUTO INJECTOR (Atropine & Pralidoxime Chloride)

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.

Notes

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

Route & 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
Seizures.
Sedation for transcutaneous pacing or other painful procedures.
Sedation & muscle relaxation for patients with amputations, painful dislocations and mid-shaft long bone fractures.
Sedation and restraint of patients who have a head injury and are combative. RSI induction and post-RSI sedation.

Contraindications
Known sensitivity to Midazolam.
Shock/ systolic blood pressure less than 100 mmHg. Pregnancy or lactation.
Acute narrow angle glaucoma.

Side Effects & Precautions
Use with extreme caution in combination with opioids due to synergistic effect leading to respiratory arrest. Use with caution in the presence of alcohol, barbiturates, or other benzodiazepines.
May cause respiratory depression, hypotension and cardiopulmonary arrest are more likely in the elderly, those with COPD, renal, heart or liver disease.

MIDAZOLAM (cont.)

Route & Dosage

ADULT	SEDATION	SEIZURE	RSI INDUCTION	POST RSI SEDATION	Agitation
EMT – I		2.5 mg IV/IO OR 5 mg IM/IN May repeat Max total 5 mg			2.5 mg IV/IO 5 mg IM/IN May repeat Max total 5 mg
Paramedic	2.5 mg IV/IO 5 mg IM/IN May repeat Max total 5 mg	2.5 mg IV/IO 5 mg IM/IN May repeat Max total 5 mg	0.1 mg/kg IV/IO push Max single dose 10 mg	0.05 – 0.1 mg/kg IV/IO. Max single dose 5 mg.	2.5 mg IV/IO 5 mg IM/IN May repeat Max total 5 mg
PEDIATRIC	**SEDATION**	**SEIZURE**	**RSI INDUCTION**	**POST RSI SEDATION**	**Agitation**
EMT- I		0.1mg/kg IV/IO 0.2mg/kg IM/IN to max single dose 2mg Max total 5mg			
Paramedic	.1 mg/kg IV/IO/IN .2 mg/kg IM to max single dose 2.5 mg Max total 5 mg	0.1mg/kg IV/IO 0.2mg/kg IM/IN to max single dose 2mg Max total 5mg	0.1mg/kg IV/IO to max single dose 2mg	0.1mg/kg IV/IO to max single dose 2mg	

MORPHINE

Trade Name
Morphine Sulfate

Action
Narcotic analgesic & vasodilator.

Indications
Cardiac chest pain.

Isolated extremity fractures.
Crush & amputation injuries in the absence of head, chest, and abdominal injuries. Abdominal pain.

Severe burns.

Contraindications
Known sensitivity to morphine.

Side Effects & Precautions
CNS depressant (respiratory depression, peripheral vasodilation, decreased cardiac output, pupillary constriction).
Use with caution if patient is hypotensive.

Route & Dosage

	ADULT	PEDIATRIC
EMT-I Paramedic	2-5 mg IV/IO every 5 minutes as needed 10 mg IM if IV unavailable Max total 20 mg	0.05 – 0.2 mg/kg IV or IO every 5 minutes as needed 0.1 – 0.2 mg/kg IM if IV unavailable Max total 10 mg

NALOXONE

Trade Name
Narcan

Action
Narcotic agonist.

Indications
Reverse suspected or known narcotic induced respiratory depression or respiratory arrest.

Contraindications
Known sensitivity to naloxone.

Side Effects & Precautions
Narcotic dependent patients may experience acute withdrawal symptoms. Be prepared to restrain these patients.
Goal of naloxone administration is to reverse respiratory depression or respiratory arrest; not to fully restore consciousness.

Rapid administration may cause nausea & vomiting. Repeated and large doses may be necessary.

