Jackson County Fire EMS Agencies Standing Orders

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MEMO REGARDING STANDING ORDERS

This memorandum provides the authority for EMS providers - Emergency Medical Responders (EMR), Emergency Medical Technicians (EMT), Advanced Emergency Medical Technicians (AEMT), Oregon EMT-Intermediate (EMT-I) and Paramedics - employed by or providing volunteer services for the following Jackson County Fire EMS Agencies only, to function under their appropriate scope of practice and the written standing orders contained herein:

Applegate Valley Rural Fire Protection #9
Ashland Fire & Rescue
Butte Falls Volunteer Fire and Rescue
Greensprings Rural Fire District
Jackson County Fire District #3
Jackson County Fire District #4
Jackson County Fire District #5
Jackson County Fire District #6 (Evans Valley)
Jacksonville Fire Department
Medford Fire Department
Prospect Rural Fire Protection District
Rogue River Rural Fire Protection District
RVI/Medford Airport Fire Department

These written standing orders for prehospital care operate on the principle that the EMS providers assume considerable latitude in the decisions regarding assessment and treatment of patients at the scene and during transport. The 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 July 1, 2019 through June 30, 2020 unless revised or amended. These new standing orders supersede and make void any and all standing orders written and approved prior to this date.

Kevin Kelleher, MD
Jackson County Fire EMS Agencies Supervising Physician

Jackson County Fire EMS Agencies Standing Orders

Mission Statement

The mission of Jackson County Fire EMS Agencies is to provide high quality and state-of-the-art prehospital care at a reasonable cost to the people of Jackson County.

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Administrative Rules and Operations Protocols — Date

A. Role and Responsibility of Supervising Physician/Medical Director:

The EMS supervising physician will fulfill the responsibilities as described in the current Oregon Administrative Rules (OAR) 847-035.The EMS medical director of a licensed ambulance agency will fulfill the responsibilities as described in current Oregon Administrative Rules:

OAR 333-250 - Ambulance Service Licensing

OAR 333-255 - Ambulance Licensing

OAR 333-265 – EMS Providers

B. Standard of Care for Jackson County Fire EMS Providers:

1. A patient is a person who presents with:
   a) Any obvious injury or acute medical condition,
   b) A chief complaint or mechanism suggestive of injury or acute medical condition,
   c) A chief complaint or mechanism of suggestive of an acute illness or injury, or
   d) The inability to make sound decisions., (i.e. intoxication, mental illness, exposure, less than 15 years old or not oriented to person, place, time, and event).
   e) The inability to adequately care for self.
2. All Jackson County Fire EMS Providers will be expected to conduct themselves in a professional manner.
3. EMS Providers will treat all patients with dignity and respect. Patient's medical information will be treated in a confidential manner.
4. EMS Providers' first priority in the field will be scene safety for themselves, patients and the public. This may include staging a safe distance away until scene is safe. This will include the use of appropriate personal protective equipment.
5. Patients with the most severe or life-threatening injuries or illnesses will be treated first, except in the event of a multiple patient scene/mass casualty incident where the field resources are overwhelmed. Patient management will begin with basic life support as appropriate. Once adequate life support is established EMS providers will perform the primary and secondary survey to determine and then treat illness or injury. Treatment and drug standing orders will be followed based on the patient's condition and the EMS providers' level of training and licensure. Patient's condition will be monitored frequently including vital signs (pulse, blood pressure, temperature, respirations), pulse oximetry, mental status, etc. EMS providers are expected to use their knowledge, training, judgment and expertise in pre-hospital care when caring for patients under these standing orders. EMS providers will not exceed their respective scopes of practice as established by Oregon law. When possible and appropriate, EMS providers will follow the desires and wishes of patients and their families.
6. Patient care will include documentation in a professional and timely manner to facilitate further evaluation and treatment.
7. Differences of opinion and criticism of agencies or personnel will not interfere with patient care. If not quickly, quietly and easily resolvable in the field such matters should be referred to the agencies involved or the supervising physician for investigation, discussion and resolution.

C. Scope of Practice:

EMS Providers shall always function within their scope of practice even if requested to do otherwise. EMS Providers operating under these standing orders have the scope of practice as described in current Oregon Administrative Rules (OAR) 847-035 and 333-265 and are expected to provide this level of care.
Oregon EMS provider levels are now in line with those of the National Registry of EMTs (NREMT). Here are the current levels:

Current EMS provider levels

Emergency Medical Responder (EMR)

Emergency Medical Technician (EMT)

Advanced Emergency Medical Technician (AEMT)

EMT-Intermediate (EMT-I) *Oregon-only*

Paramedic

D. Scene Authority:

1. **Medical Decisions:** EMS Providers 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 EMS Provider on the scene shall be responsible for patient care and transport decisions until released to an EMS Provider of equal or higher level. Upon release for transport, the EMS Provider with the transporting agency shall be responsible for patient care and transport decisions. First responding unit 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 EMS Providers.

2. **Transfer of Patient Care**: When patient care is being transferred from one EMS Provider to another a formal transfer of patient care must take place. Upon arrival of the transporting agency the EMS Provider already on scene and the EMS Provider that is assuming care will clearly identify themselves to each other. As soon as is practical the on-scene EMS Provider shall then give an oral report to the EMS Provider from the transporting agency. Information regarding the injury or illness, as well as any treatment performed, shall be communicated to the transporting EMS Provider to ensure continued medical care. After receiving the report the transporting EMS Provider will assume responsibility for all patient care and transport decisions.
   EMS Providers from the first responding agency may be asked to assist with the patient care during transport. During transport all EMS Providers present should work cooperatively to provide patient care. During transport, all patient care and transport decisions will remain the responsibility of the transporting EMS Provider.

3. **Medical Professionals on the Scene:** Medical professionals at the scene of an emergency may provide assistance to EMS personnel, 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 EMS Provider 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 EMS unit.
   Physicians are the only medical professionals who may assume control of the care of the patient. The EMS Provider 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 EMS Provider procedures rests with Oregon statutes, Oregon Administrative Rules, these written treatment protocols approved by the supervising physician or the receiving hospital's emergency physician when contacted.
   A physician on the scene who is caring for a patient prior to the arrival of an EMS unit may retain medical responsibility for the patient if he/she so desires. The EMS Provider should advise the physician who wishes to <u>supervise or direct</u> patient care, that the physician <u>must accompany the patient to the hospital</u> to maintain continuity of patient care. The physician on the scene shall have made available to him/her the services and equipment of the EMS 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 EMS Provider should contact the receiving hospital for assistance.

4. **Disputes on Scene**
   a. Disagreements about care should be handled in a professional manner so as not to detract from patient care.
   b. Standing orders should be followed whenever possible, and should be the basis for resolving disputes.
   c. If there is an unresolved dispute between EMS Providers and other medical professionals concerning the care of a patient, the receiving hospital may need to be contacted for resolution.
   d. A written incident report should be prepared concerning any dispute arising at the scene and given to the supervising physician for review.

5. **First Responding Transport Policy**
   First responding rescue agencies, with licensed ambulance capability, may transport patients to local medical facilities under the following conditions:
   a. Any critical or unstable patient who is packaged and ready for transport, and whose clinical condition would likely deteriorate in the judgment of the most senior EMS Provider on scene, if there is a significant delay in the arrival of the transporting ambulance.
   b. If the patient requires immediate intervention beyond the capabilities of on-scene personnel, the first responding unit, whether ALS or BLS, may transport immediately.
   c. First responding units may transport if requested to by the ASA provider, if no provider is responding or if under contractual agreement with the ASA provider.
   d. In the event of a mass casualty incident, any first responding unit may transport, if directed to do so by on-scene medical branch director or incident commander.
   e. Any BLS responder who transports a patient that might benefit from ALS treatment must request an ALS intercept.

E. Medical Control:

1. **OFF-LINE MEDICAL CONTROL** - includes the following:
   a. Standing orders approved by the supervising physician.
   b. Written patient orders and protocols pertaining to a specific transport.
   c. Case review conferences.
   d. Educational programs.
   e. Quality assurance case reviews.
   f. Individual counseling or advice concerning the care rendered to specific patients.
   g. Coordination with the medical directors of local hospital emergency departments.

2. **ON-LINE MEDICAL CONTROL (OLMC)** - refers to direct radio or phone communication between EMS providers and hospital emergency departments which are staffed 24 hours a day by qualified emergency physicians. Emergency physicians should be familiar with ACLS and ATLS recommendations and be familiar with the Jackson County Fire EMS standing orders and the capabilities of their EMS providers. On-line medical control may override written protocols when appropriate; such as:
   a. Directing medical care for patients within EMS providers' scope of practice.
   b. Routing patients to appropriate hospital destination considering the number of patients, patient needs (obstetric, pediatric, psychiatric, STEMI, stroke, trauma) or hospital availability of specialty beds, operating rooms or imaging procedures.

   PROCEDURE FOR OBTAINING ON-LINE MEDICAL CONTROL
   a. EMS providers 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.
      ED direct phone numbers for EMS OLMC calls:

AACH - Asante Ashland Community Hospital	541-201-4100
ARRMC - Asante Rogue Regional Medical Center	541-789-7132
PMMC – Providence Medford Medical Center	541-732-6440

   b. In situations where the patient's condition is judged to be critical or serious, and especially when there are multiple critically ill or injured patients, early notification of the receiving hospital is essential. This will allow proper allocation of medical resources and timely preparation for definitive care.
   c. All requests by EMS providers for medical guidance will be accommodated promptly and reflect an attitude of joint responsibility and cooperation. The on-line emergency physician shall issue treatment and transport instructions based on an objective analysis of the patient's needs and the hospital's capability and proximity. No effort shall be made to obtain institutional or commercial advantage through the use of such transport instructions and hospital assignments. When an emergency department at one hospital is acting as agent for another hospital, information regarding the patients shall be communicated to the receiving hospital in an accurate and timely manner. The transmission of information regarding patient's identity, condition, and

treatment shall otherwise remain strictly confidential.

d. Documentation of OLMC consultations in the PCR will include the name of the hospital and emergency physician, as well as a summary of the OLMC request and the emergency physician direction provided. For all cases of OLMC, a copy of the PCR will be sent (faxed) to the OLMC hospital, regardless of whether or not the patient is transported.

e. All emergency departments and EMS providers operating under the protocols of these standing orders shall maintain radio communication equipment which meets the standards of the Oregon State Health Division. All first response units will have MEDNET 1 (155.340) frequency and all transport capable vehicles will have both MEDNET 1 and MEDNET 2 (155.400) frequencies.

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

Medical control should not unnecessarily delay medical or surgical treatment. For patients who fulfill the trauma system criteria, medical control shall rest with the emergency care facility which has received the highest category level in the catchment area as described in the trauma plan for ATAB 5 under the hospital resources section. In the event that two or more hospitals in the catchment area are categorized at the same level, medical control shall be assumed by the facility which will be receiving and caring for the patient.

3. **TRIAGE AND TRANSPORT** - The decision concerning which hospital will be receiving the patient will be determined by a consideration of the following factors:

a. Trauma Activation patients:

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

ii. Patients with a stable airway will be taken to RRMC who:

are in the 2nd or 3rd trimester of pregnancy,
are 14 years of age or younger,
have a penetrating injury of the chest (level of the clavicle to level of the umbilicus), or
who may need urgent neurosurgical services by having any one of:
GCS < 15,
penetrating injury of the head,
open or depressed skull fracture,
spinal cord injury with limb paralysis, or
loss of consciousness (reported or observed).

iii. All other Trauma Activation patients with a stable airway will be taken to either Rogue Regional Medical Center or Providence Medford Medical Center.

Rogue Regional Medical Center is designated trauma level 2, Providence Medford Medical Center is designated trauma level 3, and Three Rivers Medical Center which is designated level 4. Ashland Community Hospital no longer participates in the trauma system.

iv. Trauma Activation patients will have Oregon State trauma bands (green) applied.

b. Patients with severe hypothermia will go to RRMC.

c. Trauma Activation patients with burns go to either Rogue Regional Medical Center or Providence Medford Medical Center based on any trauma criteria, otherwise patient preference or nearest hospital.
d. Stable and conscious patient – patient's preference.
e. Stable and unconscious: family or care giver's preference.
f. Unstable patient, nearest facility capable of managing the patient's problem.
g. Whenever possible, keep family members together and transport a parent or other responsible family member along with any pediatric patient.
h. If a qualified physician is present with the patient and wishes to assume responsibility for patient care and accompany the patient, transport will be to the facility indicated by the physician.
i. For patients being transferred from one facility to another, medical control shall be assumed by the transferring facility.

F. Evaluate, Treat, Refer, Refusal:

Patient definition

A "Patient" shall be defined as an individual who, upon contact with a Jackson County Fire EMS agency, has any of the following:

1. Any obvious injury or acute medical condition,
2. A chief complaint or mechanism suggestive of injury or acute medical condition,
3. A chief complaint or mechanism of suggestive of an acute illness or injury, or
4. The inability to make sound decisions., (i.e. intoxication, mental illness, exposure, less than 15 years old or not oriented to person, place, time, and event).
5. The inability to adequately care for self.

These criteria are intended to be applied in the broadest sense. If there are questions or doubts, then the person should be considered a patient. A PCR shall be completed for every incident that involves a patient.

If the patient has a minor or stable medical condition, and transport to the hospital by ambulance is not necessarily indicated, then the following protocol may be used to determine the appropriateness of non-transport.

1. The patient must be:
   a. of age 15 years or older (ORS 109.640) and mentally capable or
   b. a legally responsible adult must authorize and assume custody of the patient.
2. The patient's condition is medically stable.
3. An alternative method of transport to a medical care facility is available to the patient.
4. The EMS provider attending the patient has conducted an appropriate assessment and documents pertinent findings and treatment in a patient care report.

Refusals – patients who refuse prehospital assessment, treatment or transport are at increased risk of morbidity and mortality. Patient refusals should be avoided when possible, although competent and informed patients do have the right to refuse assessment, treatment or transport.

Refusal of assessment means that the patient (or responsible adult) has refused EMS provider assessment.

Refusal of treatment means that the patient has been assessed by an EMS provider and treatment has been recommended by the EMS provider which the patient (or responsible adult) has refused.

Refusal of transport means that the patient has been assessed and treated by an EMS provider, offered ambulance transport to the hospital and the patient (or responsible adult) has refused ambulance transport.

Clear documentation of patient refusal must be documented as part of the PCR using the EMS Refusal Form, which must include:

- What assessment, treatment or transport the patient refused,
- Reasonably likely specific and significant risks that may result from the refusal,
- Patient or responsible party signature documenting the refusal (if the patient refuses to provide or is incapable of providing a signature, at least one EMS provider must document this in the PCR),
- A recommendation to seek medical attention and
- An invitation to recall EMS if new or worsening concerns, symptoms or signs occur.

On-line medical control (OLMC) consultation is required for patient refusal in the 7 situations listed below:

1. Unstable vital signs which may include orthostatic hypotension.
2. Respiratory distress or pulse oximetry less than 90% (room air).
3. Patients over 40 years old with a complaint of chest pain consistent with heart or lung disease or of abdominal pain.
4. Severe headache or a high fever (>40° C) in any age group.
5. High risk of traumatic injury including such co-morbid factors as vehicular intrusion, injuries to others on scene, distance of fall or other concerns registered by the responding EMS providers.
6. Altered consciousness or a history of loss of consciousness, or any acute onset neurological deficit, EXCEPT as described below in #7.
7. Any patient who has been provided or received treatment by an EMS provider, **EXCEPT** in the following two scenarios:
   a. *Hypoglycemia in patients with Diabetes Mellitus:*
      A patient with diabetes mellitus who is taking insulin AND has a documented episode of hypoglycemia with an altered level of consciousness, which normalizes both CBG and mental status with the administration of glucose, AND the hypoglycemic episode is consistent with the patient's compliance with medications or typical blood sugars.
      A patient with a known seizure disorder who experiences a seizure that is consistent with his or her normal frequency of seizures or compliance with medications AND the seizure is typical for the patient.

   In either of these two scenarios, the patient does not necessarily require transport or on-line medical control consultation providing that the patient is left in the care of a competent adult, self or other. The PCR must contain clear documentation of the event.

Persons in custody by law enforcement will not be "cleared for jail" by EMS; this action will be performed by hospital emergency department staff. Requests by law enforcement personnel to "check vital signs" or "look for illness or injury" will be considered as a request for an EMS assessment.

If the patient is not capable of making competent decisions and refuses care or transport, then it is necessary to contact the patient's personal physician, OLMC, concerned family members, friends or law enforcement to assist in arranging appropriate medical care.

The patient care report (PCR) must include documentation of all actions taken by the EMS provider in attempting to arrange for medical treatment, as well as the means used for determining the patient's competence and written documentation of the patient refusal.

G. Documentation and Medical Record Requirements:

All contacts with patients who are ill or injured must be documented on a Patient Care Report (PCR), whether hand-written or electronic.

All patient care report entries are to be dated and timed appropriately. Times are to be recorded as accurately as possible, however the EMS provider's primary concern is patient care, which will take precedence over timekeeping. Times should represent the course and duration of events. Times may vary from those of other clocks, which are not regularly and continuously time-synchronized.

- Usually to the nearest minute – hh:mm:00
- Machine time stamped to the nearest second, such as hh:mm:23
- To the nearest 10 seconds (such as hh:mm:10 or hh:mm:50) if coordinating machine time stamped and non-machine time stamped events.

The patient care report provides written documentation of patient condition and treatment for medical and legal purposes and adds to the continuity of patient care after arrival to the hospital.

Patient care reports are to be filled out completely with all pertinent information. The report is a record that reflects on you and the profession as a whole, so be accurate, concise, write legibly, spell correctly and use accepted terminology and approved EMS abbreviations.

A copy of any 12 lead ECG obtained in the field will be labeled with the patient's name and date of birth, attached to the EMS 12 lead ECG Report Form also labeled with the patient's name and date of birth, and left with the patient at the receiving hospital.

Any on-line medical control communication will be documented on the PCR, regardless of whether or not the patient was transported, and will include instructions, receiving hospital and physician name.

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 patient care report.

In compliance with state regulations a complete PCR 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 PCR 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 does not agree with the care given, it is that EMS 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 EMS provider should contact the agency supervisor and prepare an incident 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, complete an incident report and forward to the supervising physician/medical director.

Patient care reports should be done in the SOAP format, although electronic PCRs may require an alternate format, and include the following:

SUBJECTIVE
- ID – age & gender
- Chief Complaint (why help was requested in the patient or reporter's own words)
- History of Event or Mechanism of Injury (What happened prior to call)
- Report of treatment prior to arrival and by whom.
- Relevant Past Medical History
  - Meds
  - Allergies
  - Patient's physician
- Significant and Pertinent Negatives

OBJECTIVE
- General Appearance, including scene description
- Vital Signs
- Physical Assessment
  - Skin
  - Head, eyes, ears, nose, throat
  - Heart
  - Chest
  - Abdomen
  - Extremities
  - Spine, including neck
  - Neurological including level of consciousness or Glasgow coma score

ASSESSMENT
- What you think the patient's major problems are based on your subjective and objective findings.

PLAN (document in the timeline for most electronic charting systems)
- Actions taken, protocols followed, activations, on-line medical communications or deviations from these standing orders.
- Date and time interventions and changes in a patient's condition.
- Patient refusals and statement of possible consequences.
- Conditions on arrival at the hospital. To whom report was given and to whom the patient was transferred. Disposition of patient's personal items.

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

Procedures Documentation:

Include time.
Place in chronological order with most critical of any simultaneous events first.
Note transfer of care to the ambulance crew or to hospital (ED) staff.

Check spelling and grammar for correctness and accuracy.

H. Equipment and Supplies:

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

I. Time on Scene:

The purpose of this section is to delineate scene time requirements.

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

J. Ambulance Response:

LIGHTS & SIRENS RESPONSE:
Ambulances will be driven in a manner consistent with public safety and the patient's condition as judged by the EMS provider.
Lights and siren responses or transports may be appropriate if the transport time is significantly reduced and must be carefully balanced by the increased risk to the patient, EMS providers and the general public of motor vehicle crashes associated with such responses.

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 in the EMS Forms section.

Patients may be designated Trauma Activation or MCI, but not both. Communication for Trauma Activation patients will include entry criteria and NOT the terms "mandatory", "discretionary", "full" or "modified". Communication for MCI patients will include the triage color (red, yellow or green).

Communication with the receiving hospital should be established as soon as practical once the decision to transport has been made.

This report should relay only essential patient care information. Patient identification (name) information should not be given over the radio for emergency transports, unless essential such as for STEMI Activation patients who may have a local cardiologist. Patient initials may be used for direct admission and interhospital transfer patients.

EMS agencies responding to the scene of a 911 dispatched call may be cancelled enroute only after dispatch has received a "non-injury", "non-illness" or "unable to locate" report by a fire or EMS, law enforcement, ODOT, US Forest Service or BLM unit on scene.

K. Continuous Quality Improvement Plan:

With the goal of providing a high level of patient care, it is important that all areas of pre-hospital care be monitored and improved upon where possible. With this in mind, all agencies shall participate in the Jackson County Continuous Quality Improvement Plan. This plan provides a mechanism for review of selected pre-hospital care, with emphasis on critical care cases with high risk issues and procedures on a continuous basis. Conducting reviews of focused topics allow for intensive scrutiny of select topics, for a limited time. When a potential issue is identified, it will be brought to the attention of the supervising physician and appropriate corrective action implemented. Data summaries will then be submitted to the Jackson County QA committee or the Supervising Physician for review. Hospital data may also be obtained to provide additional information. Each agency's QI plan will be reviewed at least annually.

These standing orders contain CQI Review Forms in the EMS Forms section for handwritten use. For agencies using an electronic PCR, the fillable pdf forms available for download on the website Document Library at www.jcems.net/EMSfiles.html are preferred.

1. **Quality Assurance (retrospective) Reviews**
   See EMS Forms section
   a. Cardiac Arrest – with defibrillator download review
   b. Death in the Field.
   c. Field Delivery
   d. Advanced Airway (King LT or endotracheal intubation)
   e. Cricothyrotomy
   f. Intraosseous Infusion (EZ-IO)
   g. Chest Decompression
   h. Rapid Sequence Intubation (RSI)
   i. Tourniquet
   j. STEMI Activation
   k. Stroke Activation
   l. Cooling Activation/Cardiac Arrest
   m. Major MCI – involving more than 2 agencies
   n. Random Review 3/100 (minimum 3 a month per agency)
   o. As designated by the supervising physician.

2. In addition to patient care report reviews, the supervising physician may also utilize several other methods to monitor the EMS system for Quality Assurance.
   a. Direct observation of EMS Provider field performance.
   b. Monitoring and or review radio communications.
   c. Conducting post-run interviews.
   d. Conducting periodic case conferences.
   e. Investigation of complaints.

3. **Quality Improvement (prospective) Review topics**
   (As designated by the supervising physician.)
   a. IV Starts
   b. Artificial airways
   c. RSI
   d. Spinal motion restriction
   e. Seizure
   f. Poisoning/Overdose
   g. Non-transports/Patient Refusals
   h. Code 3 (lights & sirens) transport

   Issues regarding quality of care that are not resolvable by the supervising physician and the respective EMS agencies may be referred to the Jackson County ASA QA Committee for discussion, investigation and resolution.

4. **Case Review Conferences** will be held in the county on a regular basis. These will consist of case presentations and discussion, lecture/discussions or guest presentations relevant to EMS field work. Cases and topics for discussion will be selected by the supervising physician with input and suggestions from EMS Providers or hospital personnel. Cases suggested for physician review or presentation at case review should be so designated and sent to the supervising physician.

L. Continuing Education and Conference Standards:

Continuing educational activities for EMS Providers shall meet or exceed the minimum requirements of the State of Oregon. Local programs for EMS Providers shall include, but are not be limited to:

1. Case Review Sessions.
2. State of Jefferson EMS Conference.
3. Multi-Disciplinary Trauma Conferences.
4. BLS & ACLS courses.

As one of the state requirements for Oregon relicensure (OAR 847-035-0025-3), each EMS Provider affiliated with a Jackson County Fire EMS agency must have 2 hours contact per year (4 hours/2 year EMS Provider relicensure cycle) with your agency's supervising physician or supervising physician agent. This contact time with your agency's supervising physician can be accomplished through Case Reviews, drill nights, EMS classes, EMS meetings, and other activities as designated by and provided by your agency's supervising physician.
If an EMS Provider has not been affiliated with a Jackson County EMS agency for the entire preceding 2 year (24 month) relicensure cycle, then this requirement is prorated:

Affiliated for 0 to 6 months - 0 (zero) contact hours are required;
Affiliated for 6 to 12 months - 1 contact hour is required;
Affiliated for 13 to 23 months - 2 contact hours are required;
Affiliated for 24 months - 4 contact hours are required.

M. Standing Order Review and Revision:

There shall be at least an annual review of these standing orders by the supervising physician with input from interested parties. A committee composed of the supervising physician and other interested parties may be formed periodically for recommending revisions to the standing orders.

Education programs to update EMS providers as to pertinent changes in and additions to the standing orders shall be organized by the supervising physician within a reasonable period of time after release of any revisions to the standing orders.

N. Interhospital Transfer Protocol:

Policy

A patient is identified for interhospital 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 interhospital transfer are the responsibility of the sending physician and are only covered by these protocols specifically designated as interhospital transfer or if an unanticipated change in patient condition occurs.

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.
   a. Patient is assured of an adequate airway and ventilation.
   b. Control of hemorrhage has been initiated.
   c. Patient's spine and fractures have been appropriately stabilized.
   d. 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 EMS provider transferring the patient by the sending physician or nursing staff.
6. It is essential that a written record accompany the patient during the transfer including, including:
   a. Patient information.
   b. History of injury or illness.
   c. Patient condition: vital signs, pertinent physical findings and neurological status.
   d. Treatment rendered, including medications and fluids.
   e. Diagnostic findings: including laboratory, ECG, CT scan and x-ray films.
   f. EMS patient care report (if any).
7. Medical Control during an interhospital transfer will be primarily the responsibility of the sending physician, and if unavailable, the receiving physician. In the event of a serious deterioration in the patient's condition the nearest appropriate medical facility will be utilized.
8. The Jackson County Fire EMS Interhospital Transfer Orders form will be used to provide any and all Jackson County Fire EMS providers providing interhospital transfer with transfer orders by the sending physician.

O. Use of Helicopter for Patient Transport

These are guidelines to assist the senior on-scene EMS provider in determining the appropriateness of requesting helicopter response. The helicopter ambulance can be put on standby or activated by request through Mercy Flights Dispatch Center.

Helicopter transport is likely to be beneficial in the care of trauma or medical patient when the total pre-hospital time for the patient could be reduced by 10 minutes or more.

Additional helicopter use factors include extended extrication, MCI, difficult patient access, and remote areas.

Trauma:

- Glasgow Coma Score of <8.
- Intubation/need for advanced airway management
- Respiratory rate of <10 or >30. (Pediatrics: Respiratory rate of <10 or >60)
- Severe and uncontrolled bleeding or hypovolemic Shock.
- Penetrating injuries of the head, neck, chest, abdomen or pelvis.
- Amputation proximal to the wrist or ankle.
- Spinal cord injury with paralysis.
- Flail chest.
- Two or more obvious proximal long bone (femur/humerus) fractures.
- Pediatric trauma
- Pelvic Fractures
- Significant Burns (>10% Body Surface Area) and/or with potential for airway compromise

Medical:

- Cardiac chest pain, STEMI or recent Stroke.
- Cardiac Arrest with ROSC.
- Significant hypothermia requiring active rewarming.
- Any other serious medical problem with unstable vital signs or requiring rapid treatment or immediate surgery.
- Near drowning with hypoxia.
- Complicated poisoning or overdose.
- Difficult patient access (remote areas).

Potential restrictions on Helicopter Transport:

- Patients contaminated with hazardous materials until/unless they are properly decontaminated.
- Patients in cardiac arrest without ROSC.
- Patients who are combative or in custody unless they can be physically or chemically restrained. Restraint can be accomplished by the helicopter flight team on their arrival.
- Patients who are excessively large.

P. Equipment List for a Non-Transporting EMS Unit

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

EMR	EMT	AEMT	EMT-I
4/4s	Everything to the left	Everything to the left and	Everything to the left and
AED	1 cc syringes and	Assorted needles	Assorted needles
Aspirin (ASA)	Alcohol preps	IO supplies	ECG monitoring
Bag-Valve-Mask (BVM)	Broselow tape	IV sets	Orogastric (OG) tubes
B/P cuff - (regular, small, large)	End Tidal Capnometry	IV needles	
Back Board	CBG kit	IV tourniquets	
Bite stick	King LTD or LTS-D	Razors	
Blankets	Nebulizer set	Veni guards	
Burn kit	Supraglottic Airways		
C-collars	Adult size 3, 4, 5		
Emergency blanket	Pediatric size 2, 2.5		
Emesis basin or bag			
EMS gloves			
Epinephrine auto-injector (optional)			
Glucose (oral)			
Hand disinfectant			
Head bed	Activated Charcoal	D10 (10% glucose)	Amiodarone
Hot & cold packs	Albuterol	Epinephrine 0.1 mg/ml	Atropine
Kling	Epinephrine 1 mg/ml	Ipratropium Bromide	Diphenhydramine
K-Y jelly		Nitroglycerin	Ondansetron
Naloxone (Narcan)		Normal saline	
Nasal cannula		Lidocaine 2%	
Non-rebreather			
O_2 bottle			
O_2 regulator	**Optional:**	**Optional:**	**Optional:**
OB-kit w/blanket	CPAP	EZ-IO	Fentanyl
Occlusive dressing		Nitrous Oxide	Morphine
Pocket mask			
Portable suction			
Pulse Oximeter			
Ring cutter			
Safety glasses			
Set of NPAs			
Set of OPAs			
Soft restraints			
Splints			
Sterile water			
Stethoscope			
Surgi pads			
Tape			
Thermometer			
Tourniquet			
Trauma pads			
Trauma shears			
Triage Tags			
Triangular bandages			

Equipment List for a Non-Transporting EMS Unit (continued)

Paramedic
Everything on the previous page and
2.5-8.0 ET tubes
3” 14 ga needle
5cc-50cc syringes
ET secure ties
ET suction catheters
Flutter valve
Macintosh blades (sizes 0-4)
Manual defibrillator with pacemaker electrodes
spare battery and paper
Miller blades (sizes 0-4)
Nasogastric (NG) tubes
Spare ET bulbs/batteries
Stylet

Acetaminophen
Adenosine
Calcium Gluconate
Haloperidol
Norepinephrine
Oxymetazoline (Afrin)
Sodium Bicarbonate

Optional:
Transport Ventilator
Hydroxocobalamin
Ketamine
Magnesium Sulfate
Oxytocin
TXA – Tranexamic acid

Required of all agencies performing RSI:
Etomidate
Midazolam (Versed)
Succinycholine
Vecuronium

Q. Jackson County EMS Radio Frequencies

These radio frequencies and their corresponding names are the standards used by Jackson County EMS agencies for EMS communications.
Frequencies are reviewed by the Rogue Valley Fire Chiefs Association (RVFCA) annually.
All frequencies are set to Narrow Band per FCC regulations.

PRIMARY FIRE DISPATCH FREQUENCIES – RVFCA ZONE 3					
FREQUENCY NAME	**ALPHA NAME**	**RECEIVE**	**TONE**	**TRANSMIT**	**TONE**
NORTH COUNTY FIRE	NORTH CO	154.1300	162.2	154.1300	162.2
MEDFORD FIRE PRIMARY	MFD PRI	154.4450	146.2	153.7700	146.2
SOUTH COUNTY FIRE	SOUTH CO	154.3100	CSQ	154.3100	141.3
SOUTH COUNTY MT ASHLAND RPTR	MT ASH RPT	154.3100	141.3	153.8900	146.2
SOUTH COUNTY TALLOWBOX RPTR	SC TLBOX	154.3100	CSQ	153.8900	107.2
ASHLAND FIRE LOCAL	A LOCAL	158.8350	DPL 131	153.7850	DPL 131
GREEN SPRINGS FIRE	GRNSPRNGS	155.9550	123	153.8750	123
GRANTS PASS FIRE	GP FD	154.3850	123	155.5800	123
RURAL METRO FIRE	RM RPTR	154.1750	123	150.7750	123
ODF MEDFORD ROXYANNE RPTR	ODF ROXY	151.1750	179.9	159.4125	179.9

PRIMARY EMS DISPATCH FREQUENCIES – RVFCA ZONE 6					
FREQUENCY NAME	**ALPHA NAME**	**RECEIVE**	**TONE**	**TRANSMIT**	**TONE**
MERCY FLIGHT AMBULANCE	MERCY	155.2800	162.2	155.2800	162.2
MERCY FLIGHTS SECONDARY	MERCY 2	155.2050	CSQ	155.2050	162.2
AMR AMBULANCE RPTR	AMR	155.2650	DPL 131	153.8150	DPL 131
MED NET	MED NET	155.3400	CSQ	155.3400	CSQ
MED NET SECONDARY	MEDNET 2	155.4000	CSQ	155.4000	CSQ
EMS TAC 7	ETAC 7	155.2200	CSQ	155.2200	CSQ
EMS TAC 8	ETAC 8	155.3550	CSQ	155.3550	CSQ
EMS TAC 9	ETAC 9	155.3850	CSQ	155.3850	CSQ
EMS TAC 10	ETAC 10	155.2950	CSQ	155.2950	CSQ
EMS TAC 11	ETAC 11	150.7750	CSQ	150.7750	CSQ
EMS TAC 12	ETAC 12	150.7900	CSQ	150.7900	CSQ
VMED 29	VMED 29	155.3475	CSQ	155.3475	CSQ

R. Jackson County EMS Approved Abbreviations

A&A	Albuterol & Atrovent
AC	antecubital
A-fib	atrial fibrillation
AAA	abdominal aortic aneurysm
ABD	abdomen
AICD	automatic implantable cardioverter-defibrillator
AMA	against medical advice
ASA	aspirin
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
C/C	chief complaint
CHF	congestive heart failure
CHI	closed head injury
cm	centimeter
cms	circulation, movement & sensation
CO	carbon monoxide
C/O	complains of
CO_2	carbon dioxide
COA	conscious, oriented, alert
CBG	capillary blood glucose
COPD	chronic obstructive pulmonary disease
CPSS	Cincinnati Prehospital Stroke Scale
C-STAT	Cincinnati Prehospital Stroke Severity Scale
CSF	cerebral spinal fluid
CPR	cardiopulmonary resuscitation
CT	computerized tomography
CVA	cerebral vascular accident
D/C	discontinue
Defib	defibrillation
DM	diabetes mellitus
DNR	Do Not Attempt Resuscitation
DOE	dyspnea on exertion
DTs	delirium tremens
Dx	diagnosis
EBL	estimated blood loss
ECG	electrocardiogram
EJ	external jugular
Epi	epinephrine
ET	endotracheal
$ETCO_2$	end tidal CO_2
ETA	estimated time of arrival
ETOH	ethyl alcohol
♀	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/para = # pregnancies/# deliveries > 20 weeks
GI	gastrointestinal
gm	gram
GSW	gunshot wound
GU	genitourinary
GYN	gynecological
HEENT	Head, Eyes, Ears, Nose, Throat
H_2O	water
H&P	history & physical

HTN	hypertension
Hx	history
IDDM	insulin dependent diabetes mellitus
IM	intramuscular
IN	intranasal
IO	intraosseous
irreg	irregular
IV	intravenous
J	joules
JVD	jugular venous distention
kg	kilogram
lb	pound
LBBB	left bundle branch block
LLQ	lower left quadrant
L/min	liters per minute
LMP	last menstrual period
LOC	level or loss of consciousness
Lt	left
LUQ	left upper quadrant
LVAD	left ventricular assist device
♂	male
MAE	moves all extremities
mcg	microgram
meq	milliequivalent
mg	milligram
$MgSO_4$	magnesium sulfate
MI	myocardial infarction
min	minute(s)
misc	miscellaneous
ml	milliliter
mm	millimeter
MOI	mechanism of injury
MS	multiple sclerosis
MVC	motor vehicle crash
N/A	not applicable
N&V	nausea and vomiting
Na	sodium
NaCl	sodium chloride
NC	nasal cannula
NG	nasogastric
NIBP	non-invasive blood pressure
NKDA	no known drug allergies
N/V/D	nausea, vomiting, diarrhea
neg	negative
NIDDM	non-insulin dependent diabetes mellitus
NPA	nasopharyngeal airway
NPO	nothing by mouth
NRB	non-rebreather
NS	normal saline
NSR	normal sinus rhythm
NTG	nitroglycerin
N_2O	nitrous oxide
OHCA	Out of Hospital Cardiac Arrest
OLMC	on-line medical control
OG	orogastric tube
OPA	oropharyngeal airway
oz	ounce
O_2	oxygen
P	pulse or heart rate
PAC	premature atrial contraction
PAT	paroxysmal atrial tachycardia
PCR	patient care report
PE	physical exam
peds	pediatrics
PERL	pupils equal & reactive to light
PMH	past medical history
po	by mouth
POLST	Physician Orders for Life Sustaining Treatment
PPE	personal protective equipment
pr	per rectal
prn	as needed
prox	proximal
PSVT	paroxysmal supraventricular tachycardia
pt	patient
PTA	prior to arrival
pulm	pulmonary

PVC	premature ventricular contractions
PVD	peripheral vascular disease
R	respirations
RBBB	right bundle branch block
RLQ	right lower quadrant
R/O	rule out
ROSC	Return of Spontaneous Circulation
RSI	rapid sequence intubation
Rt	right
RUQ	right upper quadrant
RX	prescription or treatment
rxn	reaction
SpO_2	oxygen saturation/pulse oximetry
SL	sublingual
S.O.A.P.	subjective, objective, assessment, plan
SOB	shortness of breath
SQ	subcutaneous
stat	at once, immediately
STEMI	ST elevation MI
ST	sinus tachycardia
SVT	supraventricular tachycardia
SZ	seizure
T	temperature
TKO	to keep open
TOR	Termination of Resuscitation
tsp	teaspoon
Tx	treatment
URI	upper respiratory infection
UTI	urinary tract infection
UV	umbilical vein
vag	vaginal
VF	ventricular fibrillation
vo	verbal order
VT	ventricular tachycardia
V/S	vital signs
WNL	within normal limits
WPD	warm, pink, dry
WPW	Wolff-Parkinson-White
x	multiplied by
y/o	years old
Δ	change
@	at
°C	Degrees Centigrade
°F	Degrees Fahrenheit
↑	increase
↓	decrease
1°	primary
2°	secondary
♀	female
♂	male
Ψ	psych
Ø	None or nothing
>	Greater than
<	Less than
≥	Greater than or equal to
≤	Less than or equal to

Agency Abbreviations

AVFD	Applegate Valley Fire Department
ACH	Ashland Community Hospital
APD	Ashland Police Department
AFR	Ashland Fire & Rescue
AMR	American Medical Response
ARFF	RVI/Medford Airport Fire Department
ECSO	Emergency Communications of Southern Oregon
FD3	Fire District 3
JCFD4	Jackson County Fire District #4
JCFD5	Jackson County Fire District #5
JCFD6	Jackson County Fire District #6
JCSO	Jackson County Sheriff Office
JFD	Jacksonville Fire Department
MFR	Medford Fire & Rescue
MPD	Medford Police Department
MFI	Mercy Flights, Inc.
OSP	Oregon State Police
PMMC	Providence Medford Medical Center
RRMC	Rogue Regional Medical Center
RRFD	Rogue River Fire District
TRMC	Three Rivers Medical Center

EMS Provider Abbreviations

EMR	Emergency Medical Responder
EMT	Emergency Medical Technician
AEMT	Advanced Emergency Medical Technician
EMT-I	Emergency Medical Technician - Intermediate

S. DEA Controlled Substances Policy:

DEA Controlled Substances Used by EMS

EMS currently uses these DEA controlled substances:

- Schedule II: morphine, fentanyl - EMT-I and Paramedic – DEA Form 222 required for purchasing
- Schedule III: ketamine – Paramedic only
- Schedule IV: midazolam – Paramedic only

DEA Registration

Any agency wanting to have their EMS providers use any DEA controlled substances must obtain a DEA registration in the name of the supervising physician/medical director providing these standing orders. The EMS agency and its licensed EMS providers must abide by the DEA rules & regulations - Title 21 CFR Controlled Substances Act Part 1300.

Controlled Substances Security

EMS agencies and their providers must provide adequate and appropriate physical and administrative measures to track all DEA controlled substance use including, but not limited to, ordering, purchasing, receipt, agency storage, distribution to vehicles, patient use, and medication destruction. Controlled substance record keeping must allow for easily available, transparent and accurate tracking of all controlled substances from ordering through disposal.

DEA Controlled Substances Disposal

All DEA controlled substances will be tracked though patient use or disposal.

Any unopened DEA controlled substances (such as out-of-date or damaged) will be disposed of through a DEA authorized reverse distributor.

Any opened DEA controlled substances (such as remaining in a single package after use for a patient) will be mixed with earth, coffee grounds, or kitty litter and disposed so that medication cannot be extracted. Controlled substances disposed in this manner will require witness and documentation by 2 licensed EMS providers.

DEA Controlled Substances Loss

The EMS supervising physician/medical director must be notified immediately, both verbally and in writing, of any lost or missing DEA controlled substances which cannot be accounted for.

Clear documentation will be made of the investigation into any DEA controlled substances which cannot be accounted for.

The DEA Field Office in Portland, Oregon must be notified within one business day of the discovery of any theft or loss of a DEA controlled substance and DEA Form 106 must be filed electronically.

DEA Controlled Substances Recordkeeping

EMS agency records of DEA controlled substances will be kept in an easily retrievable written or electronic form for 2 years. The EMS supervising physician/medical director may request access to these records at any time.

T. Exposure Policy:

Meningitis Exposure

The EMS agency (chief or designee) will contact the Jackson County Health Department Communicable Disease Nurse (541-774-8045) who will then investigate the potential exposure and determine whether or not there was significant risk for the EMS Provider and what, if any, post-exposure treatment is indicated.

Rabies Exposure

The EMS agency (chief or designee) will contact the Jackson County Health Department Communicable Disease Nurse (541-774-8045) who will then investigate the potential exposure and determine whether or not there was significant risk for the EMS Provider and what, if any, post-exposure treatment is indicated.

Tuberculosis Exposure

The EMS agency (chief or designee) will contact the Jackson County Health Department Communicable Disease Nurse (541-774-8045) who will then investigate the potential exposure and determine whether or not there was significant risk for the EMS Provider.

If there was exposure, the Jackson County Health Department Communicable Disease Nurse will then work with the EMS agency and the Occupational Health Clinic (which does not offer the case investigation services, but does provide testing) to make sure that the EMS Providers received the appropriate testing or treatment.

If there was no exposure, the health department contact will then provide that information to the EMS agency and make the recommendation for no testing.

U. ARMS Activation:

Ambulance Resource Management System (ARMS)

ARMS is a system to coordinate and provide ambulance coverage throughout the Jackson County when ambulance availability in one or more of the county's Ambulance Service Areas (ASAs) is severely limited, such as during a large MCI, multiple smaller MCIs, severe weather conditions or a marked increase in 911 responses. When ARMS is activated the county will in effect become one large ASA and all ambulances in the county will be dispatched through the Mercy Flights Communications Center and can anticipate being dispatched anywhere in the county which may be outside their ASA assignment.

1. When ARMS is activated, all Jackson County state-licensed ambulances shall report to ARMS on Mercy Flights primary frequency for posting or call assignment.
2. ARMS shall;
   i. Acquire and assign ambulance resources as needed to provide for county-wide coverage. An ambulance posting plan providing geographic coverage will be developed as determined by the affected area and ambulance availability.
   ii. Track and document ambulance resource locations in real-time and by situation status.
   iii. During an MCI, Mercy Flights Communications Center will maintain documentation of transport unit identification, destination, number of patients, and triage tag color information.
   iv. Transporting ground ambulances will contact Mercy Flights Communications Center for reassignment upon completion of each patient transport. Ambulances will be released by ARMS for return to the home agency following stand down of ARMS.
3. Agency's dispatch will continue to handle incident communications with responding resources. Ambulances will be assigned by the Mercy Flights Communications Center. When 911 receives a request for ambulance resources they will forward that request to Mercy Flights Communications Center for assignment of resources.

V. Diversion:

When an Emergency Department (ED) is reaching capacity, defined as 25% of ED rooms filled with boarding patients (waiting or expected to wait 2 hours or more for admission or transfer), all ED beds full, at least 2 patients waiting for an open room, and in the judgment of the on-site ED Medical Director or his /her designee and on-site ED nurse manager or his /her designee believe that the arrival of further ambulances may deteriorate care for other patients, the hospital may declare a 2 hour ED ambulance diversion.

1. The diverting hospital will have notified the other Jackson County hospitals (AACH, PMMC, ARRMC) of the request for diversion.
2. The diverting hospital will have notified Mercy Flights Dispatch of the 2 hour ambulance diversion.
3. Ambulance diversion will take effect 30 minutes after the diversion is declared.
4. Ambulance diversion will not apply to patients meeting trauma entry, STEMI activation criteria, who are age 14 years or less, or who are competent and fully informed who specifically request transport to the hospital on diversion and understand the risks of delayed care.
5. At the end of 1½ hours of ambulance diversion, Mercy Flights Dispatch will notify EMS agencies if the ambulance diversion period will be extended.

If both Asante Rogue Regional Medical Center (ARRMC) and Providence Medford Medical Center (PMMC) declare “ED diversion” during the same time, then EMS will not do any diversion for either of these 2 hospitals.

W. Spanish Phrases

English	Spanish
History and Exam	
I am a Paramedic (firefighter; nurse; doctor).	Soy paramédico (bombero, enfermera, médico).
I speak a little Spanish.	Hablo un poco de español.
Is there someone here that speaks English?	¿Hay alguien aquí que habla Inglés?
What is your name?	¿Cómo te llamas?
I don't understand.	No entiendo.
Can you speak more slowly please?	¿Puede hablar más despacio por favor?
Wake up sir/madam?	¿Despierten señores?
Sit up.	Siéntate por favor.
Listen.	Escuchame.
How are you?	¿Cómo estás?
Do you have neck or back pain?	¿Tiene dolor de cuello o espalda?
Were you unconscious?	¿Estuviste inconsciente?
Move your fingers and toes.	Mueva sus dedos y dedos de los pies.
What day is today?	¿Qué día es hoy?
Where is this?	¿Dónde está?
Where are you?	¿Dónde estás?
What is your telephone number? …address?	¿Cuál es tu número de teléfono? ¿... dirección?
When were you born?	¿Cuándo naciste?
Sit here please.	Siéntate aquí por favor.
Lie down please.	Acuéstate, por favor.
Do you have pain? …trouble breathing? …weakness? Where?	¿Tienes dolor? ¿.. .Dificultad de respiración? ¿... debilidad? ¿Donde?
Show me where it hurts with your hand?	¿Muéstrame donde duele con la mano?
Does the pain increase when you breathe?	¿El dolor aumenta cuando usted respira?
Breathe deeply through your mouth. …breathe slowly.	Respire profundamente por la boca. .. .Respira despacio.
What medicines do you take?	¿Qué medicamentos toma?

English	Spanish
Have you taken any drugs?	¿Ha tomado alguna droga?
Have you been drinking?	¿Ha estado tomando?
Do you have any chest pain? …heart problems? …diabetes? …asthma?	¿Tienes cualquier dolor en el pecho? ¿.. . problemas de corazon? ¿... diabetes? ¿... asma?
Have you had this pain before? How long ago?	¿Ha tenido este dolor antes? ¿Cuánto tiempo hace?
Are you sick to your stomach?	¿Estás enfermo del estómago?
Are you pregnant?	¿Estás embarazada?
You will be ok.	Usted va a estar bien.
It's not serious.	No es serio
It is serious.	Es serio
TREATMENT	
Please don't move.	Por favor, no te muevas.
What's the matter?	¿Qué pasa?
Do you want to go to the hospital?	¿Quieres ir al hospital?
We're going to take you to the hospital.	Vamos a llevarlo al hospital.
We are going to give you oxygen.	Vamos a darle oxígeno.
We are going to apply a C-collar.	Vamos a aplicar un collar de cuello.
We are going to give you an IV.	Vamos a darle un IV.
Miscellaneous	
Hello/Good bye	Hola/Adiós
Yes/No	Si/No
Chest/Abdomen	El pecho/El abdomen
Neck/Back	El cuello/La espalda
Cancer/Stroke	Cáncer/Ataque cerebral
Hand/Foot	La mano/El pie
Head/Mouth	La cabeza/La boca
Heart/Lungs	El Corazón/Los pulmónes
Arm/Leg	El Brazo/La pierna
Drugs	Droga
Excuse me.	Perdóname
Thank you.	Gracias

EMS Forms	Date
Jackson County Fire EMS-ED Radio Report	July 1, 2018
Jackson County Fire EMS Refusal Form	July 1, 2018
Jackson County Fire EMS Interhospital Transfer Orders	July 1, 2018
EMS 12 lead ECG Report Form – letter size	July 1, 2018
EMS 12 lead ECG Report Form – legal size for Zoll monitor strips	July 1, 2018

CQI Forms

Handwritten forms

Prehospital Death in the Field Review QI - handwritten	July 1, 2018
Field Procedures QI - handwritten	July 1, 2018
Major MCI QI - handwritten	July 1, 2017
Random Review QI - handwritten	July 1, 2018

Fillable CQI forms – available for downloading at: http://www.jcems.net/EMSfiles.html

JACKSON COUNTY FIRE EMS-ED RADIO REPORT

Date: _____/_____/20____ Time: _____:_____ Hospital: ACH PMMC RRMC TRMC

EMS UNIT: _____ AFR RRFD FD3

Patient Age _____ Sex: F M ETA _____

☐ **Trauma Activation** Criteria: _____

☐ **STEMI Activation**: Pt Name: _____ DOB: _____/_____/_____

☐ **Stroke Activation**: Time last seen normal: _____:_____ C-STAT score (0-4): _____

☐ **ROSC Activation**: Arrest Rhythm: _____ Times: Arrest: ___:___ CPR Started: ___:___ ROSC: ___:___

☐ **MCI** Incident Name: _____ RED YELLOW GREEN

☐ **Readback completed for all Activations and all OLMC instructions**

Report: VS: B/P _____/_____ P _____ R _____ GCS _____ SpO_2 _____% CBG _____

Chief Complaint/Injury:

Treatment/Response:

Suppl. O_2: _____ $EtCO_2$: _____ IV/IO: _____

On Line Medical Control (OLMC) ED Physician: _____

Treatment Requested/Ordered:

EMS Additional Information/Updates:

EMS Provider Name _____

EMS Provider Level: EMR EMT AEMT EMT-I Paramedic

Jackson County Fire EMS Agencies Refusal Form

Patient Refusal for Assessment/Treatment/Transport

Patient name: _____

Patient Date of Birth: _____/_____/_____ Agency: _____

Date of Service: _____/_____/20_____ PCR/Incident #: _____

I ,_____, am the:
- ☐ Patient
- ☐ Legal guardian of the patient

I am refusing:
(Check the appropriate boxes)

- ☐ Assessment by the on-scene EMS provider
- ☐ Treatment by the on-scene EMS provider
- ☐ Transport by ambulance to the hospital
- ☐ Transport by ambulance to the recommended hospital for:
  - *Trauma*
  - *STEMI*
  - *Stroke*
  - *Cardiac Arrest*
  - *Diversion*

(Circle the appropriate recommendation)

Patient's Chief Complaint: _____

I understand and have been explained the potential consequences of my refusal, which include, but are not limited to:

_____

_____

_____

I have an alternative means of obtaining help if I later request it, including calling 911.

Signature of Patient/Guardian: _____

☐ Patient refused/unable to sign. Reason: _____

Witness Signature: _____

EMS Provider Signature: _____

Date: _____/_____/20_____ Time: _____:_____ am/pm

Jackson County Fire EMS Agencies
Interhospital Ground Transfer Orders

Patient Name & ID

The sending physician is responsible for all orders for care by the EMS transport team.

Date: ____/____/ 20_____	Time: _____:_____	Sending Physician Signature:
Diagnoses:		
Allergies:		
Oxygen @ _____ L/min NC NRB ET King Size: _____ Depth: _____		
Monitor: BP ECG SpO_2 $EtCO_2$	Code Status Full DNR Other	
IV SL Fluids Rate: TKO _____ ml/hr		Records

Medications (* = must be supplied by the sending hospital)

IV Meds	Dose	Rate	Parameters
Analgesic: Morphine Fentanyl			
Sedative: Midazolam *Propofol			
Anti-emetic: Ondansetron			
Vasopressor/dilator: Norepinephrine Epinephrine *Nitroglycerin *Dopamine			
Anticoagulant: *Heparin			
Airway Meds: Albuterol			
Other Meds/Blood Products:			

Foley Catheter No Yes NG Suction No Yes Chest Tube No Waterseal Suction

Ventilator settings					
FIO_2	Rate	TV	Mode	PEEP/CPAP/BiPAP	PIP

Immobilization/Balloon Pump/Other:

Patient Name & ID

1 copy to each Sending Hospital, Receiving Hospital, Transferring EMS Agency

Effective: July 1, 2019 Revised: July 1, 2018

Hospital ACH PMMC RRMC TRMC

EMS 12 LEAD ECG REPORT

Patient ID

Ambulance: AFR JCFD3 Rogue River Other: _____

Unit number: _____ **EMS Provider Name:** _____

Cardiologist Name (if any): _____

EMS STEMI Activation? Yes No **ASA 162 or 325 mg within 12 hours?** Yes No

Initial Vital Signs

B/P _____/_____, P ____, R ____, SpO_2 _____%, Maximum pre-hospital chest discomfort _____/10

Treatments

Oxygen _____liters NC NRB

Medications

Nitroglycerin x_____, Morphine or Fentanyl _____mg or mcg, other_____

Improvement after medication administration: YES NO

---------- 12 LEAD below this line ----------

Physio-Control Lifepak 12 lead ECG

Label ECG with patient's name and date of birth before attaching here

Leave this form and the attached ECG with the patient

---------- 12 LEAD above this line ----------

Hospital ACH PMMC RRMC TRMC

Patient ID

EMS 12 LEAD ECG REPORT

Ambulance: AFR JCFD3 Rogue River Other: _____

Unit number:_____ **EMS Provider Name:** _____

Cardiologist Name (if any): _____

EMS STEMI Activation? Yes No **ASA 162 or 325 mg within 12 hours?** Yes No

Initial Vital Signs B/P _____/_____, P ____, R ____, SpO_2 _____%, Maximum pre-hospital chest discomfort _____/10

Treatment: Oxygen _____liters NC NRB Nitroglycerin x_____, Morphine or Fentanyl _____mg or mcg, other _____

12 LEAD ECG below this line

For Zoll or Physio-Control 12 lead ECG

Leave this form and the attached 12 lead ECG with the patient. Label with patient's name and date of birth.

For Zoll 12 lead ECG – First, cut the Zoll 12 lead strip into 2 pieces and place the text portion here. Label with patient's name and date of birth.

For Zoll 12 lead ECG – Second, attach the 12 lead ECG portion here. Label with patient's name and date of birth.

12 LEAD ECG above this line

Jackson County Emergency Medical Services
Quality Assessment/Improvement

Death in the Field Review

Agency: _____ Reviewer _____
Run # _____ Review Date ____/____/____
To Supervising Physician? Yes No
For Case Review? Yes No
Teaching Point: _____

Criteria (circle all applicable)	Acceptable	Not Acceptable	Not Applicable	Comment (required if Not Acceptable or Not Applicable)
Trauma Death Blunt trauma OR Penetrating head wound AND Pupils fixed & dilated?	☐	☐	☐	
Dead on Arrival (DOA) Decapitation? Rigor mortis? Decomposition? Dependent livido?	☐	☐	☐	
Do Not Resuscitate POLST DNR or OLMC	☐	☐	☐	
Resuscitation ceased Protocol or OLMC?	☐	☐	☐	

Comments, Concerns & Suggestions (continue on reverse):

_____
_____
_____
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_____

Jackson County Emergency Medical Services
Quality Assessment/Improvement

Field Procedures Review

- ☐ Cooling Activation
- ☐ Artificial Airway (King LT or ET)
- ☐ Rapid Sequence Intubation (RSI)
- ☐ STEMI Activation
- ☐ Stroke Activation
- ☐ Intraosseous Infusion (EZ-IO)
- ☐ Chest Decompression
- ☐ Tourniquet application
- ☐ Cricothyrotomy
- ☐ Field Delivery

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 (continue on reverse):

Jackson County Emergency Medical Services
Quality Assessment/Improvement

MCI (involving more than 2 agencies) 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)
MCI declared & announced?	☐	☐	☐	
ICS established & appropriate?	☐	☐	☐	
Triage appropriate?	☐	☐	☐	
Treatment appropriate?	☐	☐	☐	
Transport appropriate?	☐	☐	☐	
Communications adequate?	☐	☐	☐	
Standing Orders followed?	☐	☐	☐	

Comments, Concerns & Suggestions (continue on reverse):

Jackson 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?	☐	☐	☐	
Broselow tape color if age < 15 years?	☐	☐	☐	
Scene time appropriate?	☐	☐	☐	
SOAP chart complete?	☐	☐	☐	
Appropriate vital signs?	☐	☐	☐	
Assessment & Plan appropriate?	☐	☐	☐	
Patient response charted?	☐	☐	☐	
Report signed?	☐	☐	☐	
Standing Orders followed?	☐	☐	☐	

Comments, Concerns & Suggestions (continue on reverse):

Patient Care Protocols	Date

ABDOMINAL PAIN

SUBJECTIVE:

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

OBJECTIVE:

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

ASSESSMENT:

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

Abdominal pain, cramping or contractions at 20-36 weeks of gestation is premature labor and needs obstetrical evaluation.

TREATMENT:

EMR: **EMT:**	• Position of comfort • Oxygen • Nothing to eat or drink • If pregnant at 20-36 weeks of gestation transport to RRMC for obstetric evaluation.
AEMT:	• One or two IVs or IO with crystalloid • In suspected abdominal aortic aneurysm do not increase systolic BP above 90 mmHg
EMT-I:	• Cardiac monitor • Fentanyl or Morphine
Paramedic:	• Ketamine

ABDOMINAL TRAUMA

SUBJECTIVE:

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

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

EMR: **EMT:**	• Oxygen • Keep patient warm • Cover any open wound with dressing and moisten with crystalloid
AEMT:	• One or two IVs or IO with crystalloid
EMT-I:	• Cardiac monitor • Fentanyl or Morphine
Paramedic:	• Advanced airway

ALTERED MENTAL STATUS AND PSYCHIATRIC DISORDERS

SUBJECTIVE:

History of recent crisis, emotional trauma, bizarre or abrupt changes in behavior. Suicidal ideas, alcohol or drug intoxication, toxic exposure. Recent head trauma. Past history of psychiatric disorders, medical problems, medications and medication compliance. Inquire specifically regarding depression and thoughts of self-harm or suicide.

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

PROTECT YOURSELF AND OTHERS FIRST

EMR:	• Attempt to establish rapport • Do not leave patient alone • Remove dangerous objects • Naloxone if narcotic overdose is suspected • Oxygen • Restrain, if necessary
EMT:	• Check blood sugar • Give oral glucose if hypoglycemic
AEMT:	• IV or IO with crystalloid or saline lock • Glucose if hypoglycemic
EMT-I:	• Transport in calm and quiet manner, monitor vital
Paramedic:	• Midazolam • Ketamine • Haloperidol

AMPUTATION

SUBJECTIVE:

Location and mechanism of injury, medications, past medical history, other injuries, time injury occurred, bleeding disorders.

OBJECTIVE:

Type of amputation partial or complete. Circulatory function with partial amputations.

ASSESSMENT:

Quantity of blood loss, active bleeding, presence of shock. Evaluate for other injuries. Amputation may not be life threatening but may be psychologically traumatic for patient or family.

TREATMENT:

EMR: **EMT:**	• Control bleeding • Oxygen • Cover wound with sterile dry dressing • Splint partial amputations in position of function • Wrap severed portion in dry gauze, place in sealed plastic bag, place bag on ice
AEMT:	• One or two large bore IVs or IO with crystalloid • Nitrous oxide
EMT-I:	• Fentanyl or Morphine
Paramedic:	• Midazolam • Ketamine

ANAPHYLAXIS

SUBJECTIVE:

Past history of allergic reactions. Method of exposure: oral, inhaled, dermal, percutaneous. Itching, throat tightening, shortness of breath, nausea, diarrhea, abdominal cramps, syncope.

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

EMR:	• Oxygen • Remove allergen if possible • Epinephrine auto-injector (if trained)
EMT:	• Epinephrine IM • Supraglottic Airway
AEMT:	• IV or IO with crystalloid • Epinephrine IV or IO • Albuterol
EMT-I:	• Cardiac monitor • Diphenhydramine • Epinephrine via nebulizer for severe anaphylaxis unresponsive to albuterol and ipratropium
Paramedic:	• Advanced airway • Epinephrine IV or IO infusion • Dexamethasone (optional)

BAROTRAUMA - DECOMPRESSION SICKNESS AND ARTERIAL GAS EMBOLISM

SUBJECTIVE:

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

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

EMR:	• Supine if unconscious • Left lateral Trendelenburg if conscious • High flow oxygen
EMT:	• Supraglottic Airway
AEMT:	• IV or IO with crystalloid
EMT-I:	• Cardiac monitor
Paramedic:	• Advanced airway • Chest decompression

BURNS

SUBJECTIVE:

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

OBJECTIVE:

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

ASSESSMENT:

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

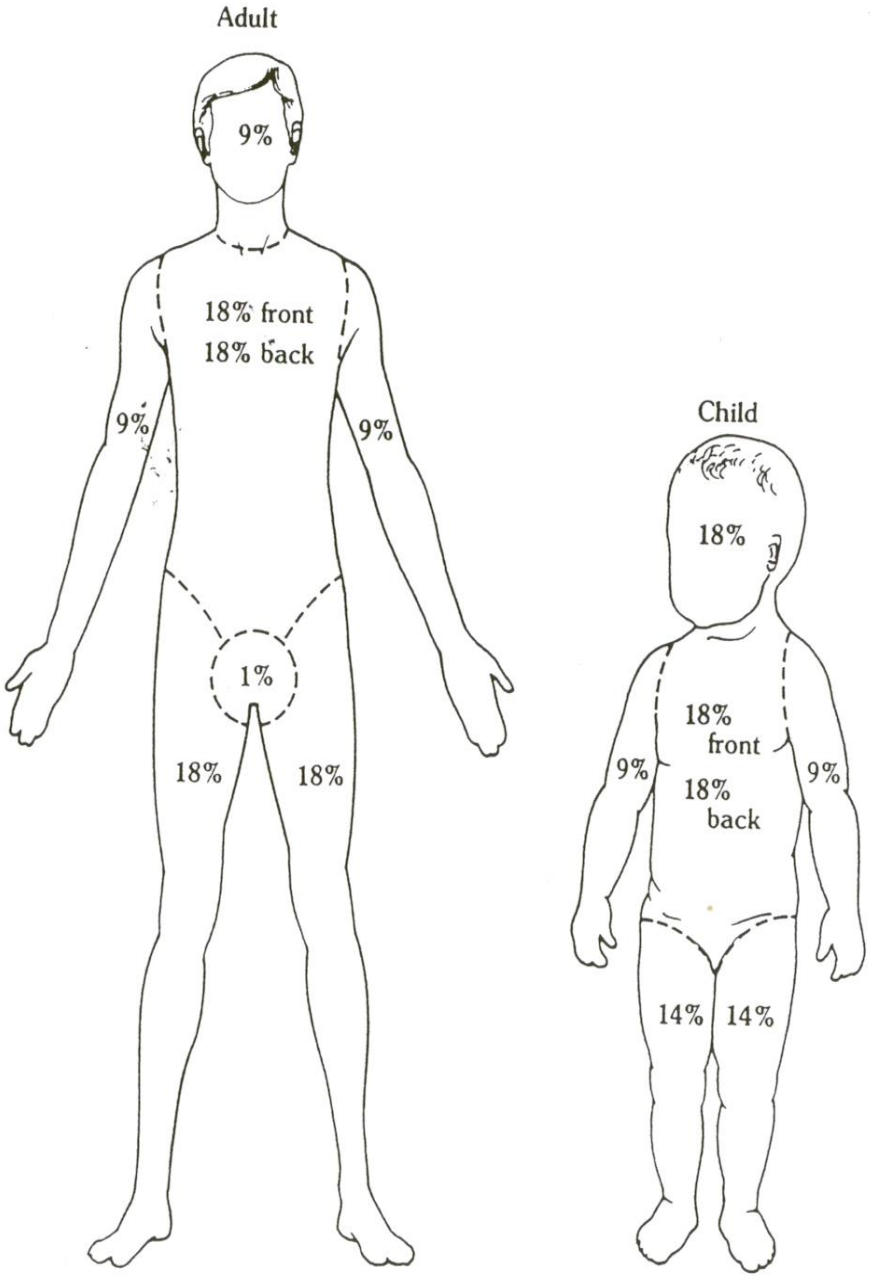
First aid treatment for hydrogen fluoride (HF) or hydrofluoric acid burns or exposure (not eyes) may include topical 0.13% benzalkonium chloride solution (Benzarid™) – ice cold if needed for pain relief.