Route & Dosage

	ADULT	PEDIATRIC
EMR EMT	2- 4 mg IN titrated to restore respiratory function. Max total 10 mg	
AEMT EMT-I Paramedic	0.4-2mg IV, IO, IM, Or 2-4 mg IN titrated to restore respiratory function Repeat as needed every 1-3 min Max total 10 mg	0.1 mg/kg (max single dose 0.4mg) IV, IO, IM, IN titrated to restore respiratory function Repeat as needed every 1-3 min Max total 10 mg

NITROGLYCERIN (NTG)

Trade Name
Nitrostat, Nitrolingual spray, Tridil, NITRO-BID

Action
Vasodilator causing arterial and venous relaxation.

Indications
Cardiac chest pain.
Hypertensive emergency.
Pulmonary edema.
CHF
Unstable angina (inter-facility transport only)

Contraindications
Known sensitivity to nitroglycerin.
Sildenafil citrate (Viagra) use within preceding 24 hours. Tadalafil (Cialis) use within preceding 48 hours.

Side Effects & Precautions
May cause hypotension or reflex tachycardia.

Use with caution in patients with SBP <100 mmHg.
May cause throbbing headache, flushing, dizziness, or burning sensation under the tongue.

DO NOT shake NTG prior to administration.

Route & Dosage

<table>
<tr><th></th><th>Cardiac Chest Pain</th><th>Pulmonary Edema</th><th>Hypertensive Emergency</th><th>Unstable Angina (IFT)</th></tr>
<tr><td>EMT</td><td>Assist patient with patient's own NTG</td><td></td><td></td><td></td></tr>
<tr><td>AEMT</td><td rowspan="3">0.4 mg SL if SBP >100
May repeat twice as needed every 3-5 minutes</td><td></td><td></td><td></td></tr>
<tr><td>EMT-I</td><td rowspan="2">0.4-SL
May repeat x2 at 3-5 min intervals</td><td></td><td></td></tr>
<tr><td>Paramedic</td><td>0.4mg SL
May repeat x2 at 3-5 min intervals
Dose may be doubled if pt uses NTG regularly</td><td>Titrate (+ or -) IV infusion 5-10 mcg/min until desired effect</td></tr>
</table>

NOREPINEPHRINE

Trade Name
Levophed

Action
Primary alpha adrenergic vasoconstrictor.

Indications
Primary treatment of septic, cardiogenic, neurogenic, and obstructive shock.

Side Effects & Precautions
May induce tachyarrhythmia. Reduce or stop dose if arrhythmia occurs. Causes tissue necrosis in extravascular space.

Peripheral vasoconstriction. Ectopic beats, nausea & vomiting. Does not treat bradycardia.

Contraindications
Hypovolemic shock.
Known sensitivity to norepinephrine.
MAO inhibitor use (antidepressants; Parnate, Nardil, Marplan).
DO NOT administer in conjunction with sodium bicarbonate.

Route & Dosage

	ADULT	PEDIATRIC
Paramedic	Initial dose 4 mcg/min. If no response, increase by 4 mcg/min every 5 min. MAX total dose 12 mcg/min	Initial dose 0.1 mcg/kg/min. If no response, increase to 0.2 mcg/kg/min. Increase dose by 0.2 mcg/kg/min every 5 min to reach age appropriate SBP. MAX total dose 2 mcg/kg/min

ONDANSETRON

Trade Name
Zofran

Action
Selective 5-HT3 receptor agonist; potent anti-emetic agent.

Indications
Nausea.
Vomiting.

Prophylactic prevention of nausea & vomiting.

Contraindications
Known sensitivity to ondansetron.
Recent administration of Apomorphine. (Used for Parkinson's Disease)
Prolonged QT.

Side Effects & Precautions
May cause minor headache, constipation, or diarrhea.

Route & Dosage

	ADULT	PEDIATRIC
EMT-I Paramedic	0.1 mg/kg slow IV, IO, IM (usual adult dose = 4mg) MAX total IV dose 8 mg 4mg PO/ODT Must have patent airway and ability to swallow May repeat x 1 after 15 minutes	Use in patients under 2 years of age requires on-line medical control order. Children <40 kg: 0.1 mg/kg IV, IO slow push over 2 minutes MAX total dose 4 mg

OXYGEN

Trade Name
Oxygen

Action
Essential for aerobic cellular metabolism.
Indications Suspected hypoxemia. Respiratory distress.
Acute chest pain.
Trauma.
Cardiopulmonary arrest. Inhalation injury.
Altered level of consciousness.