TREATMENT:

PROTECT YOURSELF AND OTHERS FIRST

EMR:	• Cool thermal burns with water for 3-5 minutes • Remove smoldering clothing, any burning material, and restrictive rings, bracelets, belts or straps • Cover burns with clean, dry dressing • Avoid heat loss • Chemical burns - flush area with large amounts of water to dilute and remove chemical • Topical First Aid treatment before EMS arrival may include iced benzalkonium chloride (Zephiran or BenzaRid) solution for hydrogen fluoride or hydrofluoric acid burns or exposure. • Oxygen • Transport to either Rogue Regional Medical Center or Providence Medford Medical Center, but not as Trauma Activation
EMT:	• Supraglottic Airway
AEMT:	• One or two large bore IVs or IO with crystalloid • Nitrous oxide
EMT-I:	• Cardiac monitor • Fentanyl or Morphine
Paramedic:	• Ketamine

The Rule of Nines



Palm = 1% BSA

CARDIAC CHEST PAIN

SUBJECTIVE:

Symptoms suggestive of myocardial ischemia or infarction, lasting minutes to hours, not usually seconds or days

- Chest or epigastric pain or discomfort
- Discomfort may originate, be limited to, or may radiate to neck, jaw, shoulder, inner arm or elbow
- May be associated with diaphoresis, nausea, vomiting, SOB, weakness, lightheadedness or palpitations.
- May be brought on by exertion, stress or occur spontaneously.
- Relieved by rest or nitroglycerine.
- May have a history of bypass surgery, angioplasty, angina, heart attack or myocardial infarction.

Medications commonly include, but not limited to:

- nitrates (nitroglycerin, Nitrostat, Isordil, nitro patches, Imdur),
- calcium channel blockers (Norvasc, nifedipine, Procardia, Adalat, diltiazem, Dilacor, Cardizem),
- beta blockers (propranolol, Inderal, metoprolol, Lopressor, Toprolol, atenolol, sotalol (Betapace), Coreg),
- ranolazine (Ranexa) or
- statins (Mevacor, Lipitor, Zocor, Pravachol, Lescol, Rosuvastatin, Crestor)
- antiplatelet agents (aspirin, ASA, clopidogrel, Plavix)

Typical presentation (anterior, lateral or inferior):

- Chest pressure, ache, band, heaviness, crush or “elephant on the chest”
- Lasting minutes to hours – not seconds or days
- May radiate to left arm or jaw

Typical presentation (inferior):

- Epigastric distress, pain or “indigestion”

Atypical presentations are common and may include no discomfort.

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

EMR:	• 12 lead ECG, if available, before nitroglycerin administration • Aspirin – ensure that the patient has taken 324 mg within the last 12 hours – give even if taking other anticoagulant or "blood thinner" medications • Oxygen only to maintain SpO_2 = 94% or above
EMT:	• May assist with self-administration of patient's own nitroglycerin
AEMT:	• Nitroglycerin • IV (20 or 18 gauge preferred) with saline lock unless crystalloid or medications indicated
EMT-I:	• Cardiac monitor • Fentanyl or Morphine
Paramedic:	• Repeat 12 lead ECG every 5-15 minutes if symptoms persist and prior ECG does NOT show STEMI • STEMI protocol - next page

ST ELEVATION MI (STEMI)

SUBJECTIVE:

Symptoms suggestive of myocardial ischemia or infarction of ≤ 12 hours duration OR
Ventricular fibrillation or ventricular tachycardia converted to perfusing rhythm with stable vital signs AND

OBJECTIVE:

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

ST elevation, beginning at the J point:

≥ 1 mm ST elevation in
2 contiguous lateral leads (I, aVL, V_4, V_5 & V_6) OR
2 contiguous inferior leads (II, III, & aVF)

≥ 2 mm ST elevation in two contiguous chest leads (V_1, V_2, & V_3)

OR Automatic ECG interpretation indicating an "acute infarction", "acute ST Elevation infarction" or "STEMI" based on ST elevation (not ST depression).

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

ASSESSMENT:

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

TREATMENT:

Paramedic:

- Minimize on-scene time and transport the patient to RRMC, unless the patient requests transfer to PMMC.
- Notify the receiving hospital of "STEMI Activation" as soon as possible and give estimated time of arrival, patient's name and birthdate.
- Report criteria for "STEMI Activation": autoanalyzer reading or ST elevation.
- Confirm "STEMI Activation" with a "read back".
- The transporting agency will deliver or transmit each 12 lead ECG obtained to the destination hospital ED and will identify the EMS 12 lead ECG in the ED by attaching the hospital's preprinted ED registration label in the lower right corner. 12 lead ECG printouts which are not 8.5 x 11 inches (letter-size) will be attached by the transporting agency to the appropriate EMS 12 lead ECG Report Form and labeled.
- 2nd IV (20 or 18 gauge preferred) with saline lock in same arm if possible.
- Note the specific time of symptom onset and the duration of symptoms.
- Patient to receive hospital registration from ED staff before going to cath lab

CARDIAC DYSRHYTHMIAS

SUBJECTIVE:

Syncope, loss of consciousness, palpitations, chest pain, dizziness. History of heart disease, current medications. Bystander treatment prior to EMS arrival.

OBJECTIVE:

Vital signs, level of consciousness, pulmonary rates, peripheral perfusion.

ASSESSMENT:

Treatment protocol based on patient's condition and specific rhythm.

TREATMENT:

EMR:	• High Performance CPR • Oxygen • Automatic External Defibrillator (AED) as soon as available
EMT:	• Supraglottic airway device (King LT) may be placed after at least 2 minutes of CPR with no interruption of CPR • After an advanced airway has been placed give 1 ventilation every 6 seconds (10 ventilations/minute) with continuous chest compressions
AEMT:	• IV or IO with crystalloid
EMT-I:	• Cardiac monitor/Defibrillator • ACLS protocols V. fib/Pulseless V. tach (VF/VT) Asystole/Pulseless Electrical Activity (PEA) Cardiac Arrest with ROSC Bradycardia - Symptomatic Tachycardia - Narrow complex Tachycardia - Wide complex Pediatric Bradycardia Pediatric Tachycardia
Paramedic:	• Advanced airway device may be considered after at least 2 minutes of CPR with no or minimal interruption of CPR, if a supraglottic airway has not been placed, unless unable to adequately ventilate or oxygenate before that time

VENTRICULAR FIBRILLATION/ PULSELESS VENTRICULAR TACHYCARDIA (VF/VT)

SUBJECTIVE:

Loss of consciousness.

OBJECTIVE:

Unconsciousness, unresponsive, pulseless and apneic, gasping or ineffective respirations.
AED shows “shockable rhythm”.
Cardiac monitor shows ventricular fibrillation or ventricular tachycardia.

ASSESSMENT:

Ventricular fibrillation or pulseless ventricular tachycardia (VF/VT).

TREATMENT:

EMR:	• High Performance CPR • Automatic External Defibrillator (AED) as soon as available If available use pediatric pads or attenuator if age < 8 years • Transport may be initiated after CPR, intravascular access, airway management and 2 rounds of ACLS medications have been administered or earlier if ROSC occurs.
EMT:	• Supraglottic airway (King LT) after at least 2 minutes of CPR with no interruption of CPR
AEMT:	• IV or pediatric IO with crystalloid
EMT-I:	• Initial single shock defibrillation: Medtronic PhysioControl LIFEPAK 12/15 at 200 J Zoll E-series or X-series at 120 J Child < 8 years at 2 J/kg • Epinephrine - repeat about every 4 minutes • Subsequent single shock defibrillation after each cycle of CPR: Medtronic PhysioControl LIFEPAK 12/15 at 300, then at 360J Zoll E-series or X-series at 150J then at 200 J Child < 8 years at 4 J/kg – not to exceed 10J/kg or adult dose • Amiodarone • Lidocaine if allergic to amiodarone
Paramedic:	• Endotracheal intubation after at least 2 minutes of CPR with no interruption of CPR if Supraglottic airway (King LT) not placed • Magnesium sulfate - if torsades de pointes • Sodium bicarbonate - if hyperkalemic or if known overdose with tricyclic antidepressants

ASYSTOLE/PULSELESS ELECTRICAL ACTIVITY (PEA)

SUBJECTIVE:

Loss of consciousness.

OBJECTIVE:

Unconsciousness, unresponsive, pulseless and apneic, gasping or ineffective respirations.
AED shows “non-shockable rhythm”.
Cardiac monitor shows asystole in 2 leads or pulseless electrical activity (PEA).
Pulseless Electrical Activity (PEA) means cardiac EKG activity that would be anticipated to produce a pulse, such as a sinus rhythm or wide complex rhythm at a rate greater than 40 beats per minute.

ASSESSMENT:

Asystole/Pulseless Electrical Activity (PEA)

TREATMENT:

EMR:

- High Performance CPR
- Automatic External Defibrillator (AED) as soon as available
- Transport may be initiated after CPR, intravascular access, airway management and 2 rounds of epinephrine have been administered or earlier if ROSC occurs.

EMT:

- Supraglottic airway device (King LT) after at least 2 minutes of CPR with no interruption of CPR

AEMT:

- IV or IO with crystalloid

EMT-I:

- Epinephrine
- Evaluate for and manage treatable causes:

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

- Consider Termination of Resuscitation (TOR)

Paramedic:

- Endotracheal intubation after at least 2 minutes of CPR with no interruption of CPR if supraglottic airway (King LT) not already placed
- Sodium bicarbonate - if hyperkalemic or if known overdose with tricyclic antidepressants

CARDIAC ARREST WITH ROSC

SUBJECTIVE:

Patients who (all must be present):

a. Have had a non-traumatic cardiac arrest (ventricular fibrillation, ventricular tachycardia or PEA/asystole) and have had return of spontaneous circulation (ROSC) with a perfusing rhythm,
b. CPR must have begun within 15 minutes of the cardiac arrest,
c. Return of spontaneous circulation (ROSC) within 60 minutes of the cardiac arrest,
d. Age 18 years or greater and
e. Not have a POLST stating Do Not Attempt Resuscitate (DNR).

OBJECTIVE:

Patients must (all must be present):

a. Have a perfusing rhythm and
b. Not obviously be pregnant (no gravid uterus).

ASSESSMENT:

Adult, non-pregnant patients who have suffered a non-traumatic cardiac arrest and develop a perfusing rhythm are likely to benefit from optimal hemodynamics, evaluation for STEMI or Targeted Temperature Management (TTM) in the hospital.

TREATMENT:

EMR:

- Transport rapidly to PMMC or RRMC based on patient choice or nearest hospital with notification of "ROSC Activation" and report:

___:___Time of cardiac arrest

___:___Time CPR started

_____ Initial rhythm of cardiac arrest

___:___Time of ROSC

Vital Signs: BP___/_____ P____ R____ GCS____ Airway Status_____

- Confirm "ROSC Activation" radio call with a "read back".

- After arrival in the ED report:

___:__ Time of neuromuscular blocker (if given)

_____ GCS before neuromuscular blocker (if given)

_____ # doses of epinephrine administered

EMT:	• Supraglottic airway • Continuous end tidal CO_2 capnometry with a goal of 30-40 mm Hg
AEMT:	• IV or IO with crystalloid (maximum 2 L) to maintain systolic BP great than 90 mm Hg
EMT-I:	• Amiodarone or lidocaine if initial rhythm was ventricular fibrillation or tachycardia
Paramedic:	• Endotracheal intubation • NG or OG placement • Vasopressor to maintain systolic BP greater than 90 mm Hg: Norepinephrine if tachycardic Epinephrine if bradycardic

BRADYCARDIA - SYMPTOMATIC

SUBJECTIVE:

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

OBJECTIVE:

Bradycardia (pulse < 50)
Hypotension
Diaphoresis
Syncope

ASSESSMENT:

Symptomatic bradycardia

TREATMENT:

EMR: **EMT:**	• Oxygen • 12 lead ECG, if available - don't delay other treatment		
AEMT:	• IV or IO with crystalloid		
EMT-I:	• Cardiac monitor • Atropine		
Paramedic:	• Epinephrine push dose or infusion	OR	• Sedation • Transcutaneous pacing

Consider antidote for specific drug toxicity:
Calcium for calcium channel-blocker overdose

TACHYCARDIA - NARROW COMPLEX

SUBJECTIVE:

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

OBJECTIVE:

Tachycardia – usually rate ≥ 150 beats/minute
Narrow complex (QRS < 0.12 seconds)
Hypotension
Diaphoresis
Syncope

ASSESSMENT:

Narrow complex tachycardia – can be PSVT, atrial flutter, atrial fibrillation

TREATMENT:

EMR: **EMT:**	• Oxygen • Position of comfort
AEMT:	• IV or IO with crystalloid
EMT-I:	• Cardiac monitor • Vagal maneuvers, if patient stable
Paramedic:	• Adenosine • Diltiazem – 1st if atrial fibrillation with rapid ventricular response • Amiodarone if Wolf-Parkinson-White • Synchronized cardioversion if unstable

TACHYCARDIA - WIDE COMPLEX

SUBJECTIVE:

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

OBJECTIVE:

Tachycardia – usually rate ≥ 150 beats/minute
Wide complex (QRS ≥ 0.12 seconds)
Hypotension
Diaphoresis
Syncope

ASSESSMENT:

Wide complex tachycardia

TREATMENT

EMR: **EMT:**	• Oxygen • Position of comfort • 12 ECG if patient stable
AEMT:	• IV with crystalloid
EMT-I:	• Cardiac monitor • IO with crystalloid • Amiodarone • Lidocaine if allergic to amiodarone
Paramedic:	• Adenosine before amiodarone if stable with regular & monomorphic rhythm • Synchronized cardioversion if unstable • Magnesium for Torsades de Pointes with a pulse

PEDIATRIC BRADYCARDIA

SUBJECTIVE:

Age < puberty (about 12-14 years)
Altered level of consciousness.
Dizziness or lightheadedness
Syncope
Fatigue

OBJECTIVE:

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

ASSESSMENT:

Pediatric bradycardia

TREATMENT:

EMR: **EMT:**	• Oxygen • CPR if pulse < 60 bpm and hemodynamically unstable • 12 lead ECG
AEMT:	• IV or IO with crystalloid
EMT-I:	• Cardiac monitor • Epinephrine • Atropine if increased vagal tone or primary AV block
Paramedic:	• Transcutaneous pacing with sedation • Epinephrine IV or IO infusion • Consider antidote for specific drug toxicity: Calcium for calcium channel-blocker overdose

PEDIATRIC TACHYCARDIA

SUBJECTIVE:

Age < puberty (about 12-14 years)
Palpitations or rapid heart rate
Altered level of consciousness
Dizziness or lightheadedness
Chest discomfort
Dyspnea (shortness of breath)
Poor feeding
Fatigue

OBJECTIVE:

Tachycardia
- Infants, usually > 220 bpm
- Children, usually > 180 bpm

Cyanosis
Decreased level of consciousness
Hypotension
Diaphoresis
Syncope

ASSESSMENT:

Pediatric tachycardia

TREATMENT:

EMR: **EMT:**	• Oxygen • Position of comfort • 12 lead ECG
AEMT:	• IV or IO with crystalloid
EMT-I:	• Cardiac monitor • Vagal maneuvers, if patient stable with narrow complex tachycardia (rectal stimulation with a thermometer, ice water on face, or blowing through a straw – depending on age)
Paramedic:	• Adenosine if narrow complex (QRS < 0.09 msec) or if wide complex (QRS ≥ 0.09 msec) and regular and monomorphic 0.1 mg/kg (= 0.033 ml/kg) - max 6 mg - rapid IV or IO push If persistent, repeat once at 0.2 mg/kg (= 0.067 ml/kg) - max 12 mg - rapid IV or IO push • Synchronized cardioversion

CHEST TRAUMA

SUBJECTIVE:

History and mechanism of injury: blunt or penetrating. Onset of symptoms from time of event. Chest pain, difficulty breathing, coughing up blood. History of chest surgery. Last oral intake.

Blunt: speed of motor vehicle crash; steering wheel damage; passenger restraints; type of weapon if used; type of fall or blast.

Penetrating: mechanism; type of weapon; distance from firing; caliber.

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

EMR:	• Oxygen • Cover open chest wounds with occlusive dressing • Spinal motion restriction
EMT:	• Supraglottic Airway
AEMT:	• One or two large bore IVs or IO with crystalloid
EMT-I:	• Cardiac monitor • Fentanyl or Morphine
Paramedic:	• Chest decompression • Advanced airway

CHILDBIRTH - CARE OF THE NEWBORN

SUBJECTIVE:

Presentation at birth, time of delivery, precipitous or home delivery, complications with pregnancy, due date, multiple births, past medical history, medications, drug or alcohol usage.

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

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

APGAR SCORING

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

CHILDBIRTH - UNCOMPLICATED

SUBJECTIVE:

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

OBJECTIVE:

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

ASSESSMENT:

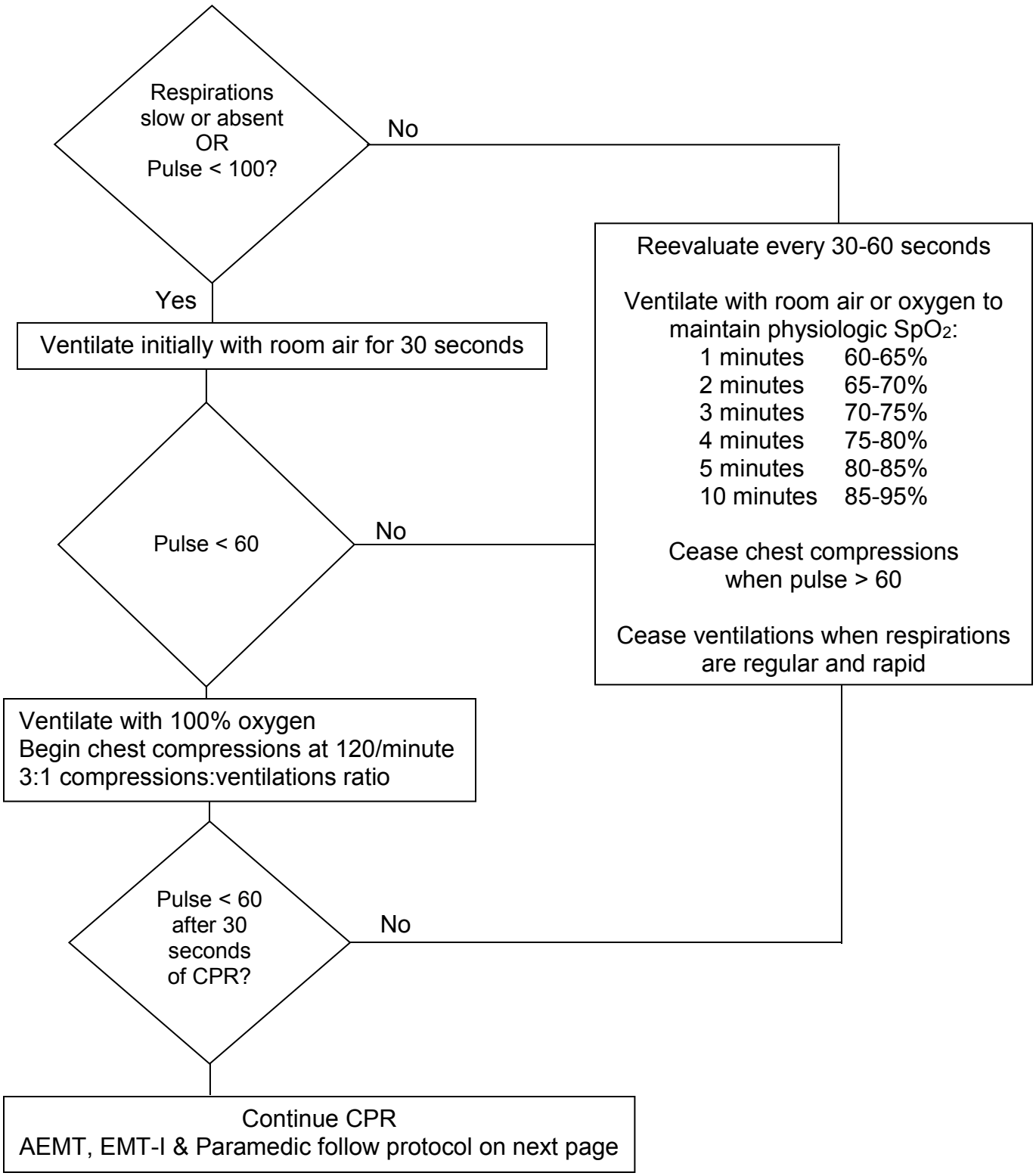
Childbirth is a natural event and usually is uncomplicated. If you suspect a complicated delivery, refer to the appropriate protocol and request additional resources. If you suspect an uncomplicated delivery and imminent birth is not present, transport mother on left side. If impending birth, follow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

TREATMENT:

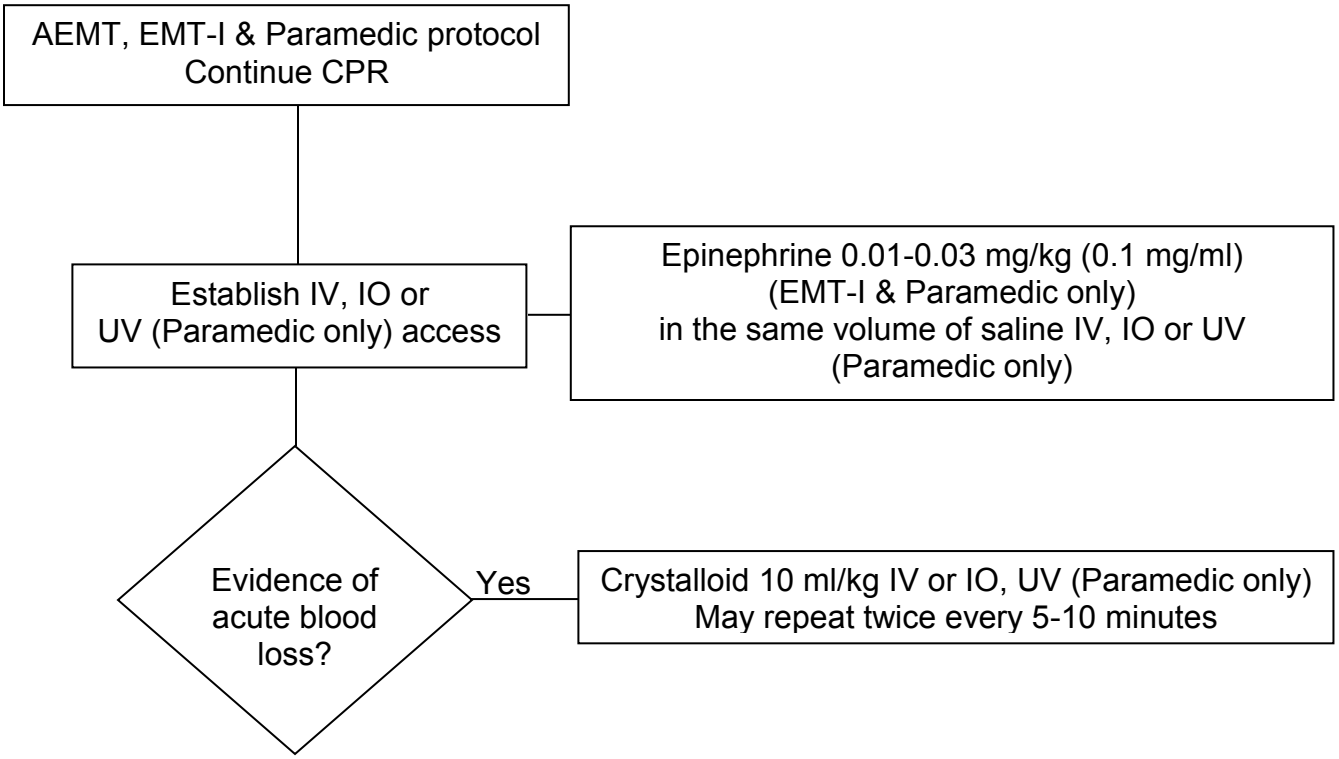
EMR:
EMT:
AEMT:
EMT-I:
Paramedic:

- Oxygen
- Position of comfort
- OB pack
- Assist with delivery of head applying gentle pressure and continue to support head
- Feel around neck for nuchal cord, if present gently slip around head
- Clear airway (suction mouth & nose with bulb syringe) only if obvious obstruction
- Supporting head, assist delivery of anterior shoulder and then the rest of the body
- Place baby skin to skin with mother, dry and keep warm until the cord is clamped - no need to keep baby at placental level
- Clamp cord using 2 clamps spaced 6-8 inches from baby's body and cut cord between clamps
- Inspect perineum for tears. Apply direct pressure with gauze pad to any bleeding. Do not pack inside of vagina
- Let placenta deliver normally and take to hospital
- After placenta delivers, massage uterus by rubbing abdomen firmly
- Pregnancy less than 36 weeks requires transport to RRMC obstetrics.

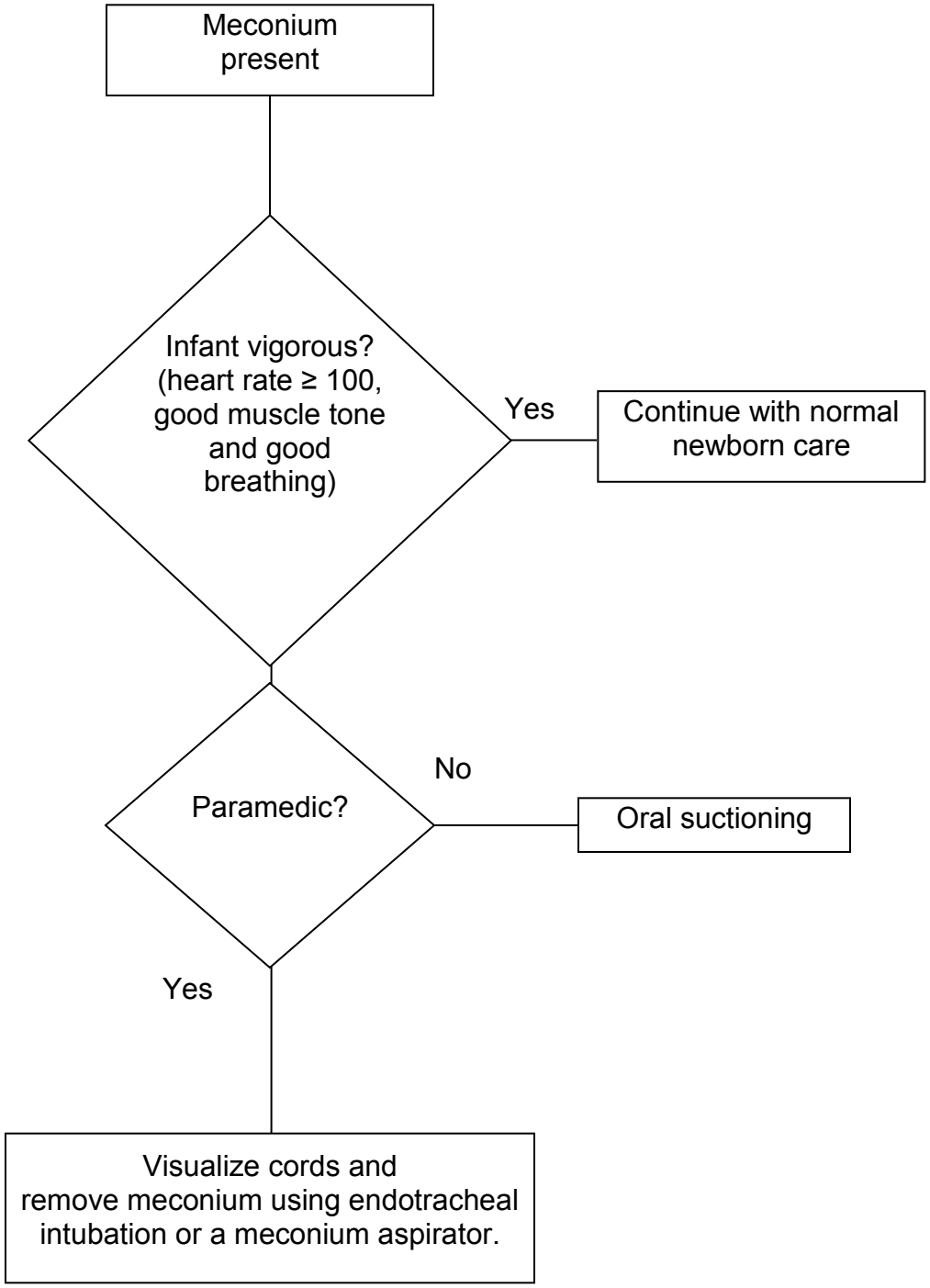
NEWBORN CARE – COMPLICATIONS



NEWBORN CARE – COMPLICATIONS (cont'd)



NEWBORN CARE – MECONIUM



CHILDBIRTH - POST PARTUM HEMORRHAGE

SUBJECTIVE:

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

OBJECTIVE:

Hypotension, tachycardia, estimated blood loss at scene, active bleeding, tears in perineum, delivery of intact placenta.

ASSESSMENT:

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

TREATMENT:

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

CHILDBIRTH - BREECH DELIVERY

SUBJECTIVE:

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

OBJECTIVE:

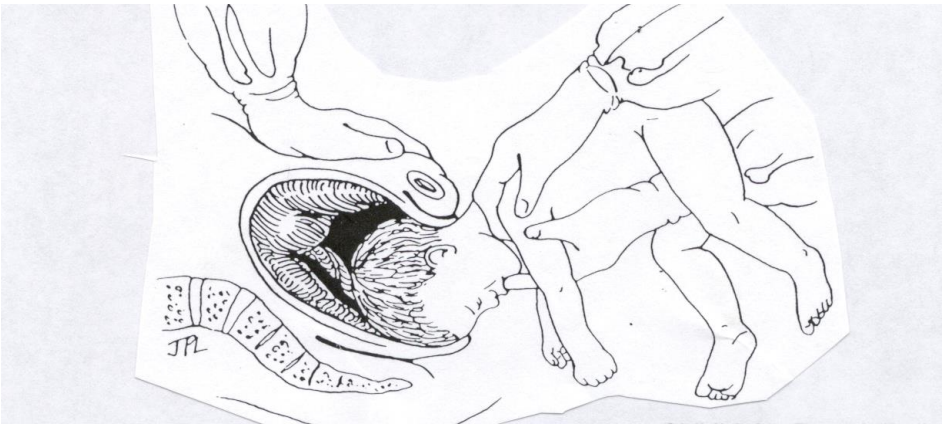
Presenting part, frequency of contractions, meconium.

ASSESSMENT:

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

TREATMENT:

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



CHILDBIRTH - PRE-ECLAMPSIA/ECLAMPSIA

SUBJECTIVE:

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

OBJECTIVE:

Hypertension (BP > 140/90), edema, hyperreflexia, seizures, coma, occurring after 20 weeks (4-5 months) gestation.

ASSESSMENT:

Pre-eclampsia is a pregnancy related condition occurring after 20 weeks of gestation, typically involving hypertension (BP > 140/90), protein in the urine (proteinuria) and edema. During pregnancy, blood pressure should be less than when not pregnant. Pre-eclampsia/eclampsia may occur after delivery of the child.

Pre-eclampsia is more common if it was present during a prior pregnancy, during a woman's first pregnancy, and with multiple gestations (twins, triplets, etc).

When seizures occur the condition is called eclampsia. Pre-eclampsia and eclampsia used to be called toxemia. Suspect eclampsia in third trimester pregnant patients who are seizing. These patients will initially need magnesium sulfate to control their seizures. Midazolam or diazepam are only used to control seizures if magnesium sulfate has not been effective.

TREATMENT:

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

EMR: **EMT:**	• High flow oxygen • Turn mother onto left side • Keep environmental stimulation at a minimum
AEMT:	• IV or IO with crystalloid
EMT-I:	• Cardiac monitor
Paramedic:	• Magnesium • Midazolam - after magnesium sulfate has been administered • Advanced airway

COMA

SUBJECTIVE:

Headache, seizures, confusion, trauma. Prior medical or psychiatric problems, such as diabetes, epilepsy, CVA.

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

EMR:	• Naloxone if narcotics suspected • High flow oxygen
EMT:	• Check blood sugar • Supraglottic Airway
AEMT	• One or two IVs or IO with crystalloid • Glucose IV or IO if hypoglycemia
EMT-I:	• Cardiac monitor
Paramedic:	• Advanced airway

CROUP

SUBJECTIVE:

"Barky" or "seal-like" cough with breathing difficulty mostly during inspiration and worse when excited or agitated in a child, most commonly of age 6 months - 6 years. May have a low grade fever and cold symptoms. Symptoms typically are worse at night.

OBJECTIVE:

Inspiratory stridor heard loudest in the neck.
Child is able to handle oral secretions.
May have a low grade fever.
Stridor usually lessens when child is calm.

ASSESSMENT:

Croup (laryngotracheobronchitis) is a viral respiratory illness with swelling in the larynx which results in the typical "barky" cough and inspiratory stridor (noisy breathing). Asthma and bronchospasm typically causes expiratory wheezing.

Treatment is supportive, unless child's SaO_2 is less than 90% or significant inspiratory stridor is present at rest.

Inhaled epinephrine may be administered for significant inspiratory stridor present at rest.

Advanced airway placement may trigger marked laryngospasm and should be done only as a last resort.

Inspiratory stridor may also be caused by:

- Epiglottitis, which is a bacterial illness usually with an ill-appearing patient, significant fever, drooling, or
- Inhaled foreign body, which usually has a sudden onset without cold symptoms or a fever.

TREATMENT:

EMR: **EMT:** **AEMT:**	• Position of comfort and least anxiety • Oxygen to bring SaO_2 above 94%
EMT-I:	• Epinephrine via nebulizer .
Paramedic:	• Dexamethasone if epinephrine administered • Advanced airway

DO NOT RESUSCITATE (DNR)

SUBJECTIVE:

The patient's wishes in terms of heroic life saving measures is to not be resuscitated. This information may be obtained from the patient, family/caretakers, POLST form or Advanced Directives.

OBJECTIVE:

Patient is unresponsive, apneic and pulseless or patient has decreasing consciousness, impending respiratory or cardiac failure with death being imminent.

ASSESSMENT:

For some patients with certain medical conditions he or she may decide in advance that life-prolonging or resuscitative efforts would not be beneficial or desirable. This is a decision that is made in consultation with the patient's physician or nurse practitioner ahead of time. A valid, signed and dated POLST (Physician Orders for Life-Sustaining Treatment) form is the only pre-hospital DNR instruction accepted without physician consultation by Jackson County Fire EMS personnel.

TREATMENT:

EMR, EMT, AEMT, EMT-I, Paramedic

- All patients who are unresponsive, apneic and pulseless or who have impending cardiac or respiratory failure will receive full resuscitation efforts within the EMS provider's abilities and knowledge, EXCEPT

  1. Patient has a valid POLST form or wallet card (either the original salmon-colored form or a readable photocopy) with corresponding name and date of birth and be signed and dated by a physician (MD or DO), nurse practitioner (NP), physician assistant (PA) or naturopathic physician (ND), including verbal orders by any of these authorized practitioners documented in writing by an RN. If the POLST form is unavailable, the POLST Registry at OHSU (1-888-476-5787 for EMS use only) may be called with as much patient identifying information as possible (name, POLST Registry #, birthdate, address, last 4 digits of social security number) and the POLST instructions for Section A & B can be provided verbally and the POLST form can be faxed.

     EMS personnel will follow the instructions checked in Section A or B only. Section A instructs whether or not to attempt resuscitation for a patient who is both pulseless and apneic. Section B refers to EMS treatment (comfort measures only, limited additional interventions, or full treatment) in the case of a patient who has a pulse, is breathing or both.

     If there is any confusion or discrepancy about the POLST form or from the patient, family or caretakers, begin care or resuscitation measures and

contact the patient's practitioner, OLMC or transport the patient to the hospital. Document your actions and include a copy of the POLST form as part of the PCR and take the original POLST form or a copy to the destination hospital.

If CPR or other resuscitative measures have been initiated by EMS providers and a valid POLST form is subsequently found, then CPR or other resuscitative measures may be stopped as long as the family or other caregivers agree with the termination of resuscitation.

2. Obvious death with decapitation, rigor mortis in a warm environment, decomposition or dependent livedo (venous pooling in dependent body parts);
3. Victim of blunt trauma or a penetrating head wound with fixed and dilated pupils;
4. Any other patient who presents with a verbal or written DNR (Do Not Attempt Resuscitation) order will have CPR initiated while identification and verification of the DNR request are confirmed by the patient's physician, nurse practitioner or OLMC at the appropriate hospital.

- Patient and family comfort, including first aid measures or clearing of airway.
- If patient is pronounced dead, notify the medical examiner through law enforcement.
- Explain to the survivors the next steps likely to occur.
- Do not move patient or remove medical treatment devices, although you may consider eliminating connection devices such as IV tubing, electrode wires, or airway tubing extending beyond the lips that cannot be adequately covered with a blanket or sheet.
- Arrange for support of family or friends such as calling a chaplain or clergy before leaving the scene.
- Allow family or friends to appropriately view or visit the patient if desired.

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

Physician Orders for Life-Sustaining Treatment (POLST)™

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

Patient Last Name:	Patient First Name:	Patient Middle Name:	Gender: ☐ M ☐ F ☐ X
Address: (street / city / state / zip):			Date of Birth: (mm/dd/yyyy) _____ /_____ /_____

A — Check One

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

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

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

B — Check One

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

☐ **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 — Check One

ARTIFICIALLY ADMINISTERED NUTRITION: *Offer food by mouth if feasible.*

☐ No artificial nutrition by tube.
☐ Defined trial period of artificial nutrition by tube
☐ Long-term artificial nutrition by tube.

Additional Orders (e.g., defining the length of a trial period): _____

D — Must Fill Out

DOCUMENTATION OF DISCUSSION: (REQUIRED) *See reverse side for add'l info.*

☐ Patient (If patient lacks capacity, must check a box below)

☐ Health Care Representative (legally appointed by advance directive or court)

☐ Surrogate defined by facility policy or Surrogate for patient with developmental disabilities or significant mental health condition (Note: Special requirements for completion- see reverse side)

Representative/Surrogate Name: _____ Relationship: _____

E

PATIENT OR SURROGATE SIGNATURE AND OREGON POLST REGISTRY OPT OUT

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

F — Must Print Name, Sign & Date

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

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 E

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

Information for patient named on this form PATIENT'S NAME: _____

The POLST form is **always voluntary** and is usually for persons with serious illness or frailty. POLST records your wishes for medical treatment in your current state of health (states your treatment wishes if something happened tonight). Once initial medical treatment is begun and the risks and benefits of further therapy are clear, your treatment wishes may change. Your medical care and this form can be changed to reflect your new wishes at any time. No form, however, can address all the medical treatment decisions that may need to be made. An Advance Directive is recommended for all capable adults and allows you to document in detail your future health care instructions and/or name a Health Care Representative to speak for you if you are unable to speak for yourself. Consider reviewing your Advance Directive and giving a copy of it to your health care professional.

Contact Information (Optional)

Health Care Representative or Surrogate:	Relationship:	Phone Number:	Address:

Health Care Professional Information

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

Directions for Health Care Professionals

Completing POLST

- Completing a POLST is always voluntary and cannot be mandated for a patient.
- 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).
- For information on legally appointed health care representatives and their authority, refer to ORS 127.505 - 127.660.
- Should reflect current preferences of persons with serious illness or frailty. Also, encourage completion of an Advance Directive.
- Verbal / phone orders from MD/DO/NP/PA/ND in accordance with facility/community policy can be submitted to the Registry.
- Use of original form is encouraged. Photocopies, faxes, and electronically-signed registry forms are also legal and valid.
- 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.

Oregon POLST Registry Information

Health Care Professionals:

(1) You are ***required*** to 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
- At least one section order (A, B or C)

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:
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.
- Draw line through sections A through E and write "VOID" in large letters if POLST is replaced or becomes invalid.
- Send a copy of the voided form to the POLST Registry (**required** unless patient has opted out).
- If included in an electronic medical record, follow voiding procedures of facility/community.

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

DROWNING

SUBJECTIVE:

Length of exposure, fresh or salt water, temperature, dyspnea, cough, chest pain, headache, nausea, vomiting, neck pain, bystander treatment.

OBJECTIVE:

Level of consciousness, rales, respiratory rate, cyanosis, pallor, internal temperature, hypotension.

ASSESSMENT:

World Health Organization (WHO) definition:

Drowning is the process of experiencing respiratory impairment from submersion/immersion in liquid.

Assess for other injuries: shallow water dives and scuba diving.

TREATMENT:

EMR:	• CPR as needed • Suction airway • Spinal motion restriction if indicated • Oxygen • Remove wet clothing and warm patient
EMT:	• Supraglottic Airway
AEMT:	• IV or IO with crystalloid
EMT-I:	• Cardiac monitor • Orogastric tube
Paramedic:	• Advanced airway • Nasogastric tube

DYSTONIC REACTION

SUBJECTIVE:

Involuntary, unpleasant motor movements of the trunk, limbs or face following the administration of antipsychotic medications: perphenazine (Trilafon), trifluoperazine (Stelazine), fluphenazine (Prolixin), thiothixenxe (Navane), haloperidol (Haldol) or anti-nausea medications: promethazine (Phenergan), droperidol (Inapsine), prochlorperazine (Compazine) or metaclopramide (Reglan).

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

EMR: **EMT:**	• Position of comfort • Oxygen
AEMT:	• IV with crystalloid
EMT-I: **Paramedic:**	• Diphenhydramine

EPISTAXIS (NOSEBLEED)

SUBJECTIVE:

Amount of blood loss, trauma, recent upper respiratory tract infection, intranasal drug use, current medications (aspirin, warfarin-Coumadin, clopidogrel-Plavix, dabigatran-Pradaxa), self treatment, history of nosebleeds, nausea.

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

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

EXERCISE ASSOCIATED HYPONATREMIA (EAH)

SUBJECTIVE:

Participation in a long distance endurance event, such as a triathlon, marathon or ultramarathon "ultra". Usually takes several hours of prolonged exertion to develop. Patients have often been drinking large amounts of liquid and can be taking salt tablets.

OBJECTIVE:

Altered level of consciousness: disorientation, delirium, confusion, seizure, coma.
Normothermic.
No hypotension or tachycardia.
No hypoglycemia
Weight gain (or no weight loss) during the event

ASSESSMENT:

Exercise Associated Hyponatremia (EAH) is an acute electrolyte abnormality which occurs in generally healthy people who participate in long distance endurance events and is due to excess water intake.
Definitive diagnosis is made by measurement of serum sodium [Na^+] which is done at the hospital.
Evaluate for and treat other medical conditions first.

TREATMENT:

EMR: **EMT:**	• Oxygen • Evaluate and treat other medical conditions.
AEMT: **EMT-I:** **Paramedic:**	• Saline lock – avoid crystalloid IV or IO • Record pre-race weight and current weight, if available. • If [Na^+] is measured onsite by event medical staff, then online medical control (OLMC) and report [Na^+] value. • Transport to the hospital

EYE INJURY

SUBJECTIVE:

Mechanism of injury: chemical exposure, foreign body, penetrating injury.
Changes in vision or loss of vision.
Use of eye protection or corrective lenses.
Associated injuries.

OBJECTIVE:

Pupil irregularity.
Foreign body on or in the eye.
Redness of the eye.
Associated injuries, especially of the eyelid, eyebrow or adjacent face.
Visual acuity.

ASSESSMENT:

Eye injuries may range from mild and superficial to severe and penetrating with associated change in vision.

TREATMENT:

EMR:
EMT:
AEMT:
EMT-I:
Paramedic:

- Assess for and treat life-threatening injuries first
- Check and record visual acuity in each eye individually:
  - Read available text,
  - Count fingers, or
  - Distinguish shapes.

  Both before and after any treatment
- Remove any contact lens in the injured eye, if possible
- Avoid rubbing the injured eye
- Penetrating eye injury:
  - Protect the eye from further injury – minimize movement of the other eye
  - Stabilize any impaled object
  - Do not irrigate (flush) the eye
- Non-penetrating eye injury:
  - Irrigate (flush) the eye with clean water or crystalloid – minimum of 1 liter
- All eye injuries treated by EMS need medical evaluation

FRACTURES & DISLOCATIONS

SUBJECTIVE:

History of trauma and mechanism of injury. Localized pain, swelling, deformity or angulation, loss of sensation or motion.

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

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

HEAD TRAUMA

SUBJECTIVE:

History of trauma and the mechanism of injury. Changes in consciousness. Protective devices worn, such as safety belts or helmets. Headache, nausea, vomiting, visual changes, numbness, tingling or paralysis. Medical history.

OBJECTIVE:

Level of consciousness. Clear or bloody discharge from ears or nose. Cushing's triad: bradycardia, hypertension and abnormal respirations. Pupil size and reactivity to light. Skull or facial lacerations or fractures. Assess for further injuries.

ASSESSMENT:

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

TREATMENT:

EMR:	• Oxygen 2-4 lpm via nasal cannula if GCS 13-15 High flow oxygen with non-rebreather mask if GCS 12 or less and patient is not intubated • Spinal motion restriction
EMT:	• Supraglottic Airway
AEMT:	• IV or IO with crystalloid
EMT-I:	• Cardiac monitor
Paramedic:	• Advanced airway

HEAT ILLNESS

SUBJECTIVE:

Hot environment, exercise, rate of onset, underlying medical conditions, current medications. Headache, nausea, cramps, dizziness, generalized weakness.

OBJECTIVE:

Core temperature normal or elevated. Skin normal, cool and wet, or hot and dry. Blood pressure normal or low. Altered level of consciousness or seizures.

ASSESSMENT:

Heat illness may range from heat cramps, treated with removal from heat, to heat exhaustion, treated with hydration, to heat stroke where the body's ability to maintain normal temperature fails. Heat stroke is diagnosed on the basis of hot environment, body temperature greater than 40°C (104°F) and neurological abnormalities including an altered mental status. Patients with heat stroke need to have active cooling measures begun immediately.

TREATMENT:

EMR: **EMT:**	• Remove patient from heat • Oxygen • Active cooling if heat stroke
AEMT:	• IV or IO with crystalloid
EMT-I: **Paramedic:**	• Cardiac monitor

HOSPICE

SUBJECTIVE:

Patient is enrolled in a local hospice program to provide end of life comfort care.

OBJECTIVE:

Patient likely will have POLST Form specifying DNR/DNAR in Section A and Comfort Measures Only in Section B.

ASSESSMENT:

Any patient, already enrolled in a hospice program, should have already contacted the on-call hospice nurse before EMS providers arrive or are called.

TREATMENT:

EMR: **EMT:** **AEMT:** **EMT-I:** **Paramedic:**	• Provide patient and family comfort. • Contact the on-call hospice nurse to discuss further care, which or may not include transport of the patient to the hospital for further evaluation or care. • OLMC if the on-call hospice nurse is not reachable in a timely fashion. • The patient may elect to leave the hospice program at any time.

Hospice Program	24 hour contact phone number
Asante Hospice	541-789-5005
Providence Hospice	541-732-6500
Signature Hospice	541-664-7400

HYPERGLYCEMIA

SUBJECTIVE:

Altered level of consciousness, rapid or slow onset, confusion, weakness, dizziness, abdominal pain, vomiting, frequent urination, recent weight loss, or presence or absence of hunger and thirst. Often with a history of diabetes, which may be treated with insulin or oral hypoglycemic medication: glyburide (Diabeta, Micronase), glipizide (Glucotrol), tolbutamide (Orinase), metformin (Glucophage), chlorpropamide (Diabinase).

Patients may have run out of their diabetes medication, especially insulin.

Patients often have an acute underlying medical illness, such as a bacterial infection, myocardial infarction (MI), or viral syndrome.

Some patients may first be discovered to have diabetes on an initial presentation of hyperglycemia.

OBJECTIVE:

Level of consciousness: confusion, disoriented, combative, comatose, or unresponsive. ***Skin:*** pale, moist or warm, dry and pink, or signs of dehydration. ***Breathing:*** normal, rapid and deep (Kussmaul respirations), or fruity odor (due to ketones). ***Pulse:*** normal or elevated. ***Blood pressure:*** hypotensive or normal.

CBG usually greater than 300 mg/dl. May have medical alert tag.

ASSESSMENT:

Patients with symptomatic hyperglycemia often have blood glucoses of greater than 400-500 mg/dl.

The 2 common causes of significant, symptomatic hyperglycemia are diabetic ketoacidosis (DKA) and hyperosmolar hyperglycemic nonketotic syndrome (HHNS).

Patients with diabetic ketoacidosis (DKA) tend to have been sick for one to several days with vomiting and may have rapid, deep breathing (Kussmaul respirations), warm, dry, pink skin and are dehydrated. They usually have insulin dependent diabetes requiring insulin and tend not be on oral hypoglycemic medications.

Patients with hyperosmolar hyperglycemic nonketotic syndrome (also called nonketotic hyperosmotic coma) and usually older and tend to have been sick for several days with confusion, weakness and are dehydrated. They usually take oral hypoglycemic medications and may also take insulin as well.

The severe hyperglycemia is usually preceded by some illness. Patients with hyperglycemia are usually markedly dehydrated and need parenteral hydration.

TREATMENT:

EMR:	• Oxygen
EMT:	• Check blood sugar
AEMT:	• IV or IO fluid bolus with crystalloid (~ 20 ml/kg)
EMT-I: **Paramedic:**	• Cardiac monitor

HYPOGLYCEMIA

SUBJECTIVE:

Altered level of consciousness, weakness, sweating, shakiness, seizure. Usually occurs with a history of diabetes treated with insulin, sometimes treated with oral medications - glyburide (Diabeta, Micronase), glipizide (Glucotrol), tolbutamide (Orinase), metformin (Glucophage), chlorpropamide (Diabinase). May also occur in newborns, those with inadequate nutrition, or over- or prolonged exertion. Ask about recent illness, last meal, last insulin administration, oral hypoglycemic medications.

OBJECTIVE:

Level of consciousness: confusion, disoriented, combative, comatose, or unresponsive. ***Skin:*** may be pale, cool, and clammy. ***Breathing:*** normal. ***Pulse:*** normal or elevated. ***Blood pressure:*** hypotensive or normal. Medical alert tag indicating diabetes or insulin.

Symptomatic hypoglycemia, blood sugar less than:

- 80 mg/dl in an Adult.
- 60 mg/dl in a Child (1 year to puberty).
- 40 mg/dl (Birth to 1 year).

ASSESSMENT:

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

TREATMENT:

EMR:	• Oxygen • Oral glucose if no airway risk
EMT:	• Check blood sugar
AEMT:	• IV or IO with crystalloid • Glucose IV or IO
EMT-I: **Paramedic:**	• Cardiac monitor

HYPOTHERMIA

SUBJECTIVE:

Body heat loss to environmentally cool or wet conditions. Underlying medical illnesses. Current medications. Alcohol consumption.

OBJECTIVE:

MILD	MODERATE	SEVERE
(> 34°C, > 93.2°F)	(30 - 34°C, 86 - 93.2°F)	(< 30°C, < 86°F)
Shivering	Shivering lessens	Stupor
Lethargy	Confusion	Coma
Staggering gait	Loss of balance	Dysrhythmias
		Cardiac arrest

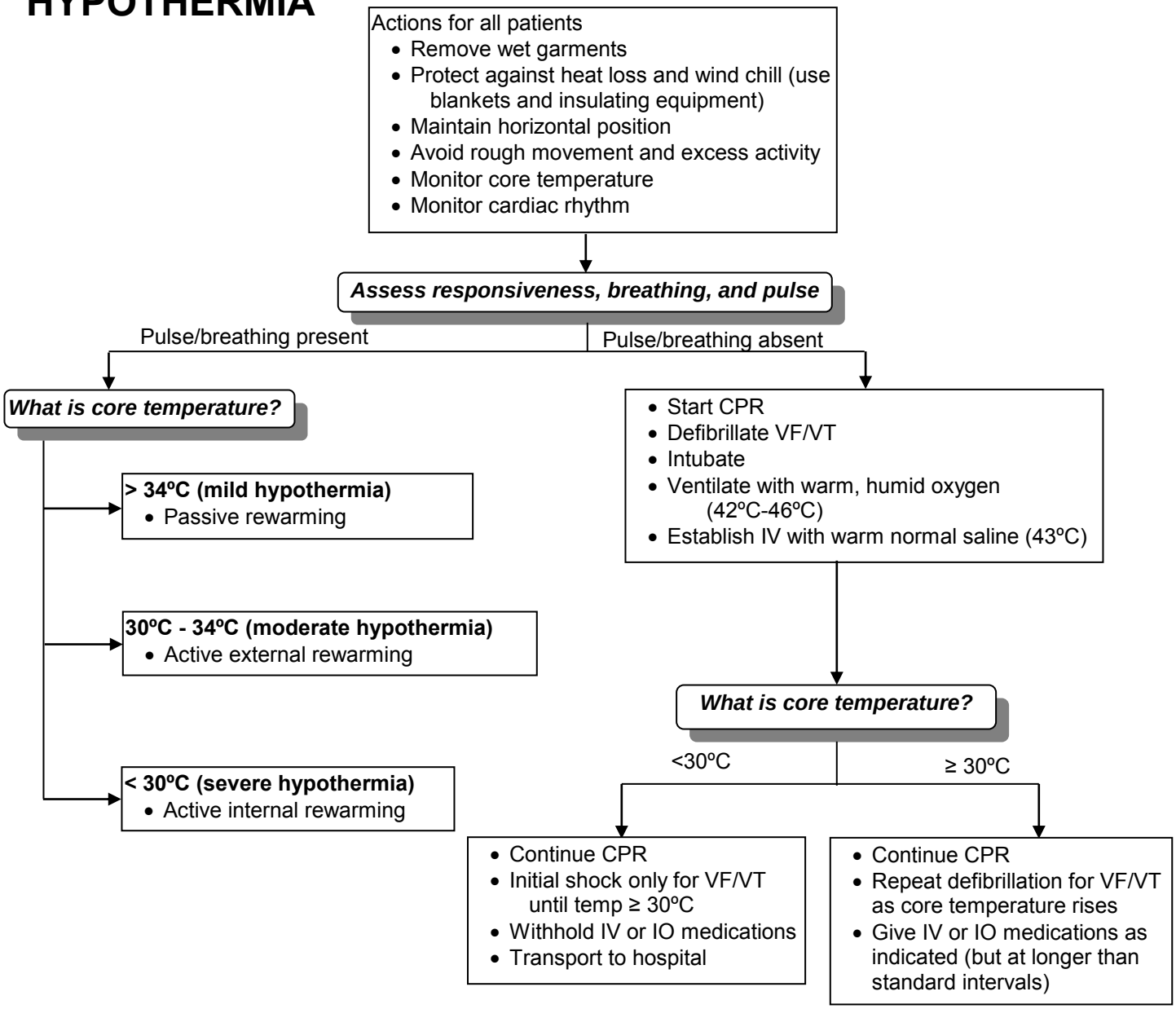
ASSESSMENT:

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

TREATMENT:

EMR:	• Eliminate environmental heat loss (remove wet clothes) • Avoid rough movement and excess activity • Oxygen, warmed if possible at 42°C to 46°C (108°F to 115°F) • Heat to head, neck, chest, groin, armpits if core temperature is ≥ 30°C (86°F) • Rapid transport to RRMC for active internal rewarming if severely hypothermic
EMT:	• Check blood sugar • Oral dextrose if airway is protected • Supraglottic Airway
AEMT:	• IV or IO with crystalloid, warmed if possible to 43°C (109°F)
EMT-I:	• Cardiac monitor
Paramedic:	• Advanced airway management

HYPOTHERMIA



INFECTIOUS DISEASE (ID-X) ACTIVATION

SUBJECTIVE:

ECSO dispatch screening questions may elicit risk factors for “ID-X Risk”. “X” refers to specific information regarding the infectious disease of note.

Symptoms of the infectious disease, which may include specifics such as fever, hypotension, cough, vomiting, diarrhea, rash, hemorrhage.

Risk factors such as recent travel or exposure to others who have been infectious.

OBJECTIVE:

Elevated temperature or characteristic rash or skin findings.

ASSESSMENT:

A definitive diagnosis of a specific illness may not be possible in the pre-hospital setting and is typically unlikely. “ID Activation” is usually based on the presence of risk factors.

Avoid exposing EMS personnel unnecessarily to an infectious person or source.

TREATMENT:

EMR:	• **Protect yourself first.** • Minimize exposure of EMS providers or others to the patient’s body fluids or to the patient contact. Maintain at least 6 foot distance from patient until complete PPE is donned. • Non-life threatening conditions warrant delay in direct EMS patient contact for staging to minimize the number of EMS providers exposed. • If EMS providers confirm “ID-X Risk”, they will notify ECSO and ECSO will notify Jackson County Public Heath Department - 541-899-4251 (24 hour phone) • Use appropriate personnel protective equipment for both EMS providers and the patient. • Avoid invasive procedures as much as possible – IV, IO, artificial airway. • Maximize airflow in ambulance – open windows/vents & turn on fans. • Notify destination hospital early with radio call of “ID-X Activation” and “readback”. Online Medical Control (OLMC) or specific infectious disease protocol may dictate treatment plan details. • If no hospital transport, notify Jackson County Public Heath Department - 541-899-4251 (24 hour phone) • Decontamination of EMS personnel • Disposal or decontamination of equipment • Decontamination of ambulance • EMS Provider monitoring
EMT:	• Supraglottic Airway
AEMT:	• IV or IO with crystalloid
EMT-I: **Paramedic:**	• Advanced airway

INFECTIOUS DISEASE

SUBJECTIVE:

Symptoms of an infectious disease may include specifics such as fever, hypotension, cough, vomiting, diarrhea or rash.

Risk factors may include exposure to others who have been ill or a relevant travel history.

OBJECTIVE:

Elevated temperature or characteristic rash or skin findings.

ASSESSMENT:

A definitive diagnosis of a specific infectious disease may not be possible in the pre-hospital setting and is typically unlikely, unless there is known to be a local outbreak going on. Some anticipated infectious disease that may occur as outbreaks include:

Disease	Typical symptoms & signs	Risk factors	Prevention/Treatment
Influenza virus	Fever, cough, myalgias	Flu season (winter)	Immunization, PPE
Varicella (Chickenpox)	Fever and vesicular rash	Exposure and lack of immunization	Immunization, PPE
Measles	Fever, cough, conjunctivitis, runny nose, Koplik spots	Exposure and lack of immunization	Immunization
MERS/SARS	Cough & respiratory distress	Travel in the Mideast	PPE
Bacterial meningitis	Fever, headache, stiff neck	Outbreaks	PPE, Post-exposure prophylaxis if identified as *Neisseria* or *Haemophilus.* Public health monitoring.
Pulmonary Tuberculosis (TB)	Chronic cough & weight loss.	Known TB exposure, immigrant from the 3rd world	PPE, Post-exposure testing. Public health monitoring.

TREATMENT:

EMR:
EMT:
AEMT:
EMT-I:
Paramedic:

- **Protect yourself use appropriate PPE (personal protective equipment)**
- If patient is coughing or vomiting mask the patient if possible, if not mask the exposed EMS providers.
- Use appropriate personnel protective equipment for both EMS providers and the patient.
- Maximize airflow in ambulance – open windows/vents & turn on fans.
- Follow specific Infectious Disease Activation (ID-X) protocol if appropriate.

INHALATION INJURIES

SUBJECTIVE:

Environment: poorly ventilated spaces, fire (CO, cyanide), explosion, exhaust, furnaces, gases present (CO_2, methane, propane, natural gas, hydrogen sulfide), barbecues, charcoal fires. Length of exposure. Type of exposure: steam, dry heat, gases, fire victim.

Symptoms: dyspnea, headache, sore throat, sore mouth, cough, nausea, vomiting, poor coordination.

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

PROTECT YOURSELF AND OTHERS FIRST

EMR:	• High flow oxygen • Remove patient from toxic environment
EMT:	• Supraglottic Airway
AEMT:	• IV or IO with crystalloid
EMT-I:	• Cardiac monitor
Paramedic:	• Advanced airway

INSECT STINGS AND ANIMAL/SPIDER BITES

SUBJECTIVE:

Localized pain, burning sensation and itching at the site. Anxiety, restlessness, weakness, dizziness, headache or syncope. Numbness in affected limb or body part, joint pain or muscle cramps. Chest tightening, shortness of breath, abdominal pain, nausea or chills. Animal or insect identification. Allergies. Multiple bites or stings.

OBJECTIVE:

Stings or puncture marks on skin. Redness, swelling, discoloration or blistering at site. Anaphylaxis.

Black Widow Spider Bite: progressive muscle spasm of back, abdomen and large muscle groups, vomiting, seizures, paralysis, hypertension, headache, tingling and burning sensation.

Brown Recluse or Hobo Spider Bite: reddened area with underlying blister formation and surrounding area of necrosis. Over several days area turns dark and becomes ulcerated.

Tick Bites: Lyme Disease may present with distinctive bull's eye rash surrounding the bite developing over a month and accompanied by flu like symptoms.

Animal Bites: contusions or superficial abrasions to severe crush injuries, deep puncture wounds and tissue loss may develop.

ASSESSMENT:

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

TREATMENT:

EMR:	• Scene safety • Epinephrine for anaphylaxis • Oxygen • Wound care • Remove constricting items of clothing or jewelry • ***Insect stings:*** gently remove stinger • ***Tick:*** do not remove; refer to hospital • ***Animal bites:*** if patient not transported, contact law enforcement
EMT:	• Supraglottic Airway
AEMT:	• IV or IO with crystalloid
EMT-I:	• Fentanyl or Morphine • Cardiac monitor
Paramedic:	• Midazolam • Ketamine • Advanced airway

LEFT VENTRICULAR ASSIST DEVICE (LVAD)

SUBJECTIVE:

A Left Ventricular Assist Device (LVAD) is used in patients with severe congestive heart failure to allow them to return home to their family and community. The VAD is dependent on an external power supply, either 110 volt AC or rechargeable. A patient needing an LVAD may have enough cardiac function to maintain life, but not enough to allow any significant activities. A patient with an LVAD, along with his or her close family members or friends, will have received extensive training in the use and operation of the LVAD.

Some patients may have a Right Ventricular Assist Device (RVAD) in addition or instead.

OBJECTIVE:

The level of consciousness will be of prime importance in evaluating the patient's condition.

Patients with an LVAD will likely not have a palpable pulse, blood pressure detectable by EMS personnel (unless using a Doppler) or reliable pulse oximeter reading. The mean arterial pressure (MAP), if measureable, should be at least 50 mm Hg.

End tidal CO_2 measurements will be reliable with a normal value of 35-45 mm Hg and should be at least 20 mm Hg.

A hum from the implanted pump will usually be heard or palpated in the patient's central or left lower chest.

Most patients with an LVAD will have received an Automatic Implantable Cardioverter Defibrillator (AICD), typically in the left upper chest.