Contraindications
Acute paraquat poisoning.

Side Effects & Precautions
Supports combustion.

May cause respiratory depression in patients with hypoxic respiratory drive.

Route & Dosage

	ADULT	PEDIATRIC
EMR EMT AEMT EMT-I Paramedic	1 – 25 liters/minute Titrate dose to SpO2 of 94-99%	Same as adult.

OXYMETAZOLINE

Trade Name
Afrin

Action
Sympathomimetic; arterial constrictor.

Indications
Epistaxis.

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

Side Effects & Precautions
Tachycardia.
Myocardial ischemia.
Cardiac arrhythmia.

Route & Dosage

	ADULT	PEDIATRIC
Paramedic	2 sprays into affected nostril(s). Repeat as needed.	Contact on-line medical control.

OXYTOCIN

Trade Name
Pitocin

Action
Polypeptide hormone; stimulates uterine contraction.

Indications
Control of post-partum hemorrhage after delivery of placenta.

Contraindications
Known
sensitivity to
oxytocin.
Pregnancy.

Side Effects & Precautions
Nausea & vomiting. Severe uterine cramping.
Cardiac arrhythmias may be precipitated or aggravated by Oxytocin.

Route & Dosage

	ADULT
Paramedic	10u in 500mL normal saline IV, IO. Run at wide open until bleeding is controlled. If no IV/IO, administer 10u IM push into thigh.

RINGER'S LACTATE SOLUTION

Trade Name
Ringer's, RL

Action
Sterile, non-pyrogenic solution for fluid and electrolyte replenishment for intravenous administration.

Indications
First line for TRAUMA patients.
Intravascular volume expansion, medication administration, IV/IO catheter flush.

Contraindications
None.

Side Effects & Precautions
Administer with caution to patients with fluid overload.

For pediatric patients, use a pump, burette, or syringe to avoid excessive administration.

Route & Dosage

	ADULT Volume Expansion	PEDIATRIC Volume Expansion	Medication Administration	Catheter Flush
AEMT EMT-I Paramedic	500-1000 ml IV or IO, repeat as necessary	10-20 ml/kg IV or IO, repeat as necessary	10-200 ml IV or IO based on medication	2-5 ml

ROCURONIUM

Trade Name
Zemuron

Action
Non-depolarizing neuromuscular blocking agent that binds competitively to cholinergic receptors on motor end- plate to antagonize action of acetylcholine blocking neuromuscular transmission.

Indications
Paralysis for rapid sequence intubation.

2nd line medication for use when Succinylcholine is not available. This is an optional medication.

Contraindications
Known sensitivity to Rocuronium.

Side Effects & Precautions
Paralytic. Conscious patients must receive sedation prior to receiving Rocuronium. Patient will require airway management & ventilation.

DO NOT mix Rocuronium with alkaline solutions (sodium bicarbonate) in the same IV/IO line.

Use caution in patients with impaired hepatic or respiratory function or severe obesity. Arrhythmia, tachycardia, N/V, bronchospasm, hypotension, HTN, rash or edema.

Pregnancy Category B; only use if potential benefits justify the potential risk to the fetus.

Notes
Onset of action is 45 seconds – 2 minutes.
Duration of action is 30 – 90 minutes.
Must be refrigerated or used within 60 days of reaching room temperature.

Route & Dosage

	ADULT	PEDIATRIC
Paramedic	1.5 mg/kg IV, IO Maintenance dose: .1-.2 mg/kg IV/IO	0.6 – 1.0 mg/kg IV, IO

SODIUM BICARBONATE

Trade Name
Sodium Bicarbonate

Action
Alkalinizing agent.

Indications
Tricyclic antidepressant overdose with hypotension, arrhythmia, seizure, or wide QRS. Hyperkalemia.
Severe acidosis.