ASSESSMENT:

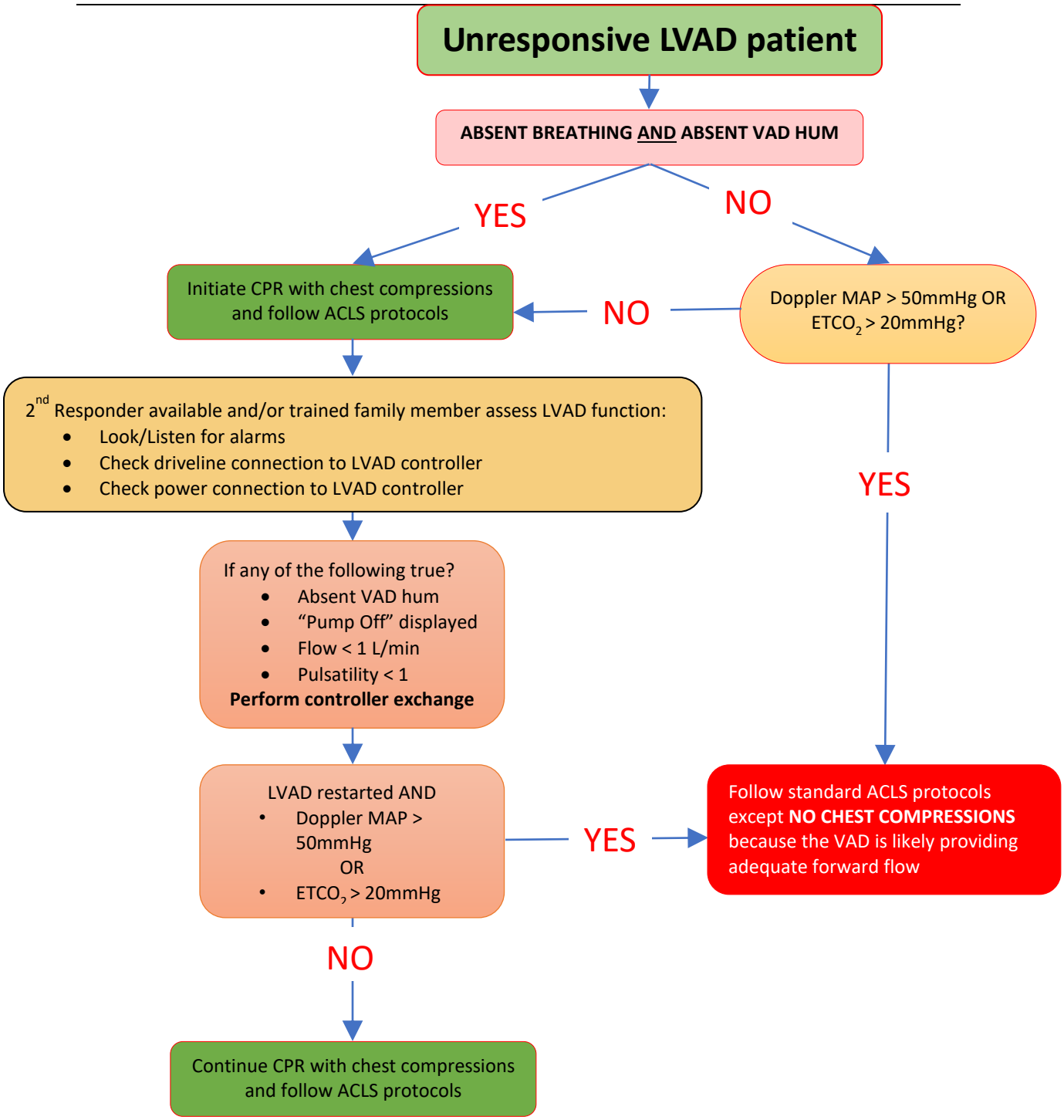
Patient with an LVAD

The 2 most common reasons for LVAD pump failure are disconnection of the power and failure of the driveline.

TREATMENT:

EMR:	• Oxygen
EMT:	• Ensure that the LVAD controller is On and working. Exchange the controller. • Defibrillation can be performed normally. • $ETCO_2$ monitoring. • Contact the patient's LVAD Center, or Providence St. Vincent's Hospital LVAD Center at (971) 678-4042, or Stanford LVAD Center (650) 723-4000 • Package patient to avoid constriction on LVAD or tension on cables. • One patient companion knowledgeable about the LVAD should be transported in the back of the ambulance along with the patient. • Transport <u>all</u> LVAD equipment (power supply, controllers, batteries, emergency backup bag, etc.) with the patient. • Any patient with an LVAD should be transported to PMMC or RRMC. • Chest compressions and CPR may be performed if: The patient is unconscious, apneic and without an LVAD hum.
AEMT	• Large bore IV or IO with crystalloid
EMT-I:	• Cardiac monitoring
Paramedic:	• Cardiac medications can be administered

- 12 lead ECG


Unresponsive LVAD patient
ABSENT BREATHING AND ABSENT VAD HUM
YES
NO
Initiate CPR with chest compressions and follow ACLS protocols
NO
Doppler MAP > 50mmHg OR ETCO2 > 20mmHg?
2nd Responder available and/or trained family member assess LVAD function:
Look/Listen for alarms
Check driveline connection to LVAD controller
Check power connection to LVAD controller
YES
If any of the following true?
Absent VAD hum
"Pump Off" displayed
Flow < 1 L/min
Pulsatility < 1
Perform controller exchange
LVAD restarted AND
Doppler MAP > 50mmHg
OR
ETCO2 > 20mmHg
YES
Follow standard ACLS protocols except NO CHEST COMPRESSIONS because the VAD is likely providing adequate forward flow
NO
Continue CPR with chest compressions and follow ACLS protocols

NAUSEA & VOMITING

SUBJECTIVE:

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

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

EMR: **EMT:**	• Position of comfort • Oxygen
AEMT:	• IV or IO with crystalloid
EMT-I: **Paramedic:**	• Ondansetron

NERVE AGENT/ORGANOPHOSPHATE POISONING

SUBJECTIVE:

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

OBJECTIVE:

Examination may show:

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

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

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

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

ASSESSMENT:

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

TREATMENT:

Mark 1 autoinjectors available in the Chempack supply. Contact Mercy Flights or Josephine County AMR supervisor to access.

EMT:	Any known or suspected Nerve Agent/Organophosphate Poisoning • Protect yourself and other providers • Oxygen, monitor and vital signs. • Transport as soon as possible. Mild Symptoms Without Respiratory Distress • Mark 1 kit autoinjector should not be used Mild Symptoms With Respiratory Distress • Administer one Mark-1 kit (1 kit = 1 atropine and 1 pralidoxime autoinjector) • Repeat as needed every 5 – 10 minutes - maximum 3 Mark-1 kits. Moderate Symptoms • Administer 1-2 Mark-1 kits • Repeat as needed every 5 – 10 minutes - maximum 3 Mark-1 kits Severe Symptoms • Administer up to 3 Mark-1 kits • Secure airway and assist ventilations
AEMT:	IV or IO with crystalloid
EMT-I:	Atropine
Paramedic:	Advanced airway

PAIN MANAGEMENT

SUBJECTIVE:

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

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

EMR: **EMT:**	• Position of comfort • Oxygen
AEMT:	• IV or IO with crystalloid • Nitrous oxide
EMT-I:	• Fentanyl or Morphine
Paramedic:	• Sedation with midazolam • Ketamine

PEDIATRIC CARDIAC ARREST

SUBJECTIVE:

Loss of consciousness in an infant or child.

OBJECTIVE:

Unconsciousness, unresponsive, pulseless and apneic, gasping or ineffective breathing.

ASSESSMENT:

Pediatric cardiac arrest.

TREATMENT:

EMR:

- High Performance CPR with BVM ventilations with high flow oxygen:
  Single rescuer 30 compressions:2 ventilations
  Two rescuers 15 compressions:2 ventilations
- Automatic External Defibrillator (AED) as soon as available
  If age < 8 years, use pediatric pads or attenuator, if available
- Treat shockable rhythm with AED
- Transport may be initiated after CPR, intravascular access, airway management and 2 rounds of ACLS medications have been administered or earlier if ROSC occurs.

EMT:

- Supraglottic airway (King LT) after at least 2 minutes of CPR if unable to adequately ventilate with BMV
  Ventilate at 10 compressions:1 ventilation or one ventilation every 6 seconds.

AEMT:

- IO or IV with crystalloid

EMT-I:

- Epinephrine every 4 minutes

Epinephrine dose (0.1 mg/ml) - Five finger rule

Age	1	3	5	7	9
Weight (kg)	10	15	20	25	30
Epinephrine	1 ml	1.5 ml	2 ml	2.5 ml	3 ml

- PALS protocols
  V. fib/Pulseless V. tach (VF/VT)
  Asystole/Pulseless Electrical Activity (PEA)

Paramedic:

- Endotracheal intubation after at least 2 minutes of CPR with no interruption of CPR if Supraglottic airway (King LT) not placed and unable to adequately ventilate with BVM.

PEDIATRIC VITAL SIGNS

Broselow Tape Color Weight Approximate Age	Normal Respiratory Rate (per minute)	Normal Heart Rate (per minute)	Minimum Systolic Blood Pressure (mm Hg)
Gray 3-5 kg 7-11 lbs 0-2 months	30-60	100-160	60
Pink 6-7 kg 12-15 lbs 4 months	30-60	100-160	70
Red 8-9 kg 16-20 lbs 8 months	30-60	100-160	70
Purple 10-11 kg 21-24 lbs 1 year	24-40	90-150	70
Yellow 12-14 kg 25-31 lbs 2 year	24-40	90-150	70
White 15-18 kg 32-40 lbs 4 year	22-34	80-140	75
Blue 19-23 kg 41-51 lbs 5-6 years	18-30	70-120	80
Orange 24-29 kg 52-64 lbs 7-8 years	18-30	70-120	80
Green 30-36 kg 65-79 lbs 9-10 years	12-16	60-100	90

Reference: Broselow Tape, Pediatric Surge Pocket Guide LA County

POISONS & OVERDOSES

SUBJECTIVE:

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

OBJECTIVE:

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

ASSESSMENT:

Accidental or intentional exposure of the body to toxic substances in an amount sufficient to have a damaging or destructive effect.
SLUDS BAM - salivation, lacrimation, urination, defecation, sweating, bronchospasm, arrhythmia, miosis - suggests organophosphate poisoning.
Bring all medicine containers. If suspected hazardous material, leave container but obtain correct spelling and UN or NFPA704 number.
Oregon Poison Center 800-222-1222

TREATMENT:

PROTECT YOURSELF AND OTHERS FIRST

EMR:	• Naloxone (Narcan) if narcotic overdose suspected • Oxygen • Oral glucose
EMT:	• Check blood sugar • Supraglottic Airway • Mark 1 Autoinjector for organophosphate nerve gases (HazMat only) • Activated charcoal in conscious and awake patients only after approval by on-line medical control
AEMT:	• IV or IO with crystalloid • Glucose if hypoglycemic
EMT-I:	• Cardiac monitor
Paramedic:	• Advanced airway • Atropine for organophosphate poisoning • Sodium bicarbonate for symptomatic tricyclic anti-depressant poisoning • Calcium gluconate for calcium channel blocker or magnesium poisoning

RESPIRATORY DISTRESS

SUBJECTIVE:

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

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

EMR:	• Position of comfort • Oxygen supplementation • Initial airway management with bag-valve-mask (BVM). Avoid hyperventilation.
EMT:	• Refer to CHF, COPD or Asthma protocols as needed • CPAP • Supraglottic Airway
AEMT:	• IV or IO with crystalloid
EMT-I:	• Cardiac monitor
Paramedic:	• Advanced airway

RESPIRATORY DISTRESS - ASTHMA

SUBJECTIVE:

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

OBJECTIVE:

Wheezing, decreased or absent breath sounds, prolonged expiratory phase, tachycardia, tachypnea, use of accessory muscles, retraction, cyanosis, decreased level of consciousness, diaphoresis, exhaustion, tripod sitting, one to three word sentences, decreased SpO_2.

ASSESSMENT:

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

TREATMENT:

EMR:	• Position of comfort • High flow oxygen
EMT:	• Albuterol • CPAP • Supraglottic Airway
AEMT:	• Ipratropium (Atrovent) • IV or IO with crystalloid
EMT-I:	• Cardiac monitor • Epinephrine via nebulizer for severe asthma unresponsive to albuterol and ipratropium
Paramedic:	• Advanced airway • Epinephrine IV or IO • Dexamethasone (optional) • Magnesium

RESPIRATORY DISTRESS - CHF/PULMONARY EDEMA

SUBJECTIVE:

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

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

EMR:	• Position of comfort • Oxygen
EMT:	• CPAP • Supraglottic Airway
AEMT:	• IV lock or TKO - IV or IO with crystalloid • Nitroglycerin • Albuterol if wheezing
EMT-I:	• Cardiac monitor
Paramedic:	• Advanced airway • Norepinephrine for cardiogenic shock

RESPIRATORY DISTRESS - COPD EXACERBATION
(CHRONIC OBSTRUCTIVE PULMONARY DISEASE)

SUBJECTIVE:

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

OBJECTIVE:

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

ASSESSMENT:

COPD is a chronic disease which people live with every day. During exacerbations patients develop respiratory distress which leads to hypoxia. Onset is often over a couple of days. These patients frequently are on home oxygen and use nebulizers, such as albuterol (Ventolin or Proventil), ipratroprium (Atrovent), albuterol and ipratroprium (Duoneb, Combivent), corticosteroids (Vanceril, Azmacort), or may take other respiratory medications (theophylline or prednisone).

TREATMENT:

EMR:	• Position of comfort • Oxygen
EMT:	• Albuterol • CPAP • Supraglottic Airway
AEMT:	• Ipratropium (Atrovent) • IV or IO with crystalloid
EMT-I:	• Cardiac monitor
Paramedic:	• Dexamethasone (optional) • Advanced airway

SEIZURES

SUBJECTIVE:

Known seizure disorder, onset, length, frequency, type, presence of aura. Head trauma, drug or alcohol use, diabetes, heart disease, CVA, pregnancy, fever, headache or stiff neck. Anticonvulsant medications may include phenytoin (Dilantin), phenobarbital, carbemazepine (Tegretol), levetiracetam (Keppra), lamotrigine (Lamictal) and valproic acid (Depakote). Compliance with medications.

OBJECTIVE:

Observed seizure activity. Head trauma or mouth injury. Level of consciousness. Incontinence of urine or stool. Temperature. Rashes, petechiae or purpura.

ASSESSMENT:

With injury, infection or disease the electrical activity of the brain becomes irregular which brings about sudden changes in sensation, behavior or movement called seizures.

Generalized - major motor seizure. Alternating tonic (contractions) or clonic (successive contractions and relaxations) movements of extremities.

Focal Motor - simple partial seizure. Characterized by dysfunction of one area of the body including, tingling, stiffening or jerking.

Psychomotor - complex partial seizure. Characterized by abnormal behavior such as confusion, glassy stare, aimless movements, lip smacking or fidgeting with clothing.

Petit Mal - seizure is brief, usually 1-10 seconds, with a temporary loss of concentration.

TREATMENT:

EMR:	• Place patient on floor or ground; remove objects that might cause harm • Oxygen • Place patient in recovery position when seizure has stopped
EMT:	• If adult or child with status epilepticus or diabetes • Check blood sugar • Oral glucose if hypoglycemic and no airway risk
AEMT:	• Adult IV or IO with crystalloid • Pediatric IV or IO with crystalloid if hypoglycemic, recurrent seizures or status epilepticus not responsive to initial midazolam, long transport or other indications for intravascular access • Glucose if hypoglycemic
EMT-I:	• Cardiac monitor
Paramedic:	• Pediatric: Midazolam – buccal, IM or IN initially for pediatric patients. IV or IO for recurrent or persistent seizures • Adult: Midazolam - IV or IO for recurrent or persistent seizures • Advanced airway

SHOCK

SUBJECTIVE:

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

Known history of adrenal insufficiency or congenital adrenal hyperplasia.

OBJECTIVE:

Confusion, restlessness, agitation. Pale, cool, clammy skin. Shallow or rapid breathing. Rapid or weak pulse, hypotension. Delayed capillary refill. Abdominal tenderness, rigidity, distention or mass. Obvious external trauma: amputations, deformities, bruising.

ASSESSMENT:

Shock is the failure of the cardiovascular system to provide sufficient oxygenated blood to vital tissues of the body.

Hypovolemic - caused by loss of blood or other body fluids.

Cardiogenic - caused by the heart failing to pump blood adequately to vital body parts.

Distributive: *neurogenic, anaphylactic, septic, psychogenic, metabolic* - increase in vascular dilatation or permeability.

TREATMENT:

EMR:	• Oxygen • Shock Position • Prevent loss of body heat
EMT:	• Supraglottic Airway
AEMT:	• One or two large bore IVs or IO with crystalloid
EMT-I:	• Cardiac monitor
Parameic:	• Norepinephrine after adequate fluid resuscitation • Advanced airway • If patient is known to have adrenal insufficiency or congenital adrenal hyperplasia, may administer the patient's own corticosteroid – usual dose IM or IV of hydrocortisone - adults - 100mg 3-12 years - 50 mg 0-3 years - 25 mg

SNAKE BITES

SUBJECTIVE:

Localized pain at site of bite. Time of bite. Snake identification. Metallic or rubber taste in mouth and lips. Thirst. Blurry or dim vision. Weakness, dizziness or lightheadedness, numbness or tingling around face and head. Treatment rendered.

OBJECTIVE:

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

ASSESSMENT:

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

TREATMENT:

PROTECT YOURSELF AND OTHERS FIRST

EMR: **EMT:**	• Assure scene safety • Calm and reassure patient • Minimize victim's physical activity • Oxygen • Splint bitten extremity in dependent position, below level of heart • Remove constricting clothing or jewelry • Do not apply ice to the snake bite
AEMT:	• IV or IO with crystalloid • Nitrous oxide
EMT-I: **Paramedic:**	• Cardiac monitor • Fentanyl or Morphine • Ketamine

SOFT TISSUE INJURY

SUBJECTIVE:

History of trauma and mechanism of injury.

OBJECTIVE:

Hemorrhage. Laceration. Abrasion. Bruising. Swelling. Deformity. Neurovascular compromise.

ASSESSMENT:

Soft tissue injuries frequently are associated with bleeding which must be controlled. Significant soft tissue injury can occur without external bleeding, such as burns, contusions, crush injuries and dislocations. Treatment should be directed toward control of bleeding, reduction of risk of further injury, and patient comfort. Evaluate patient for other less obvious injuries

TREATMENT:

EMR:
EMT:
	• Direct pressure to control external bleeding
	  • If bleeding not controlled with direct pressure dressing within 3-5 minutes:
	  • If injury is on an extremity, is not controlled with a with direct pressure dressing, and is life threatening, apply a tourniquet
	  • If a junctional wound, is not controlled with direct pressure, and is life threatening, then pack wound with gauze.
	• "Trauma Activation" if tourniquet or wound packing used
	• Position of comfort, including splinting
	• Prevent heat loss
	• Cold packs for closed injuries if neurovascular intact
	• Evaluate and treat for other injuries
	• Oxygen

AEMT:	• One or two large bore IVs or IO with crystalloid • Nitrous oxide
EMT-I: **Paramedic:**	• Cardiac monitor • Fentanyl or Morphine • Ketamine

SPINE TRAUMA

SUBJECTIVE:

Mechanism of injury and force used. High energy transfer: ejection, helmet damage, starred windshield, steering column bent, surface diving accident. Back or neck pain. Tingling, paresthesia, numbness or paralysis.

OBJECTIVE:

Diaphragmatic or impaired breathing. Head injury. Open injury, spinal deformity or tenderness. Hypotension. Loss of bladder or bowel control. Priapism. Paralysis or numbness.

ASSESSMENT:

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

TREATMENT:

EMR:	• Oxygen • Spinal motion restriction • Check motor and sensory exam frequently • Evaluate and treat for other injuries • Prevent loss of body heat
EMT:	• Supraglottic Airway
AEMT:	• IV or IO with crystalloid
EMT-I:	• Cardiac monitor • Atropine if bradycardic and hypotensive
Paramedic:	• Norepinephrine after adequate fluid resuscitation • Advanced airway

STROKE

SUBJECTIVE:

Sudden onset of focal neurological deficit - commonly unilateral paralysis (extremity or facial weakness typically on one side of the body) or aphasia (absent, abnormal, garbled or slurred speech).

Other symptoms of stroke may include disturbances in consciousness, ataxia, visual loss, diplopia (double vision), dysphagia (difficulty swallowing), seizure, coma or death.

These symptoms may be accompanied by nausea, vomiting, or headache.

Risk factors for stroke include prior stroke or TIA, atrial fibrillation, hypertension, angina or heart attack, diabetes, hypercholesterolemia, obesity, smoking history, and illicit drug use (i.e. meth, cocaine, synthetic marijuana).

OBJECTIVE:

Patient assessment should include the evaluation of pupils, speech, language, motor responses and sensations. Limbs should be evaluated for equal strength and motion. Neurological exam findings may change with time. Monitor blood pressure, pulse, respirations, cardiac rhythm and blood sugar.

ASSESSMENT:

An EMS assessment of stroke is made on the basis of patient history and physical exam.

"Stroke mimics" include trauma, hypoglycemia, seizure disorder, psychiatric disorder and drug ingestion.

Patient's presenting with stroke-like (recent focal, neurological deficits) signs or symptoms less than 24 hours duration may be candidates for thrombolytic (TPA) or interventional therapy.

Reduce scene time, transport and report "Stroke Activation" when appropriate.

TREATMENT:

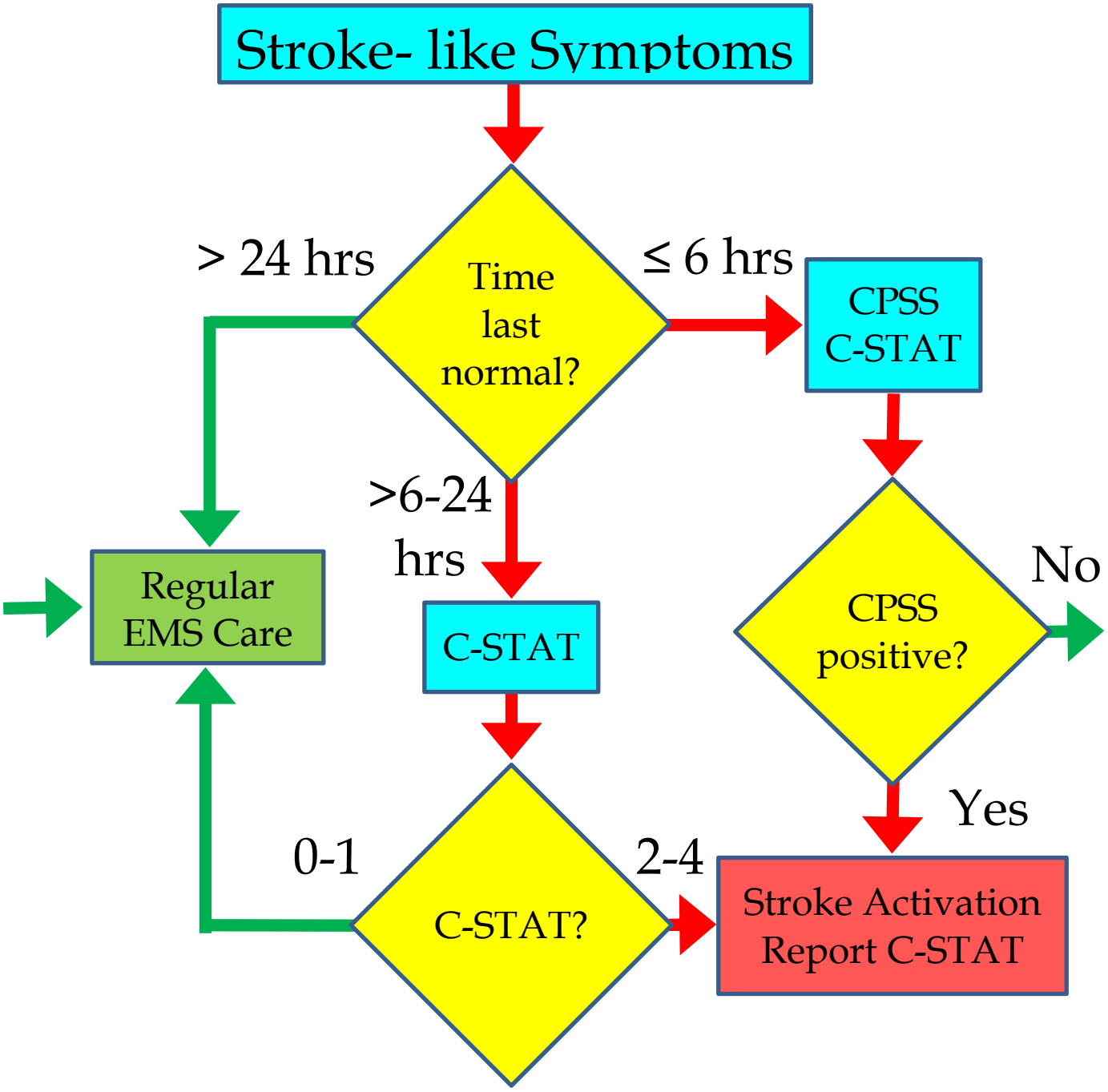
EMR:

- If the patient was last seen normal 6 hours or less earlier:
  - Perform the Cincinnati Prehospital Stroke Scale (CPSS).
  - If CPSS is positive, perform the Cincinnati Prehospital Stroke Severity Scale (C-STAT).
  - Notify the destination hospital (RRMC or PMMC) of "Stroke Activation" and report the C-STAT score (0-4).
- If the patient was last seen normal more than 6 hours and less than 24 hours earlier perform the (C-STAT).
  - If the C-STAT is Positive (total score 2 or more) report "Stroke Activation" to the destination hospital (RRMC or PMMC).
- "Stroke Activation" calls must include the specific time (hh:mm) the patient was last seen normal and a "read back". Reduce scene time and transport to the stroke hospital.
- Patient will not receive "Stroke Activation" if he/she has a valid POLST form and Section B is marked "Comfort Measures Only"
- 12 lead ECG - if this does not delay patient care or transport
- Oxygen only to maintain a SpO_2 of 94-98%.
- Elevate head of bed 15-30° during transport if tolerated.

EMT:	• Check blood sugar • Oral glucose for hypoglycemia if airway is protected • Supraglottic Airway
AEMT:	• IV with saline lock – 20 gauge or larger in an antecubital vein is preferred • Glucose IV or IO for hypoglycemia
EMT-I:	• Cardiac monitor • Adult IO with saline lock
Paramedic:	• Advanced airway

Cincinnati Prehospital Stroke Scale (CPSS)
Facial droop Abnormal if one side does not move as well as the other.
Arm drift – close both eyes and hold both arms straight out in front for about 10 seconds. Abnormal if one arm does not move or one arm drifts down compares to the other.
Speech – ask the patient to say “You can’t teach an old dog new tricks”. Abnormal if slurred or inappropriate words or mute.
CPSS is Positive if any one item is Abnormal

Cincinnati Prehospital Stroke Severity Scale (C-STAT)	
Gaze preference – deviation of the eyes away from the side of weakness	If present – 2 points
Arm weakness – cannot hold up arms for more than 10 seconds	If present – 1 point
Level of consciousness – does not know either age or the month AND fails to follow at least 1 of 2 commands (such as “close your eyes” or “open and close your hand”)	If present – 1 point
C-STAT is positive if total score is 2 or more (≥ 2)	



SYNCOPE

SUBJECTIVE:

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

OBJECTIVE:

Orthostatic blood pressure and pulse changes. Level of consciousness, cardiac dysrhythmias, pulsating abdominal mass, other injury or bleeding.

ASSESSMENT:

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

TREATMENT:

EMR:	• Oxygen • Shock position
EMT:	• Check blood sugar • Oral glucose if hypoglycemia and no airway risk
AEMT:	• IV or IO with crystalloid • Glucose if hypoglycemia
EMT-I: **Paramedic:**	• Cardiac monitor

TERMINATION OF RESUSCITATION (TOR)

SUBJECTIVE:

Patient's age, underlying medical condition, request for life-sustaining treatment, such as POLST.

The cause of cardiac arrest: primary cardiac problem, COPD, electrocution, drowning, hypothermia, trauma (penetrating or blunt).

Premorbid condition. Duration of cardiac arrest. Bystander CPR. Was the event witnessed.

OBJECTIVE:

Patient is unresponsive, apneic and pulseless with ongoing EMS provider resuscitation measures.

Evidence of etiology: signs of trauma or electrocution, low temperature.

ASSESSMENT:

Most patients who do not have ROSC (Return of Spontaneous Circulation) in the field with EMS treatment, are unlikely to be resuscitated in the hospital after transport.

There are some situations in which ongoing CPR during transport may improve the chance of survival at the hospital for a patient with cardiac arrest including: recurrent or persistent ventricular fibrillation, pulseless ventricular tachycardia or PEA with a narrow complex rhythm; victims of penetrating trauma; electrocution or hypothermia; pediatric patients; or pregnant women beyond mid-pregnancy (20+ weeks).

Ongoing CPR during transport (including gurney and ambulance travel) is difficult and may not be very effective, in addition to posing risk to the EMS providers and should be performed in limited situations.

TREATMENT:

EMR, EMT, AEMT, EMT-I, Paramedic

EMS Resuscitation may be terminated without OLMC:

- Traumatic arrest patients persistently pulseless and apneic after 20 minutes of EMS resuscitation measures including bilateral needle decompression and at least 1L of crystalloid.
  OLMC before termination if patient is pediatric or pregnant.
- Non-traumatic cardiac arrest patients with persistent asystole or slow and/or wide PEA after 20 minutes of EMS resuscitation measures.
  OLMC before termination if patient is pediatric, pregnant or hypothermic.
- Non-pregnant patients in cardiac arrest when EMS resuscitation measures have been initiated and a valid POLST DNR is later found.
  OLMC if family or caregivers are not in agreement with the POLST DNR.

TRAUMA ACTIVATION

SUBJECTIVE:

History of mechanism of injury.
Environmental conditions.
Co-existing medical illnesses or conditions.

OBJECTIVE:

Some injuries may be obvious. Examine the patient fully to find the hidden injuries.
Undress the patient appropriately.

ASSESSMENT:

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

TREATMENT:

EMR:	• High flow oxygen • Cover open wounds with a dressing • Cover open neck or chest wounds with an occlusive dressing • Maintain body heat • Spinal motion restriction • Notify trauma hospital with radio call of “Trauma Activation” • Notify trauma hospital of trauma entry criteria (next page) • Report patient’s age, gender and vital signs to the trauma hospital • “read back” confirmation of “Trauma Activation” • Apply trauma band and record number on the PCR
EMT:	• Supraglottic Airway
AEMT:	• IV, ideally 18 g or larger, or IO with crystalloid
EMT-I:	• Cardiac monitor
Paramedic:	• Advanced airway • Chest decompression • TXA

- Patients with an unstable airway go to the nearest hospital
- These Trauma Activation patients go to Rogue Regional Medical Center (RRMC):
  - Pregnancy > 20 weeks
  - Pediatric - age 14 years or less
  - GCS < 15
  - Reported or witnessed loss of consciousness

Trauma Activation and transfer to RRMC if any one is present:

Physiologic and Anatomic Criteria

- Glasgow Coma Scale < 15
- SBP of <90 mmHg
- Respiratory rate of <10 or >29 breaths per minute (<20 in infant aged <1 year)
- Need for ventilator support
- All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee
- Chest wall instability or deformity (e.g. flail chest)
- Two or more proximal long-bone (humerus or femur) fractures
- Crushed, degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Suspected pelvic fracture
- Open or depressed skull fracture
- Motor/sensory deficit

Trauma Activation and transfer to PMMC or RRMC based on closest hospital/patient preference if any one is present (and none of the above):

Mechanism of injury or evidence of high-energy impact:

- Falls: adults: >20 feet (one story = 10 feet)
- High-risk motor vehicle crash:
  - Intrusion, including roof: >12 inches occupant site; >18 inches any site
  - Ejection (partial or complete) from automobile
  - Death in same passenger compartment
  - Vehicle telemetry data consistent with a high risk for injury
- Automobile versus pedestrian/bicyclist thrown, run over, or with significant (>20 mph) impact
- Motorcycle/ATV crash >20 mph

EMS Provider Judgement

Special patient considerations for Trauma Activation:

- Age: > 55 years
- Anticoagulants or bleeding disorder: clopidogrel (Plavix), coumadin (Warfarin), dabigatran (Pradaxa), rivaroxaban (Xarelto), apixaban (Elquis).
  If head injury suspected, transport to RRMC.
- Burns
- SBP < 110 might represent shock after age 65

A brief radio call to the Destination Trauma Hospital including:

1. "Trauma Activation" with the trauma entry criteria
2. Age (actual or estimated) and sex
3. Report most recent blood pressure, pulse, respiratory rate & GCS
4. Estimated time of arrival (ETA)
5. A "read back" for closed loop communication

VAGINAL BLEEDING

SUBJECTIVE:

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

OBJECTIVE:

Estimated blood loss, hypotension, abdominal tenderness or guarding.

ASSESSMENT:

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

TREATMENT:

EMR: **EMT:**	• Oxygen • Shock position
AEMT:	• IV or IO with crystalloid
EMT-I: **Paramedic:**	• Cardiac monitor

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

Pre-Hospital Medications	Date
Acetaminophen	July 1, 2013
Activated Charcoal	July 1, 2013
Adenosine	July 1, 2013
Albuterol	July 1, 2015
Amiodarone	July 1, 2017
Aspirin	July 1, 2017
Atropine Sulfate	July 1, 2017
Calcium Gluconate	July 1, 2017
Crystalloid	July 1, 2013
Cyanokit (Hydroxocobalamin) ***(Optional[c])***	July 1, 2017
Dexamethasone ***(Optional[c])***	July 1, 2018
Diltiazem ***(Optional[a])***	July 1, 2018
Diphenhydramine (Benadryl)	July 1, 2013
Epinephrine	July 1, 2018
Etomidate ***(Optional[b])***	July 1, 2016
Fentanyl ***(Optional[a])***	July 1, 2018
Glucose-Dextrose	July 1, 2017
Haloperidol	July 1, 2013
Influenza Vaccine – Inactivated ***(Optional[c])***	July 1, 2013
Influenza Vaccine - Live, Attenuated ***(Optional[c])***	July 1, 2013
Ipratropium (Atrovent)	July 1, 2013
Ketamine ***(Optional[c])***	July 1, 2018
Lidocaine	July 1, 2018
Magnesium Sulfate ***(Optional[a])***	July 1, 2018
Mark 1 Autoinjector ***([d])***	July 1, 2013
Midazolam (Versed) ***(Optional[b])***	July 1, 2015
Morphine ***(Optional[a])***	July 1, 2017
Naloxone (Narcan)	July 1, 2018
Nitroglycerin	July 1, 2018
Nitrous Oxide ***(Optional[c])***	July 1, 2017
Norepinephrine	July 1, 2017
Ondansetron	July 1, 2013
Oxygen	July 1, 2018
Oxymetazoline (Afrin)	July 1, 2013
Oxytocin ***(Optional[c])***	July 1, 2013
Propofol (***hospital-supplied for interhospital transfer only***)	July 1, 2017
Sodium Bicarbonate	July 1, 2014
Succinylcholine ***(Optional[b])***	July 1, 2014
TXA (Tranexamic Acid) ***(Optional[a])***	July 1, 2018
Vecuronium ***(Optional[b])***	July 1, 2013

Notes on Optional Medications:

[a] Amiodarone***,*** Diltiazem, Fentanyl or Morphine, Magnesium Sulfate, and TXA are required of all transporting agencies.

[b] Etomidate, Midazolam, Succinylcholine Chloride and Vecuronium are required of all transporting agencies, and of all non-transporting agencies performing RSI.

[c] Cyanokit, Dexamethasone, Influenza Vaccine, Ketamine, Nitrous Oxide and Oxytocin are optional for all agencies.

[d] Mark 1 Autoinjector limited to HazMat agencies.

ACETAMINOPHEN

TRADE NAME:

Tylenol, APAP, Panadol

ACTION:

Antipyretic, analgesic.

INDICATIONS:

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

- who are conscious, awake and appear toxic or have a prolonged transport time; OR
- who have had a 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: 15 mg/kg: oral if conscious and awake, otherwise use rectal suppository.

ACETAMINOPHEN DOSING

AGE	WEIGHT (LB)	WEIGHT (KG)	DOSE (TSP)
Under 2 years	<24 lbs	<11 kg	15 mg/kg
2 - 3 years	24 - 35 lbs	11 - 16 kg	1 tsp = 5 ml = 160 mg
4 - 5 years	36 - 47 lbs	16 - 21 kg	1½ tsp = 7.5 ml = 240 mg
6 - 8 years	48 - 59 lbs	22 - 27 kg	2 tsp = 10 ml = 320 mg
9 - 10 years	60 - 71 lbs	27 - 32 kg	2½ tsp = 12.5 ml = 400 mg
11 years	72 - 95 lbs	33 - 43 kg	3 tsp = 15 ml = 480 mg

ACTIVATED CHARCOAL

TRADE NAME:

Actidose

ACTION:

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

INDICATIONS:

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

CONTRAINDICATIONS:

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

SIDE EFFECTS & PRECAUTIONS:

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

Less likely to be effective if given more than 1 hour after ingestion.

ROUTE & DOSAGE:

EMT:		
AEMT:	*Adult:*	25-50 grams orally
EMT-I:	*Pediatric:*	0.5 gm/kg orally
Paramedic:		

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). Half-life is less than 10 seconds.

INDICATIONS:

- Supraventricular tachycardia.
- Undifferentiated regular & monomorphic wide complex tachycardia.

CONTRAINDICATIONS:

- ☠ Known sensitivity to adenosine.
- ☠ Known Wolff-Parkinson-White syndrome.
- ☠ Sick sinus syndrome or second or third degree heart block without functioning pacemaker.

SIDE EFFECTS & PRECAUTIONS:

Transient asystole may occur, as well as facial flushing, headache, shortness of breath, dizziness, nausea or chest pain. Dysrhythmias may develop including PVCs, PACs, sinus bradycardia, sinus tachycardia, A-V blocks and asystole.

Cut dose in half if patient taking dipyridamole (Persantine) or carbemazepine (Tegretol) or who have had a heart transplant. Smaller dose in patients taking verapamil, diltiazem or beta blockers.

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:

Paramedic:

Adult: 6 mg rapid IV or IO push over 1- 2 seconds followed by 20 ml saline rapid push at next most proximal port, preferably through a large bore antecubital site.
If no conversion, 12 mg rapid IV or IO push over 1-2 seconds followed by 20 ml saline rapid IV or IO push at next most proximal port in 1-2 minutes.

Pediatric: 0.1 mg/ kg rapid IV or IO push over 1- 2 seconds with 10 ml saline rapid IV push at proximal IV or IO port. May repeat with 0.2 mg/kg in 1-2 minutes.

ALBUTEROL

TRADE NAME:

Proventil, Ventolin

ACTION:

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

INDICATIONS:

- Bronchospasm due to asthma, COPD, CHF or anaphylaxis.

CONTRAINDICATIONS:

☠ Known sensitivity to albuterol.

SIDE EFFECTS & PRECAUTIONS:

Palpitations, anxiety, nausea and dizziness. Stop treatment if frequent PVCs or tachyarrhythmias other than sinus tachycardia develop.

ROUTE & DOSAGE:

EMT - COPD or asthma only**:** **AEMT:** **EMT-I:** **Paramedic:**	2.5 mg in 3 ml saline via nebulizer with oxygen set at 6-10 L/min. May repeat twice.

AMIODARONE

TRADE NAME:

Cordarone
Pacerone

ACTION:

Antiarrhythmic agent.

INDICATIONS:

- Ventricular fibrillation or pulseless ventricular tachycardia.
- Ventricular tachycardia with a pulse in a stable patient.
- After conversion to a perfusing rhythm from ventricular tachycardia or fibrillation.

CONTRAINDICATIONS:

☠ Known sensitivity to amiodarone.

SIDE EFFECTS & PRECAUTIONS:

If severe signs or symptoms develop use immediate cardioversion.
May cause hypotension, bradycardia or conduction defects or may worsen congestive heart failure.
Rarely may precipitate cardiac dysrhythmias - torsades de pointes.
Incompatible in normal saline after 24 hours.
Maximum concentration of 1.8 mg/ml for non-bolus administration.

ROUTE & DOSAGE:

EMT-I & Paramedic:

Ventricular fibrillation/Pulseless ventricular tachycardia:

300 mg IV or IO bolus in 10-30 ml normal saline - pediatric 5 mg/kg in 5-10 ml normal saline – both followed by a saline flush.

If no perfusing rhythm, administer an additional 150 mg in 10-30 ml normal saline IV or IO bolus in 3-5 minutes - pediatric 5 mg/kg in in 5-10 ml normal saline.

Adult post-conversion from ventricular fibrillation or tachycardia to a perfusing rhythm:

150 mg in 100 ml normal saline IV or IO over 10 minutes in addition to what may have been given previously up to a maximum total dose of 450 mg.

Ventricular tachycardia with a pulse or
Narrow complex tachycardia with Wolff-Parkinson-White (WPW):

150 mg in 100 ml normal saline IV or IO over 10 minutes.
May repeat once in 10 minutes if no change in rhythm.

Total maximum dose of 450 mg.

ASPIRIN (ASA, ACETYLSALICYLIC ACID)

TRADE NAME:

Ecotrin and others

ACTION:

Inhibits platelet aggregation.

INDICATIONS:

- Cardiac chest pain

CONTRAINDICATIONS:

- ☠ Known sensitivity or allergy to aspirin.
- ☠ Active or recent GI bleeding.

SIDE EFFECTS & PRECAUTIONS:

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

ROUTE & DOSAGE:

EMR:	
EMT:	• ***Cardiac chest pain:*** 81 mg tablets (maximum of 4 = 324 mg) chewed to make sure that the patient has taken a total of 324 mg within the prior 12 hours.
AEMT:	
EMT-I:	
Paramedic:	

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.
- Antidote for symptomatic organophosphate poisoning.

CONTRAINDICATIONS:

☠ Known sensitivity to atropine.

SIDE EFFECTS & PRECAUTIONS:

Less likely to be effective in second degree type 2 A-V block and third degree block with wide QRS complexes in the presence of an acute MI.

Bradycardia in the setting of an acute MI is common; do not treat rhythm unless the patient is symptomatic or there are signs of poor perfusion.

ROUTE & DOSAGE:

EMT-I:

Paramedic:

Symptomatic bradycardia:

Adult: 0.5 mg IV or IO push every 3-5 minutes. Maximum dose 3 mg.

Pediatric: 0.02 mg/kg IV or IO every 3-5 minutes.
Minimum single dose: 0.1 mg.
Maximum single dose: 0.5 mg in child, 1.0 mg in adolescent.

Organophosphate poisoning:

Adult: 2 mg IV, IO, IM, ET

Pediatric: 0.03-0.05 mg/kg IV, IO, IM, ET

Double dose every 10 minutes until symptoms controlled.

CALCIUM GLUCONATE (10%)

TRADE NAME:

Calcium Gluconate 10%

ACTION:

Electrolyte essential for muscle contraction.

INDICATIONS:

- Antidote for overdoses of calcium channel blockers or magnesium.
- Treatment for hydrogen fluoride or hydrofluoric acid exposure of skin or lungs.

CONTRAINDICATIONS:

☠ Known sensitivity to calcium gluconate.

SIDE EFFECTS & PRECAUTIONS:

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

HOW SUPPLIED:

10% solution = 1 g/10ml = 100 mg/ml

ROUTE & DOSAGE:

Paramedic: *Calcium Channel Blocker or Magnesium Sulfate overdose*

Adult: 10 ml IV or IO over 5-10 minutes.
Pediatric: 0.6 - 0.75 ml/kg IV or IO over 5-10 minutes.

Hydrogen fluoride or hydrofluoric acid exposure or burn

For skin burns or exposure - apply topically
Mix 1 ampule of 10% calcium gluconate in 1 ounce (30cc) water-based, water-soluble personal lubricant (such K-Y jelly) and massage into burned area
Inhalation exposure or pulmonary burns - via nebulizer
Administer 2.5% solution - mix 10% calcium gluconate with 3 volumes normal saline

CRYSTALLOID

TRADE NAME:

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

ACTION:

Sterile isotonic fluid for intravenous use.

INDICATIONS:

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

CONTRAINDICATIONS:

None.

SIDE EFFECTS & PRECAUTIONS:

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

ROUTE & DOSAGE:

AEMT:	*Catheter flush:*	2-5 ml IV or IO
EMT-I:		
Paramedic:	*Medication flush:*	10-20 ml IV or IO
	Volume expansion:	
	Adult:	500-1000 ml IV or IO, repeat to desired effect.
	Pediatrics:	10-20 ml/kg IV, IO or UV in neonates, repeat to desired effect.

CYANOKIT - HYDROXOCOBALAMIN (OPTIONAL)

TRADE NAME:

Cyanokit

ACTION:

Hydroxocobalamin binds cyanide ion to create cyanocobalamin which is then excreted in the urine.

INDICATIONS:

Known or highly suspected significant cyanide ingestion or poisoning with cardiac arrest, coma or persistent hypotension.

CONTRAINDICATIONS:

☠ Known significant allergy to hydroxocobalamin or cyanocobalamin.

SIDE EFFECTS & PRECAUTIONS:

Any other medications must be administered through a separate IV or IO.
Hydroxocobalamin cause the patient's skin and urine to turn red.
Hydroxocobalamin may raise the patient's blood pressure.
Allergic (anaphylaxis) may occur.
Notify the receiving hospital that the patient has been administered hydroxocobalamin.

ROUTE & DOSAGE:

PROTECT YOURSELF AND OTHERS

Paramedic:	Any patient receiving Cyanokit (hydroxocobalamin) needs 2 IV or IO lines – one for hydroxocobalamin and one for any other medications or fluids. 5 grams diluted with 200 ml normal saline administered at 70 mg/kg (maximum 5 grams) IV or IO over 15 minutes. Contact online medical control (OLMC) before repeating the dose.

DEXAMETHASONE (OPTIONAL)

TRADE NAME:

Decadron

ACTION:

A synthetic anti-inflammatory corticosteroid.

INDICATIONS:

- Patients with anaphylaxis who have been treated with epinephrine.
- Patients with croup who have been treated with nebulized epinephrine.
- Severe respiratory distress due to asthma or COPD and prolonged transport time.
- Severe illness or significant trauma in a patient known to have steroid dependent adrenal insufficiency (including congenital adrenal hyperplasia – CAH).

CONTRAINDICATIONS:

☠ Known sensitivity to dexamethasone or corticosteroids.

SIDE EFFECTS & PRECAUTIONS:

Not to be used for respiratory distress due to pulmonary edema, CHF, foreign body, or pneumonia or in such patients with a short transport time.

ROUTE & DOSAGE:

Paramedic:

Adult: 10 mg IV or IO over 1-2 minutes, IM or orally. If given orally may be better tolerated in a flavored drink.

Pediatric: 0.6 mg/kg (maximum dose of 10 mg) IV or IO over 1-2 minutes, IM or orally. If given orally (preferred for children with croup) may be better tolerated in a flavored drink.

DILTIAZEM (OPTIONAL)

TRADE NAME:

Cardizem

ACTION:

Calcium channel blocker which decreases intranodal AV conduction and decreases smooth muscle tone causing arterial dilatation.

INDICATIONS:

- Conversion of PSVT unresponsive to adenosine.
- Slowing of atrial fibrillation with rapid ventricular response.

CONTRAINDICATIONS:

- ☠ Known sensitivity to diltiazem.
- ☠ Congestive Heart Failure (CHF).
- ☠ Post-resuscitation tachycardia.
- ☠ Narrow complex tachycardia with severe signs or symptoms – use cardioversion.
- ☠ Wolff-Parkinson-White syndrome with narrow complex tachycardia.

SIDE EFFECTS & PRECAUTIONS:

Likely to cause hypotension. May precipitate cardiac dysrhythmias. May worsen congestive heart failure.

ROUTE & DOSAGE:

Paramedic:

Adult:	0.25 mg/kg (typically 15-20 mg, max 20 mg) IV or IO slowly over 2 minutes. If ineffective in 10-15 minutes, may repeat at 0.35 mg/kg (typically 20-25 mg, max 25 mg) IV or IO.

DIPHENHYDRAMINE

TRADE NAME:

Benadryl

ACTION:

Blocks histamine release. Anticholinergic agent.

INDICATIONS:

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

CONTRAINDICATIONS:

☠ Known sensitivity to diphenhydramine.

SIDE EFFECTS & PRECAUTIONS:

Usually sedating but may occasionally cause hyperexcitability, most often in children. Anticholinergic and antiparkinsonian effect.

ROUTE & DOSAGE:

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

EPINEPHRINE

TRADE NAME:

Adrenaline

ACTION:

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

INDICATIONS:

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

CONTRAINDICATIONS:

- ☠ Known sensitivity to epinephrine.
- ☠ Cardiac chest pain.

SIDE EFFECTS & PRECAUTIONS:

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

IV infusions preferred via infusion pump.

ROUTE & DOSAGE:

EMR: (optional after training accomplished)

Anaphylaxis (hypotension, bronchospasm, angioedema, itching, hives)

Auto-injector: 0.3 mg if weight > 66 pounds
0.15 mg if weight 13 - 66 pounds
May repeat in 3-5 minutes

EMT:

Anaphylaxis (hypotension, bronchospasm, angioedema, itching, hives)

Adult: 0.3-0.5 mg = 0.3-0.5 ml of 1 mg/ml IM.
Pediatric: 0.01 mg/kg = 0.01 ml/kg of 1 mg/ml IM.
Maximum 0.5 mg/dose. May repeat in 3-5 minutes.

AEMT:

Severe anaphylaxis (hypotension, bronchospasm, angioedema, itching, hives)

Adult: 0.1 mg = 1 ml of 0.1 mg/ml IV.
Pediatric: 0.01 mg/kg = 0.1 ml/kg of 0.1 mg/ml IV or IO.
Maximum 0.1 mg/dose. May repeat in 3-5 minutes.

1:1,000 = 1 mg/ml 1:10,000 = 0.1 mg/ml

EMT-I:

Croup, severe anaphylaxis or severe asthma:

1 ml of 1 mg/ml in 2 ml saline via nebulizer.
May repeat twice in 5-10 minutes.

Cardiac Arrest or Pediatric Bradycardia

Adult: 1 mg of 0.1 mg/ml IV or IO.
Pediatric: 0.01 mg/kg (0.1 ml/kg of 0.1 mg/ml) IV or IO
Maximum single dose 1mg).
Neonates: 0.01 - 0.03 mg/kg (0.1 - 0.3 ml/kg of 0.1 mg/ml) IV or IO.
For neonates dilute in the same volume crystalloid.
May repeat in 3-5 minutes.

Paramedic:

Cardiac Arrest - if no other route available

Adult: 2 mg of 1 mg/ml diluted in 5-10 ml crystalloid via ET.
May repeat in 3-5 minutes.

Cardiac Arrest or Pediatric Bradycardia - if no other route available

Pediatric: 0.1 mg/kg (0.1 ml/kg of 1 mg/ml) diluted in 5-10 ml crystalloid via ET. Max dose 2.5 mg (2.5 ml of 1 mg/ml)
Neonates:
0.01 - 0.03 mg/kg (0.1 - 0.3 ml/kg of 0.1 mg/ml) UV diluted in the same volume crystalloid or
0.05 - 0.1 mg/kg (0.5 - 1 ml/kg of 0.1 mg/ml) ET
May repeat in 3-5 minutes.

Push Dose Epinephrine – adults only

Severe bradycardia unresponsive to atropine
Severe asthma unresponsive to other treatments

Mix 1 ml of 0.1 mg/ml epinephrine in 9 ml crystalloid. Administer 1ml (10 mcg) every 1-5 minutes IV or IO titrated to desired effect.

Epinephrine Infusion

Severe bradycardia
Severe anaphylaxis or asthma unresponsive to other treatments

Mix 1 mg of 1 mg/ml in 250 ml crystalloid or D10 (4 mcg/ml) – use microdrip tubing.

Adult: 1 mcg/minute (15 drops/min) - 4 mcg/minute (60 drops/min) IV or IO titrated to desired effect.

Pediatric: 0.02 - 0.08 mcg/kg/minute IV or IO titrated to desired effect. For weight greater than 36 kg use adult dosing.

Pediatric epinephrine infusion table – drops/minute using microdrip tubing (60 drops/ml)

Weight (kg) →	6.5	8.5	10.5	13	16.5	21	26.5	33
0.02 mcg/kg/min	2	3	3	4	5	6	8	10
0.04 mcg/kg/min	4	5	6	8	10	13	16	20
0.08 mcg/kg/min	8	10	13	16	20	25	32	40

1:1,000 = 1 mg/ml 1:10,000 = 0.1 mg/ml

ETOMIDATE

TRADE NAME:

Amidate

ACTION:

A short acting sedative hypnotic agent.

INDICATIONS:

- Sedation for rapid sequence intubation.

CONTRAINDICATIONS:

☠ Known sensitivity to etomidate.

SIDE EFFECTS & PRECAUTIONS:

Administer in a large bore, free flowing IV or IO.

Respiratory depression, hypotension and cardiopulmonary arrest are more likely in the elderly, those with COPD, renal, heart or liver disease. Use with caution in the presence of alcohol, barbiturates, narcotics or benzodiazopines.

Skeletal muscle jerking or movements occur commonly.

Duration is 4-10 minutes.

ROUTE & DOSAGE:

Paramedic:	0.3 mg/kg IV or IO push. Typical adult dose is 20 mg. 0.15 - 0.2 mg/kg IV or IO if elderly, debilitated or hypotensive.

FENTANYL (OPTIONAL)

TRADE NAME:

Sublimaze

ACTION:

Potent narcotic analgesic

INDICATIONS:

- Significant pain.

CONTRAINDICATIONS:

☠ Known sensitivity to fentanyl.

SIDE EFFECTS & PRECAUTIONS:

Rapid injection can cause respiratory arrest or chest wall rigidity. Give over 30-60 seconds.

Central nervous system depressant, which can cause respiratory depression, peripheral vasodilation, decreased cardiac output and pupillary constriction.

Avoid using if morphine has been administered. If morphine was administered previously wait at least 5-10 minutes before administering fentanyl and then administer cautiously in small amounts.

Do not use if systolic BP < 90 mm Hg or SpO_2 < 90%.

Use with caution (smaller or less frequent doses) in the elderly.

Naloxone (Narcan) will reverse the effects of fentanyl on respiration.

ROUTE & DOSAGE:

EMT-I:

Paramedic: 0.5-1 mcg/kg (maximum dose 100 mcg) IN, IV or IO over 30-60 seconds, then repeat every 3-5 minutes as needed for severe pain.

Maximum total dose the lesser of 4 mcg/kg or 500 mcg.

May be given IM if IN, IV or IO is unavailable.

GLUCOSE - DEXTROSE

TRADE NAME:

D10, Glutose

ACTION:

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

INDICATIONS:

Symptomatic hypoglycemia, blood sugar less than:

- 80 mg/dl in an Adult.
- 60 mg/dl in a Child (1 year to puberty).
- 40 mg/dl (Birth to 1 year).

CONTRAINDICATIONS:

None.

SIDE EFFECTS & PRECAUTIONS:

Avoid hyperglycemia if patient has had a CVA or stroke.
Administer glucose through a free flowing IV as glucose is an irritant and infiltration can cause tissue damage.
D10 may be given orally instead of glutose.
D10 (10% glucose) has 5 g glucose per 50 ml.

ROUTE & DOSAGE:

EMR:	***Adult:***	15-25 g glucose orally if patient can protect airway.
EMT:	***Pediatric:***	0.5 g/kg glucose orally if patient can protect airway.

AEMT: **EMT-I:**	**Any Age** - D10 Dose – 1ml/kg (0.1 g/kg) IV or IO
Paramedic:	**Neonate** - D10 Dose – 1ml/kg (0.1 g/kg) UV

Maximum single dose of 25 g glucose (= 250 ml D10)

Typical adult dose of D10 is 70-100 ml (= 7-10 g glucose)

Recheck CBG before administering additional glucose.

May repeat every 3-5 minutes as needed for persistent hypoglycemia.

HALOPERIDOL

TRADE NAME:

Haldol

ACTION:

Haloperidol is a potent neuroleptic and antipsychotic agent.

INDICATIONS:

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

CONTRAINDICATIONS:

- ☠ Known sensitivity to haloperidol.
- ☠ Observed or suspected seizure.
- ☠ Prolonged QT interval.
- ☠ Pregnancy.

SIDE EFFECTS & PRECAUTIONS:

Hypotension.
Acute dystonic reactions - best treated with diphenhydramine.
If intubated, initial sedation should be with midazolam.

ROUTE & DOSAGE:

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

INFLUENZA VACCINE – INACTIVATED (OPTIONAL)

INDICATIONS:

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

CONTRAINDICATIONS:

Known severe sensitivity or allergic reaction to chicken eggs, thimerosal, or influenza vaccine.

History of Guillain-Barré syndrome.

ROUTE & DOSAGE:

EMT-I: 1. Obtain consent for immunization.

Paramedic: 2. Equipment & Supplies.

a) Influenza A and/or B vaccine (current year's preparation only).
b) 1.0 ml syringe with 1-1.5" 25-27g needle or preloaded syringe and needle.
c) Alcohol as a disinfectant.
d) Vaccine administration record.

3. After disinfecting the skin and using sterile technique inject
   0-35 months - 0.25 ml of vaccine IM into the anterolateral mid-thigh.
   36 months and greater - 0.5 ml of vaccine IM into the mid-deltoid muscle.
4. Record patient name, immunization site, vaccine manufacturer and lot number

INFLUENZA VACCINE – LIVE, ATTENUATED (OPTIONAL)

TRADE NAME:

FluMist

INDICATIONS:

Prevention of seasonal or pandemic Influenza A and/or B infections in healthy, non-pregnant persons age 2-49 years.

CONTRAINDICATIONS:

Known severe sensitivity or allergy to chicken eggs or influenza vaccine.
Age less than 2 years or greater than 49 years.
Current pregnancy.
Underlying chronic medical condition: heart, lung (asthma), liver, or kidney disease, anemia, or diabetes.
Severely weakened immune system.
History of Guillain-Barré syndrome.

ROUTE & DOSAGE:

EMT-I: 1. Obtain consent for immunization.

Paramedic: 2. Spray half of the 0.2 ml unit dose of vaccine into each nostril
3. Record patient name, immunization site, vaccine manufacturer and lot number

IPRATROPIUM

TRADE NAME:

Atrovent

ACTION:

Ipratropium is an anticholinergic (parasympatholytic) bronchodilator.

INDICATIONS:

COPD, bronchospasm or asthma.

CONTRAINDICATIONS:

- Known sensitivity to ipratropium or atropine.

SIDE EFFECTS & PRECAUTIONS:

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

ROUTE & DOSAGE:

AEMT:	1 unit dose (0.5 mg) via nebulizer.
EMT-I:	Usually mixed with albuterol.
Paramedic:	May repeat once in 10-15 minutes.

KETAMINE - OPTIONAL

TRADE NAME:

Ketalar

ACTION:

Dissociative anesthetic agent with minimal depression on respiration or blood pressure. May cause some hypertension.

INDICATIONS:

- Chemical restraint. Unsuccessful or unlikely to repond to alternate sedatives. Use with great caution in geriatric patients.
- Sedation for rapid sequence intubation (RSI) if hypotensive or having severe asthma.
- Severe pain unresponsive to maximum fentanyl.

CONTRAINDICATIONS:

- ☠ Known sensitivity to ketamine.
- ☠ Restraint obtained with less invasive methods or alternate medications.
- ☠ Pregnancy.
- ☠ Angina or myocardial infarction in process.
- ☠ Severe hypertension.
- ☠ Stroke in process.
- ☠ Infants less than 3 months of age

SIDE EFFECTS & PRECAUTIONS:

May cause laryngospasm, which may often be controlled with BVM ventilation and time. May require advanced airway management.

May case hypersalivation, which can usually be controlled with suction.

Patient may exhibit “emergence reaction” as medication wears off manifested as “nightmares” and “frightening dreams”. Can usually be controlled with calming, and may require benzodiazepine administration.

Patients who receive ketamine for sedation must receive midazolam post intubation.

Notify the emergency department that the patient has received ketamine.

ROUTE & DOSAGE:

Paramedic:

Sedation:

4 mg/kg IM – maximum 500 mg. 5 ml maximum/IM injection.
Larger doses require two (2) IM injections.
Onset in ~ 5 minutes, lasts 20-30 minutes.

2 mg/kg IV or IO – maximum 300 mg.

Analgesia for pain unresponsive to maximum fentanyl:

0.15 mg/kg IV or IO (maximum 25 mg) over 1 minute or 0.5 mg/kg IM (maximum 50 mg).

LIDOCAINE

TRADE NAME:

Xylocaine

ACTION:

Local anesthetic.

INDICATIONS:

- Ventricular fibrillation/tachycardia if allergic to amiodarone
- IO infusion in conscious patients.

CONTRAINDICATIONS:

☠ Known sensitivity to lidocaine.

SIDE EFFECTS & PRECAUTIONS:

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

ROUTE & DOSAGE:

AEMT: *IO infusion in conscious patients*

Cardiac lidocaine 2% 0.5 mg/kg (maximum 40 mg) IO over 2 minutes. May repeat 0.25 mg/kg (maximum 20 mg) every 2-10 minutes as needed to total maximum dose of 3 mg/kg.

EMT-I:
Paramedic:

Cardiac arrest from V. Fib/V. Tach - if allergic to amiodarone

1-1.5 mg/kg IV or IO. For persistent V. Fib/V. Tach 0.5-0.75 mg/kg IV or IO every 5-10 minutes.

Wide complex tachycardia - if allergic to amiodarone

0.5-0.75 mg/kg IV or IO. For persistent Wide complex tachycardia 0.5-0.75 mg/kg IV or IO every 5-10 minutes.

Total maximum dose of 3 mg/kg.

MAGNESIUM SULFATE (OPTIONAL)

TRADE NAME:

Magnesium Sulfate

ACTION:

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

INDICATIONS:

- Torsades de Pointes.
- Severe asthma unresponsive to inhaled bronchodilators
- Eclampsia.

CONTRAINDICATIONS:

None.

SIDE EFFECTS & PRECAUTIONS:

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

Maximum concentration of 20%.

ROUTE & DOSAGE:

Paramedic:

Prepare 20% solution	2 g: 4 ml 50% magnesium sulfate + 6 ml normal saline 4 g: 8 ml 50% magnesium sulfate + 12 ml normal saline
Cardiac tachyarrythmis or severe asthma:	
Adult Administration:	10 ml of 20% solution (2 g) IV or IO
Pediatric Administration:	0.25 ml/kg of 20% solution (50 mg/kg) IV or IO up to adult maximum.
Cardiac arrest:	IV or IO push.
Non-cardiac arrest:	IV or IO over 15 minutes or more.
Eclampsia:	20 ml of 20% solution (4 g) IV or IO over 15 minutes. For administration over 15 minutes, Magnesium Sulfate may be diluted in a larger volume of crystalloid.

MARK 1 AUTOINJECTOR
(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 nerve gas exposure or poisoning.

CONTRAINDICATIONS:

Known sensitivity to atropine or pralidoxime.

SIDE EFFECTS & PRECAUTIONS:

Chempacks contain Mark 1 autoinjector supply in the event of a large poisoning. Contact Mercy Flights or Josephine County AMR supervisor to access.

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

HOW SUPPLIED:

Atropine 2 mg/0.7 ml autoinjectors and Pralidoxime 600 mg/2 ml autoinjectors

ROUTE & DOSAGE:

EMT: **AEMT:** **EMT-I:**	1-3 atropine autoinjectors IM into the lateral thigh or upper outer buttocks followed by the same number of pralidoxime autoinjectors IM in a similar location.
Paramedic:	Provide immediate advanced life support care.

MIDAZOLAM (OPTIONAL)

TRADE NAME:

Versed

ACTION:

A short acting benzodiazepine, causing central nervous system depression, respiratory depression, skeletal muscle relaxation and amnesia.

INDICATIONS:

- Seizures
- Sedation for painful procedures (such as trancutaneous pacing or cardioversion), amputations, severe muscle spasms, or combative patients.
- Post RSI sedation.

CONTRAINDICATIONS:

☠ Known sensitivity to midazolam.

SIDE EFFECTS & PRECAUTIONS:

Administer intravenously in a large bore, free flowing IV.

Respiratory depression, hypotension or sedation are common, particularly in the elderly, in those with chronic disease or in the presence of other sedating agents: alcohol, barbiturates, benzodiazepines or opiates. Use lower doses.

Paradoxical excitement or agitation may occur.

ROUTE & DOSAGE:

Paramedic:

Adult:

1-5 mg IV or IO over 30-60 seconds. May be given intranasal (IN) if IV or IO unavailable.

5 mg IM for status epilepticus or chemical restraint if IN, IV or IO not available.

May repeat to a maximum total dose of 20 mg.

Pediatric seizures (status epilepticus):

0.2 mg/kg buccal, IN or IM (maximum single dose 5 mg) initially

0.1 mg/kg for seizures IV or IO over 30-60 seconds for ongoing seizures or prolonged transport time (maximum single dose 5 mg).

May repeat once.

Pediatric sedation:

0.1 mg/kg for sedation IV or IO over 30-60 seconds (maximum 2.5 mg). May repeat once.

MORPHINE (OPTIONAL)

TRADE NAME:
Morphine

ACTION:
Narcotic analgesic and vasodilator.

INDICATIONS:
- Significant pain.

CONTRAINDICATIONS:
☠ Known sensitivity to morphine.

SIDE EFFECTS & PRECAUTIONS:
Central nervous system depressant, which can cause respiratory depression, peripheral vasodilation, decreased cardiac output or pupillary constriction.
May cause hypotension or nausea, especially if given rapidly; always administer slowly with dilution.
Do not use if systolic BP < 90 mm Hg or SpO2 < 90%.
Use with caution (smaller or less frequent doses) in the elderly.
Naloxone (Narcan) will reverse the effects of morphine on respiration.