Contraindications
Serum alkalosis.

Side Effects & Precautions
May deactivate catecholamines.
Precipitates with calcium in IV/IO tubing.

Route & Dosage

	ADULT	PEDIATRIC
Paramedic	1 mEq/kg IV, IO of 8.4% Repeat 0.5 mEq/kg every 10 min	1 mEq/kg IV, IO of 4.2% Repeat 0.5 mEq every 10 min

SUCCINYLCHOLINE

Trade Name
Anectine

Action
Short-acting depolarizing neuromuscular blockade causing paralysis by disrupting all cholinergic receptors of the parasympathetic and sympathetic nervous systems.

Indications
Paralysis for rapid sequence intubation. 1st line medication.

Contraindications
Known sensitivity to succinylcholine chloride.

Known severe hyperkalemia.

History of malignant hyperthermia.

History of stroke, burns, crush injury, > 4 days and < 6 months.

Quadriplegia, paraplegia, muscular dystrophy, multiple sclerosis, amyotrophic lateral sclerosis (ALS), other neuromuscular disorders greater than 4 days' duration.

Acute narrow angle glaucoma and penetrating eye injuries.

Side Effects & Precautions
Paralytic. Conscious patients must receive sedation prior to receiving Succinylcholine. Patient will require airway management & ventilation.

Use caution in patients with renal failure on dialysis with severe hyperkalemia.

Bradycardia may occur in patients under 5 years old and will generally respond to oxygenation and atropine. Ventricular arrhythmias may be treated with oxygenation.

Notes
Onset of action is within 60 seconds. Duration of action is 6 – 8 minutes.

Must be refrigerated or used within 30 days of reaching room temperature.

Route & Dosage

	ADULT	PEDIATRIC
Paramedic	2 mg/kg IV, IO Repeat dose if paralysis is not achieved within 2 minutes.	Same as adult

TRANEXAMIC ACID

Trade Name
TXA

Action
An antifibriolytic drug which promotes hemostasis and reduces blood loss

Indications
Adult patients with injury consistent with ongoing non-compressible hemorrhage (such as penetrating thoracoabdominal trauma, unstable pelvic fracture or severe blunt abdominal trauma) with shock (pulse > 120/minute and systolic BP < 90 mmHg).

Active hemorrhage not amenable or responsive to compression and tourniquet Postpartum hemorrhage

Contraindications
Known sensitivity to Tranexamic Acid (TXA)

Side Effects & Precautions
Control any external bleeding first

Do not delay transport to administer TXA

TXA must be administered within 3 hours of the traumatic event or bleeding onset, ideally with one hour All patients receiving TXA in the field for trauma indications will be a trauma system entry

TXA must be administered in NS without any other medication co-administered in the same IV/IO until infusion is complete

Route & Dosage

	ADULT	PEDIATRIC
Paramedic	1g IV, IO over 10 minutes premixed packaging	15 mg/kg Administer in 100 mL normal saline over 10 minutes

MASS CASUALTY INCIDENT (MCI) PROTOCOLS

Section F

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. "3113 is on scene at Washburn Way and Crater Lake Parkway. We have two vehicles, blocking, semi-truck t-boned BTS bus. High impact to the BTS bus. We will be doing triage and stabilization. Please dispatch a second alarm medical. This will be Washburn Way Command. All units switch to Hogs Back."

i.e. "All incoming units with a follow-up report. 360 complete. 3111 please block traffic from the south on Crater Lake Parkway. All other incoming units stage at Garden Ave. and Washburn Way."

2. Declare an MCI

Definition: Any event that overwhelms available resources

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.

Firecom from Washburn Way Command. This will be a MCI. We have about 15 patients including 5 or 6 that are red patients.