ROUTE & DOSAGE:

EMT-I:	0.05 - 0.1 mg/kg slow IV or IO every 5 minutes to a total dose of 20 mg. (Usual adult dose 3-7 mg).
Paramedic:	0.1 - 0.2 mg/kg IM, if IV and IO unavailable. Maximum 15 mg.

NALOXONE

TRADE NAME:

Narcan

ACTION:

Narcotic antagonist.

INDICATIONS:

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

CONTRAINDICATIONS:

☠ Known sensitivity to naloxone.

SIDE EFFECTS & PRECAUTIONS:

Initial airway management includes bag-mask-ventilation (BMV), high flow oxygen supplementation and minimal hyperventilation.

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

ROUTE & DOSAGE:

EMR: **EMT:**	*Adult:*	To reverse respiratory depression: 1 - 4 mg intranasal (IN). 0.4 - 2 mg AutoInjector. Repeat every 1-3 minutes. Maximum dose 10 mg.
AEMT: **EMT-I:** **Paramedic:**		To reverse respiratory depression.
	Adult:	Repeat every 1-3 minutes. Maximum 10 mg. 0.4 - 2 mg titrated IV, IO, IN or IM.
	Pediatric:	0.1 mg/kg (max 0.4 mg/dose) titrated IV, IO, IN or IM.

NITROGLYCERIN

TRADE NAME:

Sublingual: Nitrostat, Nitrolingual Spray

IV: Tridil, NITRO-BID IV (by physician order only for inter-hospital transport – must be provided by the sending hospital for inter-hospital ground transport)

ACTION:

Smooth muscle relaxant of both arteries and veins.

INDICATIONS:

- Chest pain of cardiac origin.
- CHF or Pulmonary edema.
- Unstable angina during aeromedical or inter-hospital transport by physician order only.

CONTRAINDICATIONS:

- ☠ Known sensitivity to nitroglycerin.
- ☠ Erectile Dysfunction (ED) medication use:
  - ☠ Sildenafil (Viagra), vardenafil (Levitra) or avanafil (Stendra) use within the preceding 24 hours.
  - ☠ Tadalafil (Cialis) use within the preceding 48 hours.
- ☠ Pulmonary Hypertension medication use:
  - ☠ Riociguat (Adempas) use.

SIDE EFFECTS & PRECAUTIONS:

May cause hypotension or reflex tachycardia; IV access desirable. Nitroglycerin loses its potency with time. Do not shake nitroglycerin spray prior to administration. Warn patients of throbbing headache, flushing, dizziness and burning under the tongue.

ROUTE & DOSAGE:

EMT:	***Cardiac chest pain:*** May assist in self administration of patient's own nitroglycerin for chest pain as long as systolic blood pressure is > 90 mm Hg.
AEMT: **EMT-I:**	***Cardiac chest pain:*** 0.4 mg SL if systolic blood pressure > 90 mm Hg. May repeat twice at 3-5 minute intervals as long as systolic blood pressure is > 90 mm Hg. ***CHF/Pulmonary Edema:*** 0.4 mg SL. May repeat up to 4 times at 3-5 minute intervals as long as systolic blood pressure is > 90 mm Hg.
Paramedic:	***Unstable Angina*** (by physician order only during inter-hospital transport) Titrate IV infusion by 5-10 mcg/min until desired effect. To wean off IV infusion, decrease by 5 mcg every 5-10 minutes until desired response.

NITROUS OXIDE (OPTIONAL)

TRADE NAME:

Nitronox, N_2O_2

ACTION:

Inhalation analgesic.

INDICATIONS:

- Acute musculoskeletal pain
- Contact burns without risk of smoke inhalation

CONTRAINDICATIONS:

- ☠ Known sensitivity to nitrous oxide.
- ☠ Inability of patient to self-administer.
- ☠ Pregnancy in patient, medic or bystanders.
- ☠ Head injury.
- ☠ Airway burn or respiratory distress.

SIDE EFFECTS & PRECAUTIONS:

Respiratory depression, drowsiness. Use with caution in patients with chest trauma or lung disease.

Patient must self-administer by holding the mask over mouth and nose – EMS provider may NOT hold the mask for the patient.

ROUTE & DOSAGE:

AEMT:

EMT-I: Patient self administered by inhalation.

Paramedic:

NOREPINEPHRINE

TRADE NAME:

Levophed

ACTION:

Naturally occurring catecholamine with primarily alpha- adrenergic effects.

INDICATIONS:

- Hypotension due to non-hypovolemic shock, not responding to volume replacement.

CONTRAINDICATIONS:

- ☠ Known sensitivity to norepinephrine.
- ☠ Hypotension without adequate volume replacement.
- ☠ Patients taking MAO (monamine oxidase) inhibitors antidepressants, such as Parnate, Nardil, Marplan).
- ☠ Absence of large free-flowing intravascular access.

SIDE EFFECTS & PRECAUTIONS:

Vasoconstriction and myocardial workload increase as dose increases which may result in cardiac dysrhythmia, angina or headache.

Inactivated in alkaline solutions such as sodium bicarbonate.

May cause extreme peripheral vasoconstriction, particularly if peripheral vascular disease is present or IV access is small.

Causes tissue necrosis if IV infiltrates.

Should be administered via an infusion pump or another rate control device through a large upper arm vein or an IO.

Patient must be constantly attended by a paramedic.

Blood pressure must be taken about every 2 minutes initially until stable and then at about 5 minutes.

ROUTE & DOSAGE:

Preparation: Add 4 mg norepinephrine to 250 ml of D10 = 16 mcg/ml – microdrip tubing

Paramedic: *Adult:* 4 mcg/min (15 drops/min) IV or IO titrated upwards every 3-5 minutes to a systolic BP of 90 mm Hg, then 8 mcg/min (30 drops/min), then to a maximum dose of 12 mcg/min (45 drops/min).

Pediatric: 0.1 mcg/kg/min IV or IO titrated upwards every 3-5 minutes to the lower age-normal systolic BP:

70 mmHg + (2 x Age in years)

Maximum dose of 0.4 mcg/kg/min.

For weight greater than 36 kg use adult dosing.

Pediatric norepinephrine infusion table – drops/minute using microdrip tubing (60 drops/ml)

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

ONDANSETRON (ORAL DISSOLVING TABLET OPTIONAL)

TRADE NAME:

Zofran

ACTION:

Potent anti-emetic agent, a selective 5-HT_3 receptor antagonist.

INDICATIONS:

- Nausea or vomiting
- Prophylactically to prevent nausea or vomiting

CONTRAINDICATIONS:

- ☠ Known sensitivity to ondansetron.
- ☠ Recent administration of apomorphine (given subcutaneous for Parkinson's Disease) – apomorphine is rarely used – may cause severe hypotension

SIDE EFFECTS & PRECAUTIONS:

May cause minor headache, constipation or diarrhea.

ROUTE & DOSAGE:

EMT-I:	*Parenteral:*
Paramedic:	0.1 mg/kg (max dose = 4 mg) slow IV, IO, or IM. May repeat initial dose once in 5 minutes.
	Oral:
	8 mg oral dissolving tablet if age > 12. May repeat once in 15 minutes.

OXYGEN (O_2)

TRADE NAME:

None

ACTION:

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

INDICATIONS:

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

CONTRAINDICATIONS:

☠ Acute paraquat poisoning.

SIDE EFFECTS & PRECAUTIONS:

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

ROUTE & DOSAGE:

EMR: **EMT:** **AEMT:** **EMT-I:** **Paramedic:**	100% oxygen if the patient is in cardiac arrest, has CO poisoning or has had Barotrauma, otherwise: 1-15 liters/minute titrated to $SpO_2 \geq 94\%$.

OXYMETAZOLINE

TRADE NAME:

Afrin

ACTION:

Potent sympathomimetic arterial constrictor.

INDICATIONS:

- Epistaxis.
- Pretreatment for nasotracheal intubation.

CONTRAINDICATIONS:

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

SIDE EFFECTS & PRECAUTIONS:

Tachycardia, myocardial ischemia or cardiac dysrhythmia.

ROUTE & DOSAGE:

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

OXYTOCIN (optional)

TRADE NAME:

Pitocin

ACTION:

Polypeptide hormone which stimulates uterine contraction.

INDICATIONS:

Control of postpartum hemorrhage following delivery of the placenta.

CONTRAINDICATIONS:

- ☠ Known sensitivity to oxytocin.
- ☠ Pregnancy.

SIDE EFFECTS & PRECAUTIONS:

Nausea and vomiting. Severe uterine cramps.

ROUTE & DOSAGE:

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

PROPOFOL (hospital-supplied for interhospital transfer only)

TRADE NAME:

Diprivan

ACTION:

Sedation

INDICATIONS:

Aeromedical or inter-hospital transport by physician order only – must be provided by the sending hospital for inter-hospital ground transport

Maintenance of sedation in ventilated patients during inter-hospital transport

CONTRAINDICATIONS:

- ☠ Known sensitivity to propofol
- ☠ Allergy to soybean oil
- ☠ Allergy to egg lecithin
- ☠ Allergy to glycerol
- ☠ Use in a non-intubated patient
- ☠ Age less than 3 years

SIDE EFFECTS & PRECAUTIONS:

Use aseptic technique when preparing drip.

Will cause profound decrease in CNS activity, hypotension and respiratory depression particularly if used with sedatives or narcotics.

Rarely causes increase in ICP. Use with caution in head injured patients or those with acute stroke (CVA).

Decrease dose 20-50% if age greater than 55 years or debilitated.

ROUTE & DOSAGE:

Paramedic:

- IV only by sending physician for inter-hospital transfer.
- Typical dose is 5 - 50 mcg/kg/min.
- Maintain established rate and follow physician ordered parameters.
- Increase 5-10 mcg/kg/min every 5 - 10 minutes to increase level of sedation as needed.
- Decrease rate 5-10 mcg/kg/min every 5 - 10 minutes to decrease level of sedation for systolic blood pressure less than 90 mm Hg.

SODIUM BICARBONATE ($NaHCO_3$)

TRADE NAME:

Sodium bicarbonate

ACTION:

Alkalinizing agent. Raises blood pH.

INDICATIONS:

- Tricyclic antidepressant overdose with hypotension, dysrhythmias, seizures or QRS > 0.12.
- Hyperkalemia.

CONTRAINDICATIONS:

☠ Alkalosis.

SIDE EFFECTS & PRECAUTIONS:

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

HOW SUPPLIED:

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

ROUTE & DOSAGE:

Paramedic:	*Adult:*	1 mEq/kg of 8.4% IV or IO.
	Pediatric:	1 mEq/kg of 4.2% IV or IO.

Repeat 0.5 mEq/kg every 10 minutes.

SUCCINYLCHOLINE (OPTIONAL)

TRADE NAME:

Anectine

ACTION:

Depolarizing skeletal muscle relaxant.

INDICATIONS:

- Rapid sequence intubation paralysis.

CONTRAINDICATIONS:

- ☠ Known sensitivity to succinylcholine.
- ☠ History or family history of malignant hyperthermia.
- ☠ Known severe hyperkalemia.
- ☠ History of stroke, burns, spinal cord injury, polio, myasthenia gravis, Guillain-Barré syndrome > 4 days and < 6 months previously.
- ☠ Muscular dystrophy, crush injuries, rhabdomyolysis, amyotrophic lateral sclerosis (ALS) or other neuromuscular disorder of > 4 days duration.
- ☠ History of masseter muscle spasm.

SIDE EFFECTS & PRECAUTIONS:

Succinylcholine causes paralysis, not analgesia or amnesia; all patients must receive sedation before paralysis and continued sedation after paralysis. Patient will require airway management and ventilation.

Patients with neuromuscular disorders of > 4 days and healed< 6 months duration are at risk for fatal hyperkalemia, as are patients with ongoing neuromuscular disorders, such as muscular dystrophy, multiple sclerosis, or amyotrophic lateral sclerosis.

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

ROUTE & DOSAGE:

Paramedic:	2 mg/kg IV or IO.

TXA (TRANEXAMIC ACID) (OPTIONAL)

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 mm Hg) that does not respond to at least 1 L of normal saline (NS) and has an estimated transport time to the appropriate trauma center of more than 15 minutes.

CONTRAINDICATIONS:

- ☠ Known sensitivity to tranexamic acid (TXA).
- ☠ Chronic anticoagulant therapy - warfarin (Coumadin), dabigatran (Pradaxa).
- ☠ Children.

SIDE EFFECTS & PRECAUTIONS:

Control any external bleeding first – direct pressure, junctional wound packing, tourniquet.

Do not delay transport to administer TXA.

TXA must be administered within 3 hours of the traumatic event, ideally within 1 hour.

All patients receiving TXA in the field will be made Trauma Activation.

TXA must be administered in NS without any other medication co-administered in the same IV/IO.

ROUTE & DOSAGE:

Paramedic: 1 g in 100 ml normal saline (NS) IV or IO over 10 minutes.

VECURONIUM (OPTIONAL)

TRADE NAME:

Norcuron

ACTION:

Non-depolarizing skeletal muscle relaxant.

INDICATIONS:

- To provide paralysis (paralyzing dose) for rapid sequence intubation if succinylcholine is contraindicated.
- To maintain paralysis (maintenance dose) after intubation after adequate sedation is provided.
- To relieve isolated masseter muscle spasm due to succinylcholine.

CONTRAINDICATIONS:

☠ Known sensitivity to vecuronium.

SIDE EFFECTS & PRECAUTIONS:

Vecuronium causes paralysis, not analgesia or amnesia; patients must receive adequate sedation. Patient will require airway management and ventilation.

ROUTE & DOSAGE:

Paramedic: *Paralyzing Dose*

0.15 mg/kg IV or IO. Usual adult dose is 10 mg. Administer only after paralysis due to succinylcholine has begun to wear off as evidenced by patient movement

Maintenance Dose

0.01-0.015 mg/kg IV or IO 25-40 minutes after initial paralysis, then every 12-15 minutes as needed or 1 mcg/kg/min IV or IO infusion.

Procedures	Date
12 Lead ECG	July 1, 2018
Advanced Airway	July 1, 2016
Automatic External Defibrillator (AED)	July 1, 2017
Bariatric Transport	July 1, 2018
Chest Decompression	July 1, 2018
CPAP	July 1, 2013
CPR High Performance - Adult	July 1, 2018
CPR High Performance - Pediatric	July 1, 2018
CPR - Mechanical	July 1, 2016
Cricothyrotomy - Needle	July 1, 2013
Cricothyrotomy - Surgical	July 1, 2018
End Tidal CO_2 Detector	July 1, 2013
Endotracheal Intubation (Oral, Nasal and Digital)	July 1, 2018
External Transcutaneous Pacing	July 1, 2018
Femur Traction Splint	July 1, 2013
Hemostatic Dressing (*optional)*	July 1, 2013
Intramuscular Injection	July 1, 2018
Intranasal Medication Administration	July 1, 2013
Intraosseous Infusion	July 1, 2018
Intraosseous Infusion EZ-IO	July 1, 2018
Intravenous Administration	July 1, 2014
King LTS-D/LT-D Supraglottic Airway	July 1, 2017
King Vision Endotracheal Intubation	July 1, 2018
Manual Defibrillation	July 1, 2018
Nasogastric/Orogastric Tube Placement	July 1, 2013
Nebulizer Setup	July 1, 2017
Pelvic Sling	July 1, 2017
Rapid Sequence Intubation	July 1, 2018
Read Backs	July 1, 2013
Restraint	July 1, 2018
Spinal Motion Restriction	July 1, 2018
Synchronized Cardioversion	July 1, 2018
TASER Barb Removal	July 1, 2017
Tourniquet (*optional)*	July 1, 2018
Tracheostomy Care	July 1, 2013
Transport Ventilator *(optional)*	July 1, 2013
Umbilical Vein Catheterization	July 1, 2013
Vagal Maneuvers	July 1, 2018

12 LEAD ECG

EMR, EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

Patients having cardiac chest discomfort.
Other symptom such as palpitations, syncope, stroke, shortness of breath that in the EMS provider's judgment might represent myocardial ischemia or infarction.
Patients for whom STEMI Activation is called.

PRECAUTIONS:

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

PROCEDURE:

- The transporting agency will deliver or transmit each 12 lead ECG obtained to the destination hospital ED and will identify the 12 lead ECG in the ED by attaching the preprinted ED registration label. 12 led ECG printouts which are not 8.5 x 11 inches (letter-size) will be attached by the transporting agency to the appropriate EMS 12 lead ECG Report Form and labeled.
- For any EMS 12 lead ECG transmitted to the destination hospital, at a minimum, fax to:

  ACH: 541-488-7434

  PMMC: 541-732-6437

  RRMC: 541-789-7111
- For any STEMI Activation EMS 12 lead ECG transmitted to the destination hospital also fax to the cath lab:

  PMMC: 541-732-9045

  RRMC: 541-789-4735
- Attach a copy of each 12 lead ECG to your PCR.

ADVANCED AIRWAY

EMT, AEMT, AEMT-I, Paramedic

INDICATIONS

Inability of patient to provide adequate oxygenation, ventilation or airway protection.

CONTRAINDICATIONS

Adequate airway provided spontaneously by the patient or with basic airway adjuncts, bag-valve mask ventilation or CPAP.

PRECAUTIONS

Initial airway management includes basic airway adjuncts, bag-mask-ventilation (BMV), high flow oxygen supplementation, and normoventilation.

Have at least one back-up airway method available – bag-mask-ventilation (BMV) at a minimum.

Patients in cardiac arrest (ventricular fibrillation, pulseless ventricular tachycardia, PEA, or asystole) should have initial airway management with 100% O_2 nonrebreather mask, OPA or NPA and bag-valve-mask ventilation to eliminate interruptions of CPR.

PROCEDURE

1. Supraglottic airway
2. Endotracheal Intubation
3. Rapid Sequence Intubation (RSI)
4. Needle Crichothyrotomy
5. Surgical Crichothyrotomy – adults only
6. Pulse oximetry monitoring for all patients needing airway management.
7. Continuous end-tidal CO_2 capnometry monitoring for all patients who have received an advanced airway. Document in the PCR capnometry reading or monitor strip:
   - Immediately following airway placement
   - Immediately before and after transferring patient to or between gurneys
   - At the hospital before leaving the ambulance
   - In the hospital after transferring the patient to the hospital gurney or bed

AUTOMATIC EXTERNAL DEFIBRILLATOR (AED)

EMR, EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

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

PRECAUTIONS:

For children less than 8 years of age the rescuer should use a pediatric dose-attenuator system if one is available.

PROCEDURE:

1. Begin High Performance CPR
2. Obtain AED
3. Turn on the AED and follow the recorded instructions
4. Resume High Performance CPR immediately after the administration of a shock
5. If patient's pulse returns, support patient airway and ventilation, continuously monitor patient and vital signs, and transport patient to the hospital

BARIATRIC TRANSPORT

EMR, EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

Patients needing ambulance transport for medical reasons and weighing more than can be accommodated in a standard ambulance.

PRECAUTIONS:

Patient weight must not exceed 1,600 pounds.

The bariatric ambulance may not be immediately available and patient loading is time-consuming so it cannot be relied on for an emergency response.

PROCEDURE

- Contact Josephine County non-emergency dispatch at 541-955-5081 to request the AMR bariatric ambulance.
- Ensure that there is a level area for the bariatric ambulance to park which is at least 40 feet long and 14 feet wide.
- Follow the instructions of the AMR bariatric ambulance staff who will assume care of the patient, supervise the loading of the patient and provide further medical care.

CHEST DECOMPRESSION (NEEDLE THORACENTESIS)

Paramedic

INDICATIONS:

Rapid decompression of tension pneumothorax, which may result from trauma, chest compressions or positive pressure ventilation. Signs may include unilaterally absent breath sounds, hypotension, progressive respiratory distress, distended neck veins, asymmetrical breathing, hyperexpanded chest, tracheal shift and increased resistance to ventilation.

In a patient who has suffered significant chest trauma, a tension pneumothorax may be present without specific signs. In such a patient, chest decompression may be useful for cardiac arrest, PEA, or severe respiratory distress.

PRECAUTIONS:

Pneumothorax or lacerations of the lung or blood vessels may occur. Chest decompression may need to be performed at more than one site or on the other side.

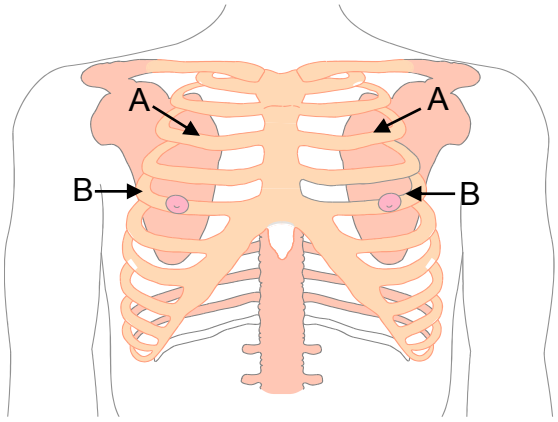
Chest decompression should NOT be performed on the side of an open chest wound.

Relief of a tension pneumothorax should result in a rapid and significant improvement in the patient's condition.

PROCEDURE:

1. Prepare Equipment
   a. High flow oxygen.
   b. 10-14 gauge 8 cm long IV catheters.
   c. 10 ml syringe.
   d. Disinfectant solution.
   e. Tape.
2. With the patient supine and the chest exposed, clean the insertion site:
   Primary site: 2nd intercostal space in the mid-clavicular line (A)
   Alternate site, if too much tissue at the primary site: 4th intercostal space in the anterior axillary line (B)

   Insert the IV catheter attached to the syringe over the top of the rib, advance the catheter until a "pop" is felt and air released, then remove the needle and syringe. Auscultate the chest, secure the catheter, monitor the patient and administer oxygen.



CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

Respiratory distress in the conscious adult patient due to asthma, COPD, pulmonary edema, or CHF.

PRECAUTIONS:

Requires 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 increased intrapulmonary shunting.
Overdistension of the lungs can reduce compliance.

CONTRAINDICATIONS:

Respiratory failure with a need for BVM ventilation or immediate intubation.
Untreated pneumothorax.
Uncontrolled vomiting.
Significant upper airway abnormalities or trauma.
Age < 12 years.
Unconscious or uncooperative patient.
Facial deformity preventing adequate mask seal over the mouth and nose.
Systolic blood pressure < 90 mm Hg
Tracheostomy, unless plugged

PROCEDURE:

Have the patient in an upright position of comfort.
Explain the procedure to the patient. Instruct patient to breath in through their nose slowly and exhale slowly out through their mouth.
Apply the CPAP mask and initiate flow at 5 cm H_2O. Titrate up to 10 cm H_2O.
Place the delivery mask over the mouth and nose and secure the mask with straps.
Consider placement of a nasopharyngeal airway.
Monitor patient's respiratory status, vital signs, oximetry, and capnometry frequently.
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.

CPR - HIGH PERFORMANCE - ADULT

EMR, EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

Any adult patient with cardiac arrest (unresponsive with absent or abnormal respirations) without a POLST Do Not Attempt Resuscitate (DNR) order.

PRECAUTIONS:

Do not delay the initiation of chest compressions.
Pulse check should not take more than 10 seconds. If definite pulse is not detected, then begin chest compressions.

PROCEDURE (follow specific cardiac rhythm algorithm):

- Continuous chest compressions at 110-120 /minute (use a timing device)
  Compression depth of 2-2.4" (5-6 cm)
- AED/defibrillator applied as soon as available – defibrillation if indicated
  At least 30 chest compressions while charging AED/defibrillator
  Minimal (1-2 second) chest compression interruption during shock administration using "hover" technique
- Ventilations-– just to get chest rise:
  Bag-Valve-Mask (BVM) ventilations with 100% O_2 every 10th compression
  Advanced airway present – asynchronous ventilations every 6 seconds (use a timing device)
  If only one (1) rescuer is present, perform compressions to ventilations at a ratio of 30:2.
- Pulse check begins during chest compressions to assess quality of CPR and continues when chest compressions stop for rhythm analysis for maximum of 10 seconds
- Manual chest compressions for at least 2 minutes and at least one AED/defibrillation analysis and shock (if indicated) before using mechanical chest compressions
- IV or IO with crystalloid
- Supraglottic airway device insertion or endotracheal intubation may be performed after 2 minutes of CPR if done with no interruption of chest compressions
- After a supraglottic or advanced airway has been placed give 1 ventilation every 6 seconds (10/minute) with continuous chest compressions (use a timing device)
- Transport to hospital patients who have suffered a cardiac arrest and have:
  Return of Spontaneous Circulation (ROSC)
  Recurrent or persistent ventricular fibrillation/ventricular tachycardia
  PEA with regular rhythm at a rate of 50/minute or greater
  Severe hypothermia
  Electrocution
- If no ROSC after 20 minutes of resuscitation efforts, consider Termination of Resuscitation (TOR)

CPR - HIGH PERFORMANCE - PEDIATRIC

EMR, EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

Any patient beyond 1 month of age through puberty with cardiac arrest (unresponsive with absent or abnormal respirations) without a POLST Do Not Attempt Resuscitate (DNR) order.

Child - 1 year to puberty

Infant - 1 month to 1 year

Newborn - birth - 1 month see Childbirth – Care of the Newborn – Complications

PRECAUTIONS:

Do not delay the initiation of CPR.

Pulse check should not take more than 10 seconds. If definite pulse is not detected, then begin chest compressions.

PROCEDURE (follow specific cardiac rhythm algorithm):

- Continuous chest compressions at 110-120 /minute (use a timing device)
  - Compression depth:
    - Child - at least 1/3 the depth of the chest – about 2" (5 cm)
    - Infant - at least 1/3 the depth of the chest – about 1½" (4 cm)
  - Ventilations - just to get chest rise:
    - Bag-Valve-Mask (BVM) ventilations with 100% O_2:
      - Two rescuers 15 compressions:2 ventilations
      - Single rescuer 30 compressions:2 ventilations
    - If advanced airway is present - 1 ventilation every 6 seconds with continuous chest compressions
- AED/defibrillator applied as soon as available – defibrillation if indicated – for age less than 8 years use pediatric attenuator or pads if available
  - At least 30 chest compressions while charging AED/defibrillator - after analysis and before defibrillation
  - Minimal (1-2 second) chest compression interruption during shock administration using "hover" technique
- Pulse check begins during CPR to assess quality of CPR and continues when chest compressions stop for rhythm analysis for maximum of 10 seconds
- Advanced airway only if unable to provide adequate BVM oxygenation and ventilation
- Transport to hospital patients who have suffered a cardiac arrest and have:
  - Return of Spontaneous Circulation (ROSC)
  - Recurrent ventricular fibrillation/ventricular tachycardia
  - PEA with regular rhythm at rate of 40/minute or greater
  - Severe hypothermia
  - Drowning
  - Electrocution
- If no ROSC after 20 minutes of resuscitation efforts, consider Termination of Resuscitation (TOR)

CPR - MECHANICAL
(Optional)

First Responder, EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

- Mechanical chest compressions for adults with cardiac arrest after at least 5 cycles (about 2 minutes) of CPR and defibrillator /monitor use, with shock if indicated.

PRECAUTIONS:

- Only to be used for non-pregnant, adult patients in non-traumatic cardiac arrest.
- Manual CPR will be performed in the event of any mechanical CPR malfunction or disruption.
- Do not initiate mechanical CPR if termination of resuscitation is anticipated or POLST DNR is present.

PROCEDURE:

- Manual CPR for at least 5 cycles (~ 2 minutes)
- AED/Defibrillator as soon as available – defibrillation if indicated
- IV/IO establishment
- ACLS drug therapy as indicated
- Establishment of advanced airway with no interruption of CPR
- Mechanical CPR device applied with minimal interruption of CPR, then CPR restarted
- EMS agency providing mechanical CPR device will provide staff to operate device during transport and at receiving hospital.
- Feedback/critique form to be completed and submitted by the EMS agency providing the mechanical CPR device after patient care completed.
- Patient information to be entered into CARES after patient care completed.

CRICOTHYROTOMY - NEEDLE

Paramedic

INDICATIONS:

To establish an emergency airway when other methods have been unsuccessful.

PRECAUTIONS:

Punctures or lacerations of the blood vessels, vocal cords or esophagus may occur. Subcutaneous emphysema. Needle cricothyrotomy is a temporizing measure only; ventilation will be poor with a slight rise in oxygenation in the alveoli.

PROCEDURE:

1. Prepare Equipment
   a. High flow oxygen with bag-valve-mask.
   b. Suction.
   c. 50 PSI (greater than or equal to 15 liters/minute) oxygen supply.
   d. Attached to a 10 ml syringe:
      Adult: 10-14 ga IV catheter.
      Pediatric: 14-16 ga IV catheter.
   e. Meconium aspirator and 3 mm endotracheal tube adapter or nasal cannula to control oxygen flow.
   f. Disinfectant solution.
   g. Tape.
   h. Stethoscope.
2. Place the patient supine with support under the shoulders and mild hyperextension of the neck. Palpate the neck over the trachea and locate the cricothyroid membrane just below the notch of the thyroid cartilage. Clean and prep the site over the membrane. With the IV catheter puncture the membrane aiming caudally at a 45° angle. While entering, apply negative pressure to the syringe. When air is met, remove the syringe and stylet, advance the catheter to the hub, connect the 3 mm adapter and meconium aspirator and ventilate the patient (one second inflation to four seconds exhalation). Observe and auscultate the chest for bilateral breath sounds. Secure the device and continue to ventilate.

CRICOTHYROTOMY - SURGICAL

Paramedic

INDICATIONS:

The last resort method to establish an airway when all other methods have been unsuccessful, including repeated bag-valve-mask ventilation with repositioning. Such conditions may include:

presence of massive airway edema to due airway burns or angioedema,
severe laryngospasm, or
facial or neck trauma severely distorting the anatomy.

PRECAUTIONS:

Punctures, laceration, or damage to the blood vessels, vocal cords, trachea or esophagus may occur, as may subcutaneous emphysema.

Surgical cricothyrotomy should only be used as a last resort on adults where all other alternate airway management is unsuccessful at maintaining adequate oxygenation (SpO_2 near 90%) and ventilation.

Needle cricothyrotomy is the airway management method of last resort for children.

PROCEDURE:

1. Prepare Equipment – requires 2 EMS providers, with at least one being a Paramedic.
   - Bag-valve-mask and oxygen.
   - Suction.
   - Disinfectant solution.
   - Scalpel with #10 or #20 blade.
   - Tracheal hook.
   - Tracheal introducer (gum bougie).
   - 6.0 endotracheal tube shortened by 50%.
   - Tape.
   - Stethoscope, end tidal CO_2 capnometer & oximeter.
2. Procedure:
   1. Position yourself at the head of the patient on your non-dominant side.
   2. Prep the anterior neck with disinfectant solution.
   3. Identify the cricothyroid membrane - just below the “Adam’s apple” and stabilize the trachea with the fingers of your non-dominant hand.
   4. Using the scalpel, puncture the skin and trachea transversely.
   5. Slide the tracheal hook along the inferior (caudal) side of the scalpel. Rotate the hook 90 in the caudal (lower) side of the incision to hold the distal trachea before removing the scalpel blade and apply traction to lift the cricoid cartilage up and caudad (towards the patient’s feet).
   6. Insert the tracheal introducer into the distal trachea until it stops at the carina before removing the tracheal hook. Thread the shortened endotracheal tube into the distal (lower) portion of the airway, rotating as needed, before removing the tracheal introducer. Inflate the cuff with 5-10 cc of air.
   7. Confirm tube placement in the trachea with bilateral chest rise, auscultation of bilateral breath sounds, $ETCO_2$, SpO_2, and patient condition.
   8. Secure tube and provide ventilation and oxygenation.
   9. Monitor patient to insure ventilation and for evidence of subcutaneous air.

END TIDAL CO_2 DETECTOR

EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

Any patient receiving an artificial airway (supraglottic airway or endotracheal tube).

PRECAUTIONS:

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

PROCEDURE:

Manual Colorimetric Detector (any patient with an artificial airway):

1. Attach the CO_2 detector between the bag-valve device and the end of the artificial airway.
2. When ventilating properly and the artificial airway is in the proper location, the indicator area on the detector will change color at time of expiration depending on the manufacture, typically yellow (~5% CO_2) during expiration and purple (0% CO_2) during inspiration.

Electronic Detector (any patient with an artificial airway or in respiratory distress):

1. Attach the 15mm adapter between the bag-valve device and the artificial airway.
2. Attach the small tubing to the electronic detector.
3. To confirm proper placement, the capnometry reading during expiration should measure between 35mm and 45mm Hg (5% CO_2) during expiration in conjunction with the regular rise and fall of the CO_2 waveform.
4. To monitor ongoing artificial ventilations with an artificial airway in place or with positive pressure ventilation, match the CO_2 waveform during expiration to what it was pre-intubation.