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 1
EMS TRANSPORTATION LOG

Incident Location: _____ **Inc. #:** _____ **Date:** _____

Total Triage Count:

Red	Yellow	Green

Black

Responding Units

Number hospital can take >>>>>>>

SLMC			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	

SLMC (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	

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:

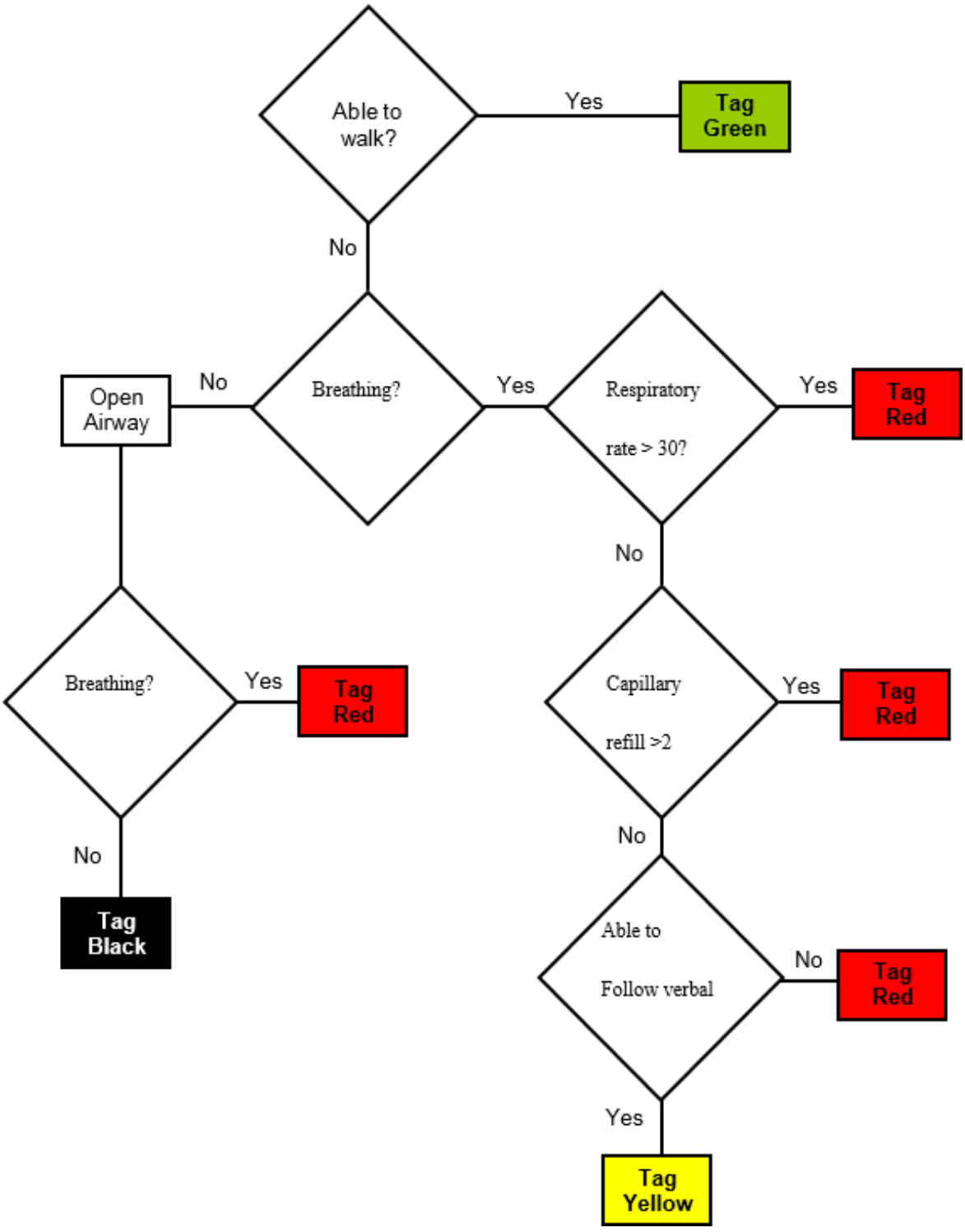
An "Open Incident" is an incident where victims are all accessible for triage.

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.