ENDOTRACHEAL INTUBATION (ORAL, NASAL AND DIGITAL)

Paramedic

INDICATIONS:

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

PRECAUTIONS:

Lacerations, dental injury, laryngospasm, right or left mainstem or esophageal intubation.

Oral: Rapid Sequence Intubation may facilitate procedure.

Nasal: Not to be attempted on an apneic patient, one with facial trauma or with suspected airway obstruction.

Digital: May be successful when other methods have failed. Use bite block to protect EMT's fingers. Patient must be deeply unconscious.

PROCEDURE:

1. **Prepare Equipment:**
   a. Laryngoscope and blades
   b. Endotracheal tube with stylet, average sizes are:
      - Adult female: 6.5 to 8.0
      - Adult male: 7.0 to 8.5
      - Child: 4.0 to 6.0
      - Infant: 3.5 to 4.0
      - Newborn: 2.5 to 3.5
   c. Suction unit.
   d. Magill forceps.
   e. Endotracheal Tube exchanger (gum boogie)
   f. Lubricant.
   g. Bite block.
   h. Tube securing device and tape.
   i. Syringe for cuffed tubes.
   j. Afrin.
2. **Pre-oxygenate patient with high flow oxygen though non-rebreather mask or BVM.**
3. **Oral Intubation:**
   a. Open patient's airway, protecting the cervical spine, if indicated.
   b. Insert endotracheal tube into trachea under direct visualization of the cords.
   c. Use endotracheal tube exchanger to facilitate intubation if needed. Insert curved tip through vocal cords, gently advance into trachea approximately 2-3 cm, feel the tip of the endotracheal tube exchanger tapping tracheal rings to confirm tracheal placement. Carefully advance endotracheal tube over the endotracheal tube exchanger until it is at the appropriate tip-lip distance. Remove endotracheal tube exchanger.
4. **Nasal Intubation:**
   a. Select the appropriate tube size, which is generally smaller than the one selected for oral intubation.
   b. Use two sprays of oxymetazoline (Afrin) into the largest nostril.
   c. With the head in a neutral position insert the well lubricated tube into the larger nostril and gently guide the tube posteriorly in an arc until the pharynx is reached.
   d. While listening to the patient's breath, advance the tube into the trachea during inhalation.
5. **Digital Intubation:**
   a. Place a bite block device into the patient's mouth.
   b. Insert the middle and index finger into the mouth following the curve of the tongue.
   c. Lift the epiglottis and tongue anteriorly.
   d. Insert the endotracheal tube between the index and middle fingers and into the trachea.

6. **All Endotracheal Intubations:**
   a. Inflate cuff if present.
   b. Verify tube location by auscultation and observation.
   c. Secure tube.
   d. Ventilate patient.
   e. Reconfirm tube location frequently, during transport and whenever patient is moved.
   f. End tidal CO_2 capnometry.
   g. Continuous SpO_2 monitoring.

EXTERNAL TRANSCUTANEOUS PACING

Paramedic

INDICATIONS:

Symptomatic bradycardia refractory to medications or symptomatic heart block.

CONTRAINDICATIONS:

Patients with penetrating or blunt trauma.

PRECAUTIONS:

This is a painful procedure. Use pain medication or sedation.
Increase in alertness and palpable pulse may not be reliable indicators of adequate mechanical capture.

PROCEDURE:

1. Prepare Equipment
   a. High flow oxygen.
   b. Pacemaker, cable and pacing electrodes.
   c. Midazolam or fentanyl.
   d. End tidal CO_2 capnometry ($EtCO_2$).
2. Administer oxygen and monitor cardiac rhythm, pulse oximetry and $EtCO_2$. A three or four lead cardiac monitor must be attached for pacing.
3. Medicate patient.
4. Apply pacer pads to the left anterior chest and left posterior chest (preferred), or right anterior chest and left lateral chest.
5. Adjust cardiac monitor gain to sense intrinsic QRS complexes.
6. Set mA at 0, attach pacer pads to monitor cable.
7. Set pace rate at 80 bpm.
8. Increase current by 10-20 mA to obtain capture. Decrease by 5-10 mA as needed.
9. Monitor pulse, EtCO2, pulse oximetry and blood pressure. Ensure mechanical capture by palpating pulse and correlating to the pulse rate shown on the pulse oximeter.
10. If unable to obtain mechanical capture, discontinue pacemaker.

FEMUR TRACTION SPLINT

EMR, EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

To provide internal hemorrhage control with femur stabilization for mid-shaft femur fracture.

PRECAUTIONS:

Do not use a traction splint in the presence of hip, pelvic or lower leg fractures.
Do not delay transport of a multi-system trauma patient to apply traction splint.
Discontinue traction or splint use if pain increases.

PROCEDURE:

- Expose extremity.
- Assess for mid-shaft fracture or deformity.
- Check distal pulse, motor and sensation of the affected extremity.
- Prepare and place the traction splint according to manufacturer's recommendations.
- Check distal pulse, motor and sensation of the affected extremity.

HEMOSTATIC DRESSING (optional)

EMR, EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

Life threatening bleeding from an extremity wound that is not controllable by direct pressure nor with a tourniquet.
Life threatening non-extremity bleeding not controllable with direct pressure.

PRECAUTIONS:

The hemostatic dressing must be in direct contact with the bleeding site.
Assure that the proper side of the hemostatic dressing is facing the wound.
Direct pressure must be maintained for at least 2 minutes after the hemostatic dressing is applied.

PROCEDURE:

1. Open the bandage and ensure that the proper side is applied to bleeding site.
2. Apply directly on source of bleeding.
3. Apply direct pressure over the wound for at least two minutes.

INTRAMUSCULAR INJECTION

EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

Preferred route of administration for initial epinephrine dose for anaphylaxis.
Administration of medication when IV access cannot be obtained.

PRECAUTIONS:

Proper administration will reduce the risk of intravascular injection or nerve damage.
Sterile technique will reduce the risk of infection.
Medication volumes over 5 ml will require 2 single injections.

PROCEDURE:

1. Prepare the appropriate syringe and needle (22-25 gauge).

Site	Age	Weight	Length (cm)
Anterior medial thigh	Birth-1 month		⅝”
	1 month-1 year		1”
	1-2 years		1-1¼”
Deltoid	1-18 years		⅝-1”
Non-deltoid	2-18 years		1-1¼”
Adult – any site		less than 130 lb	⅝”
		130-152 lb	1”
		Women 152-200 lb Men 152-260 lb	1-1½”
		Women greater than 200 lb Men greater than 260 lb	1½”

2. Prepare the appropriate medication, including a “read back”.

3. Administer the medication by intramuscular injection using the “Z-track” technique.

Site	**Age**	**Maximum volume**
Anterior medial thigh	Birth - 1 month	2 ml
Deltoid	3 years - adult	1 ml
Ventrogluteal	7 months - adult	5 ml
Dorsogluteal	1 year - adult	4 ml

4. Apply pressure to the injection site and follow with a dressing.

INTRANASAL MEDICATION ADMINISTRATION

AEMT, EMT-I, Paramedic

INDICATIONS:

Administration of nasally absorbed medications to reduce the risk of inadvertent needle stick injuries and to reduce patient need for parenteral injections.

PRECAUTIONS:

Intranasal medication may not be effective and parenteral medical administration may be required.

CONTRAINDICATIONS:

IV or IO access already established.
Allergy to the medication to be administered.
Nasal passages filled with blood or secretions.

PROCEDURE:

1. Draw the appropriate medication (fentanyl, midazolam, or naloxone) into the Mucosal Atomizer Device (MAD) – maximum volume 1ml; 0.5 ml preferred. Intranasal administration usually requires a higher concentration of medication and a larger dose than parenteral (injection) administration
2. Squirt ½ the dose into each nostril.

INTRAOSSEOUS INFUSION (lower extremity)

AEMT, EMT-I and Paramedic

INDICATIONS:

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

PRECAUTIONS:

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

PROCEDURE:

1. Prepare Equipment
   a. Intraosseus needle:
      18 ga for patients 18 months and younger.
      15 ga for patients older than 18 months.
   b. Disinfectant solution.
   c. Two 5 ml syringes.
   d. Crystalloid.
   e. Sterile gauze pads.
   f. Tape.
   g. Three way stopcock.
   h. 60 ml syringe.
   I. Extension tubing.
2. The preferred insertion site is the proximal tibia; the anteromedial flat surface 1-3 cm distal to the tibial tuberosity.
3. Alternate sites are the medial malleolus of the tibia or the anterior aspect of the distal femur.
4. Prepare surface with disinfectant solution.
5. Penetrate the soft tissue and with a twisting motion penetrate the cortex of the bone until a pop or loss of resistance is felt.
6. Remove the stylet. While holding the needle firmly, attempt to aspirate marrow or blood – you may not be able to aspirate anything even if the needle is in the marrow.
7. If you think that the needle is in the marrow, infuse 5 to 10 ml of crystalloid while palpating for infiltration.
8. Secure needle.
9. Attach extension tubing.
10. Attach stopcock to extension tubing.
11. Attach IV solution to stopcock.
12. Slowly administer 0.5 mg/kg of Lidocaine 2% (Preservative Free) IO to conscious patients.
13. Use 60 ml syringe to administer fluid bolus.
14. Flush frequently with 5-10 ml to maintain patency.

INTRAOSSEOUS INFUSION - EZ-IO®

AEMT, EMT-I, Paramedic

INDICATIONS

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

CONTRAINDICATIONS (use alternate site)

Infected tissue at the insertion site.
Fracture of the bone proximal to the insertion site.
Excessive tissue at the insertion site – must see 5mm of needle exposed.
Previous significant orthopedic procedure or prosthesis at the insertion site.

PRECAUTIONS

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

PROCEDURE

1. Prime EZ-Connect® extension tubing with cardiac lidocaine 2% if patient is conscious, saline if not.
2. Locate appropriate insertion site and prepare using aseptic technique.
   - Proximal humerus (adult only)
     - CONTRAINDICATION = shoulder replacement
   - Proximal tibia – flat portion of the anteromedial tibia distal to tibial tubercle
     - CONTRAINDICATION = knee replacement
   - Distal tibia – 3 cm proximal to the medial malleolus
3. Prepare the EZ-IO driver and appropriate needle set.
   Needle size guidelines may be modified by clinical judgment.
   For all needle sizes, before insertion into the bone, at least 5mm of needle (to the 1st black mark) must be exposed when the needle tip touches bone through the skin.
   - EZ-IO LD - 45 mm (yellow) - (40 kg and over), proximal humerus or if AD needle not long enough
   - EZ-IO AD - 25 mm (blue) - (≥ 3 kg) - tibial sites in most children and smaller adults
   - EZ-IO PD - 15 mm (pink) - (3 - 39 kg) - tibial sites in neonates and small infants

(Continued)

4. Stabilize site and insert appropriate needle set using the EZ-IO driver until sudden decrease in resistance is felt or needle flange reaches the skin.
5. Remove EZ-IO driver from needle set while stabilizing catheter hub .
6. Remove stylet from needle set and discard in a sharps container.
7. Connect primed EZ-Connect® extension tubing.
8. Attach a 3-way stop cock to the EZ-Connect extension tubing for all pediatric patients.
9. Cardiac lidocaine 2% 0.5 mg/kg (maximum 40 mg) IO over 2 minutes. May repeat 0.25 mg/kg (maximum 20 mg) every 2-10 minutes as needed to total maximum dose of 3 mg/kg. After administering lidocaine, wait 1 minute before saline flush.
10. Rapid flush EZ-IO with normal saline (LD 10 cc; AD 5 cc; PD 2 cc). May need to repeat rapid flush once, if free flow does not occur.
11. Confirm placement with free flow of IO infusion without extravasation.
    Note any of the following confirmation signs of intraosseous placement:
    - Needle 90° to skin and firmly seated in the bone
    - Aspiration of blood or bone marrow with syringe
    - Spontaneous flow of blood or marrow into the EZ-Connect® hub
12. Syringe bolus or utilize 300 mm Hg pressure bag or infusion pump for infusions.
13. Secure tubing to patient (use EZ-Stabilizer® if available), dress site, apply EZ-IO wristband.
14. Monitor EZ-IO site and patient condition for signs of extravasation.

INTRAVENOUS ADMINISTRATION

AEMT, EMT-I, Paramedic

INDICATIONS:

To access venous circulation.

PRECAUTIONS:

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

PROCEDURE:

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

KING LTS-D/LT-D SUPRAGLOTTIC AIRWAY

EMT, AEMT, EMT-I or Paramedic

INDICATIONS:

Advanced airway management when there is no paramedic on scene or expected to be on scene before patient condition will deteriorate or when attempts at endotracheal Intubation have failed

PRECAUTIONS:

Do not use in patients with an intact gag reflex, with esophageal disease, who have ingested caustic substances, who have a known or suspected foreign body obstruction of the larynx or trachea, or who have a tracheostomy.

Use in children or infants only if the airway cannot be adequately managed with other adjuncts, such as oropharyngeal or nasopharyngeal airway or BVM ventilations.

Seven (7) sizes available (3 adult & 4 pediatric):

Airway Size	Connector Color	Patient Size	Cuff Balloon volume (ml)
Large Adult # 5	Purple	> 6 feet (> 180 cm)	80-90
Medium Adult # 4	Red	5-6 feet (155-180 cm)	70-80
Small Adult # 3	Yellow	4-5 feet (122-155 cm)	50-60
Pediatric # 2.5	Orange	42-52 inches (105-130 cm) or 25-35 kg	40-45
Pediatric # 2	Green	36-46 inches (90-115 cm) or 12-25 kg	35
Pediatric # 1	White	5-12 kg	20
Pediatric # 0	Transparent	<5 kg	10

PROCEDURE:

1. Prepare equipment.
    a. High flow oxygen.
    b. Bag-valve-mask.
    c. King LTS-D Airway size 3, 4, 5 or LT-D size 2, 2.5, 3, 4, 5 with supplied syringe.
    d. Suction.
    e. Lubricant (only lubricate posterior side of airway, opposite side from “blue line”).

(continued)

2. Hyperoxygenate through a non-rebreather mask or if not breathing adequately BVM ventilations for several minutes with high flow oxygen.
3. Remove dentures, loose or broken teeth to prevent puncture of balloon.
4. Place patient's head in a "sniffing" position by lifting the tongue and lower jaw upward with one hand. For suspected cervical-spine injuries patients head may remain in a neutral position. Insert tube so that the blue orientation line is touching the corner of the mouth.
   Introduce tip into mouth and advance behind base of tongue.
   As tube tip passes under tongue, rotate tube back to midline (blue orientation line faces chin).
   Without exerting excessive force, advance tube until base of connector is aligned with teeth or gums.
5. Using the syringe provided, inflate the cuff balloon of the King airway with the appropriate volume per the table above.
6. Attach BVM to the King airway and while gently bagging the patient to assess ventilation, simultaneously withdraw the King airway until ventilation is easy and free flowing (large tidal volume with minimal airway pressure).
7. Confirm ventilations by listening for breath sounds, watching for chest rise and monitoring patient's vital signs and condition. Monitor pulse oximetry and continuous end tidal CO_2 capnometry.
8. Notify the receiving hospital that a King airway has been placed.

KING VISION® ENDOTRACHEAL INTUBATION

Paramedic

INDICATIONS:

To establish an emergency airway for the patient who cannot provide or protect their own airway using the King Vision® videolaryngoscope. Rapid Sequence Intubation may facilitate the procedure.

PRECAUTIONS:

Lacerations, dental injury, laryngospasm, right or left mainstem or esophageal intubation.

PROCEDURE:

1. **Prepare Equipment:**
   a. King Vision® laryngoscope and appropriate-sized blade. The largest endotracheal tube sizes (8.0 and 8.5) may not fit easily through the channeled blade.
   b. Endotracheal tube with stylet, average sizes are:
      - Adult male: 7.0 to 8.5
      - Adult female: 6.5 to 8.0
      - Child: 4.0 to 6.0
      - Infant: 3.5 to 4.0
      - Newborn: 2.5 to 3.5
   c. Suction unit.
   d. Lubricant.
   e. Tube securing device and tape.
   f. Syringe for cuffed tubes.
   g. Afrin.
2. **Pre-oxygenate patient with high flow oxygen though non-rebreather mask or BVM.**
3. **Procedure** (different technique than direct laryngoscopy)**:**
   a. Lubricate the appropriate size endotracheal tube and the appropriately-sized King Vision® blade.
   b. Open patient's airway, protecting the cervical spine, if indicated.
   c. Suction patient's airway.
   d. Insert the King Vision® blade midline into the mouth and advance to the vallecula to obtain the view of the entire epiglottis.
   e. Advance the endotracheal tube into the trachea while visualizing the cords. Have a 2nd EMS provider visually confirm the tube passing through the cords.
   f. Inflate cuff if present.
   g. Verify tube location by capnometry, auscultation and observation.
   h. Secure tube.
   i. Ventilate patient.
   j. Reconfirm tube location frequently, during transport and whenever patient is moved.
   k. End tidal CO_2 capnometry.
   l. Continuous SpO_2 monitoring.

MANUAL DEFIBRILLATION

EMT-I, Paramedic

INDICATIONS:

Patients in cardiac arrest with ventricular fibrillation or pulseless ventricular tachycardia.

PRECAUTIONS:

Defibrillation, when indicated, should be initiated as soon as possible after CPR has been started.

PROCEDURE:

1. Begin High Performance CPR.
2. Attach defibrillation pads in the anterior placement (right upper chest and left lower chest)
   Use pediatric pads or a pediatric attenuator, if available, per the manufacturer's directions.
3. Set the defibrillator's energy level (joules) according to the manufacturer's instructions.
4. Charge the defibrillator.
5. Stop CPR, verify that the rhythm remains ventricular fibrillation or pulseless ventricular tachycardia, administer an unsynchronized shock and resume CPR immediately after administration of the shock (use the "Hover" technique)
6. After the shock and resuming CPR do not stop CPR to check the rhythm until:
   2 minutes of CPR has been performed, or
   The patient develops signs of life
7. If no change in rhythm from ventricular fibrillation, increase the energy level for the next shock according to the manufacturer's instructions.

Recommended defibrillator energy levels

Initial shock:

Defibrillator	Adult	Birth-puberty
Zoll X-series	120 joules	2 joules/kg
PhysioControl LIFEPACK 12	200 joules	

2nd shock:

Defibrillator	Adult	Birth-puberty
Zoll X-series	150 joules	4 joules/kg
PhysioControl LIFEPACK 12	300 joules	

Subsequent shocks:

Defibrillator	Adult	Birth-puberty
Zoll X-series	200 joules	4 joules/kg
PhysioControl LIFEPACK 12	360 joules	

Adult energy level (joules) will be the maximum administered for any age.
Birth-puberty energy levels may need to be approximated
to the available defibrillator energy settings.

NASOGASTRIC/OROGASTRIC TUBE PLACEMENT

Orogastric: EMT-I and Paramedic

Nasogastric: Paramedic

INDICATIONS:

Any pediatric patient who has received assisted ventilation. Any intubated patient receiving air transport. Any patient receiving a King LTS-D airway. To prevent or alleviate abdominal distension in an intubated patient.

CONTRAINDICATIONS:

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

PROCEDURE:

1. **Prepare equipment.**
   a. Gastric tubes:

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

   b. Lubricant.
   c. Large syringe.
   d. Afrin for nasogastric intubation - optional.
2. **Orogastric**
   a. Measure tube from tip of nose to xiphoid process.
   b. Insert tube into mouth and advance into stomach.
3. **Orogastric with a King LTS-D Supraglottic Airway**
   a. Insert the lubricated orogastric tube down the King LTS-D gastric access lumen.
4. **Nasogastric - Paramedic**
   a. Measure tube length from earlobe to tip of nose and then to xiphoid process.
   b. Select the most open nostril for placement and spray nostril with Afrin.
   c. Insert the lubricated tube directing it posteriorly and slide it along the nasal pharynx into the esophagus and into the stomach.
5. **For all Oro- or Nasogastric tubes – EMT-I & Paramedic**
   a. Confirm location by instilling air and listening to the epigastrium.
   b. Secure tube.
   c. Connect to suction at 80 - 120 mm Hg.

NEBULIZER SETUP

EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

Bronchospasm due to COPD exacerbation, CHF, asthma or anaphylaxis.

PRECAUTIONS:

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

PROCEDURE:

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

PELVIC SLING

EMR, EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

Stabilization of suspected unstable pelvis fractures.

PRECAUTIONS:

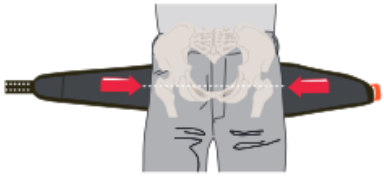
Once applied, the pelvic sling is to be removed only under the supervision of a physician.

PROCEDURE:

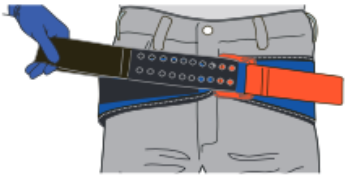
1. Remove patient's clothes which will be covered by the pelvic sling.
2. After visual examination, the pelvic sling is wrapped around the patient's pelvis – hips & buttocks - (not abdomen). The pelvic sling is then tightened and securely fastened anteriorly over the pubic symphysis to reduce motion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

SAM Sling® application guidelines

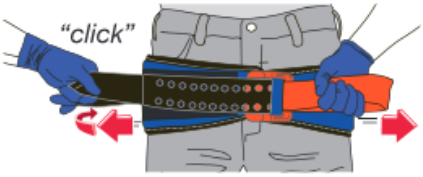
3-STEP APPLICATION



01 Remove objects from patient's pocket or pelvic area. Place SAM® Sling II black side up, beneath patient at level of trochanters (hips).



02 Place **BLACK STRAP** through buckle and pull completely through.



03 Hold **ORANGE STRAP** and pull **BLACK STRAP** in opposite direction until you hear and feel the buckle "click". Maintain tension and immediately press **BLACK STRAP** onto surface of SAM® Pelvic Sling II to secure. (You may hear a second click as the sling secures.)

RAPID SEQUENCE INTUBATION

Paramedic

INDICATIONS:

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

PRECAUTIONS:

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

PROCEDURE:

- **Preparation**
  - IV, cardiac monitor, capnometry and SpO_2 monitor.
  - Suction.
  - Laryngoscope, ET tubes (2 sizes), stylet.
  - Medications drawn up and labeled
  - Alternate airways – BVM, Supraglottic Airway, cricothyrotomy.
- **Preoxygenation**
  - High flow oxygen with non-rebreather mask or bag-valve-mask to maximize SpO_2 – 3 minutes or 8 full breaths. Avoid hyperventilation. Nasal cannula at 15 lpm as soon as mask is removed to start intubation.
  - Elevate patient's head before RSI if feasible.
- **Sedation & Paralysis**
  - Sedation:
    - Etomidate 0.3 mg/kg IV or IO push (0.15-0.2 mg/kg if elderly, debilitated or hypotensive) or
    - Ketamine 2 mg/kg IV or IO push if hypotensive or with severe asthma.
  - Paralysis:
    - Succinylcholine 2 mg/kg (preferred) or
    - Vecuronium 0.15 mg/kg IV or IO push
- **Protection and positioning**
  - Patient's head in sniffing position
  - BVM ventilation only if $SpO_2 < 90\%$.
- **Placement and proof**
  - Insert endotracheal tube.
  - Inflate balloon & secure tube.
  - Auscultation
  - End tidal CO_2 continuous capnography
- **Postintubation management**
  - Elevate patient's head after RSI if feasible.
  - Midazolam for sedation
  - Consider Vecuronium for paralysis if sedation does not provide adequate patient control for maintaining airway. Administer full paralyzing dose of vecuronium only after paralysis due to succinylcholine has begun to wear off as evidenced by patient movement.
  - Patients who received ketamine must receive midazolam post intubation.

“READ BACK” POLICY

EMR, EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

Anytime a medication is administered or a procedure is undertaken to reduce the risk of error.

PRECAUTIONS:

Read backs are one tool used to reduce the risk of error.

If the treating EMS provider is of a higher level than the partner, then the partner is expected to repeat the information and not necessarily verify its content or meaning.

A similar process is recommended for other critical communication which occurs, such as with dispatch or on line medical control (OLMC).

PROCEDURE:

- Treating EMS provider states medication be administered, dose and route or procedure to be performed and indication for either.
- Partner “reads back” or restates the same information.
  - For medications, the partner will verify the drug name and concentration listed on the container.
  - If the partner is of the same or a higher EMS level, then he/she will verify the correctness of the information.
- If there is any discrepancy in the information from either the treating EMS provider or the partner, a “time out” will be taken to correct the discrepancy. The “read back” procedure will be repeated to make sure that the discrepancy has been corrected.
- Medication administered or procedure performed will be documented in the PCR.

RESTRAINT

Physical: EMR, EMT, AEMT, EMT-I and Paramedic

Chemical: Paramedic

INDICATIONS:

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

PRECAUTIONS:

Positional asphyxia can occur when a patient's body positioning causes an inability to breath or an airway obstruction. This is especially true in the prone position. This may cause apnea, especially in the drugged, physically exerted patient.

Restraints that are too tight may cause permanent vascular or nerve damage.

Handcuffs or flexcuffs applied by law enforcement personnel prior to EMS arrival may be left on providing EMS personnel have the keys, but should be replaced with softer restraints if possible.

Use caution with sedative agents on patients who have had a chemical irritant sprayed in their face as airway irritation or laryngospasm may occur.

PROCEDURE:

1. Sufficient manpower should be present to control patient without injuring the medical personnel. Assess the need for using physical restraints prior to administering a chemical restraint.
2. Restrain the patient on the stretcher in either a supine or lateral recumbent position to keep airway open and accessible. Immobilize patient on a backboard with cervical spine precautions if indicated for possible cervical injury.
3. Document circulatory status of physically restrained extremities frequently.
4. Have midazolam, haloperidol or ketamine prepared for administration.
   Chemical restraint endpoints:
   - Restraint achieved
   - Side effects encountered (hypotension or respiratory depression)
   - Maximum dose administered - contact On Line Medical Control (OLMC)
5. All four extremities should be secured even if chemical restraint has been effective, to protect the patient and the EMS personnel from harm.
6. Monitor vital signs frequently.

SPINAL MOTION RESTRICTION

EMR, EMT, AEMT, EMT-I, Paramedic

INDICATIONS:

Patients with significant risk of cervical, thoracic, or lumbar spine injury based on mechanism of injury and findings of neurologic abnormality, patient's level of consciousness, and midline spinal pain or tenderness.

Spinal motion restriction is thought to be beneficial, although the research is unclear on this, and may be detrimental in some circumstances. Cervical collars may cause pain or airway impingement. The use of a backboard, either long or short, for spinal motion restriction is controversial. Backboards may cause discomfort, decrease local tissue perfusion, or restrict respirations.

PROCEDURE:

Full spinal motion restriction (cervical collar and backboard) for patients with one or more of these high risk findings:

1. Blunt trauma worrisome for spine injury or high energy mechanism with altered level of consciousness, distracting injury, or difficulty communicating
2. Significant midline spine pain or tenderness
3. Numbness or weakness
4. New spine deformity

Intermediate spinal motion restriction (cervical collar, manual-in-line cervical motion restriction, ambulance mattress motion restriction, log-roll maneuver during transfer) for patients with none of the above findings and any one or more of these findings:

1. Penetrating injury of the head, neck or torso without evidence of spinal injury
2. Mild midline spine pain or tenderness
3. Ambulatory at the scene
4. Parasthesias – "stingers"
5. Age > 65 years

NO spinal motion restriction for patients who have ALL FIVE of the following:

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

Patients on backboards for pre-hospital extrication should be removed from the backboard as soon as appropriate. Padded backboards are preferred.

TREATMENT:

EMR:	• Spinal motion restriction – may include cervical collar, head blocks, tape, towels, pillows or other • Accomplish spinal motion restriction without undue patient discomfort or distress. This is usually done with the patient in the supine position, but some conditions will require custom spinal motion restriction measures, such as with: marked kyphosis due to osteoporosis, spinal rigidity due to ankylosing spondylitis, severe facial fractures with airway patency maintained by the patient sitting up, or significant blunt trauma with the patient insisting on lying on his/her side. • Check motor and sensory exam frequently • Evaluate and treat for other injuries • Prevent loss of body heat • Oxygen
EMT:	• Supraglottic Airway
AEMT:	• IV or IO with crystalloid
EMT-I:	• Cardiac monitor • Atropine if bradycardic and hypotensive
Paramedic:	• Norepinephrine after aggressive fluid resuscitation • Advanced airway

SYNCHRONIZED CARDIOVERSION

SUBJECTIVE:

Decreased level of consciousness.

OBJECTIVE:

Serious signs or symptoms, including:
- Tachycardia with ventricular rate > 150
- Altered level of consciousness
- Hypotension
- Respiratory distress

Tachycardia (narrow or wide complex)

ASSESSMENT:

Tachycardia with serious signs or symptoms

TREATMENT:

EMR:
- Oxygen

EMT:
- Supraglottic Airway

AEMT:
- IV or IO with crystalloid

EMT-I:
- Cardiac monitor

Paramedic:
- Sedation with midazolam
- Analgesia with fentanyl
- Adult synchronized cardioversion

  Atrial flutter, supraventricular tachycardia or wide complex tachycardia

PhysioControl	Zoll
100J / 200J / 300J / 360J	70-75J / 120J / 150J / 200J

  Atrial fibrillation

PhysioControl	Zoll
200J / 300J / 360J	120J / 150J / 200J

- Pediatric synchronized cardioversion

  0.5-1 J/kg initially, then increase to 2 J/kg
- Unsynchronized cardioversion if the defibrillator fails to deliver a shock

TASER BARB REMOVAL

EMR, EMT, AEMT, EMT-I, Paramedic

INDICATIONS

Taser barbs should be removed at the request of law enforcement if both:

a. The patient has been adequately subdued so as not to pose a danger to Fire/EMS personnel, AND

b. The barbs are not embedded in the eye, neck or groin.

CONTRAINDICATIONS

TASER barbs that are embedded in the eye, neck or groin.

PRECAUTIONS

Patients should be in police custody and monitored by the police for the safety of the medical personnel.

One TASER shot deploys two barbs; make sure that both are removed.

Treat all barbs as a Bio-Hazard and place in a sharps container.

Additional trauma may have occurred before, during, or after a patient was hit by the TASER.

PROCEDURE

1. Perform patient assessment.
2. Monitor vitals and LOC. Ensure that vitals are appropriate for the situation
3. Expose the area where the TASER barb has implanted in the skin
4. Cut wires from barb, if still attached,
5. Place thumb and forefinger apart to stretch the skin tightly over the barb parallel to the portion of the shaft implanted in the patient's skin.
6. Holding tension, grasp the barb that is protruding out of the skin and pull straight up in one quick motion
7. Assess the skin where the barb was removed. Provide hemostasis and dress as needed.
8. Evaluate and treat the patient for other injuries or conditions.
9. Transport the patient to the Emergency Department for further evaluation.

NOTE: EMS TASER barb removal does NOT eliminate the need for transport to and patient evaluation in the emergency department.

TOURNIQUET

EMR, EMT, AEMT, EMT-I, Paramedic

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.

PRECAUTIONS:

Only firm, wide band commercial tourniquets will be used if at all possible.

Document the time of tourniquet application and the application site.

Notify the receiving hospital as soon as possible that a tourniquet has been applied.

Except for replacing an improvised tourniquet with a firm, wide band commercial tourniquet:

DO NOT loosen a tourniquet after application.

The tourniquet is to be removed only under the supervision of a physician

PROCEDURE:

1. Remove patient's clothing to expose the extremity and bleeding site.
2. Apply tourniquet just proximal to the bleeding wound. Do not cover the tourniquet.
3. Apply the tourniquet tight enough to occlude arterial blood flow. If adequate hemostasis is not obtained, consider a 2nd tourniquet applied just proximal to the 1st.
4. Pain management will likely be required.
5. Record time of tourniquet application.
6. Monitor for continued hemostasis and the return of significant bleeding.

TRACHEOSTOMY CARE

Paramedic

INDICATIONS:

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

PRECAUTIONS:

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

PROCEDURE:

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

TRANSPORT VENTILATOR

Paramedic

INDICATIONS:

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

CONTRAINDICATIONS:

Patients requiring greater than 50 cmH_2O
Auto Vent 3000 – Patients under 20 kg.
RespirTech PRO – Patients under 40 kg.

PRECAUTIONS:

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

PROCEDURE:

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

UMBILICAL VEIN CATHETERIZATION

Paramedic

INDICATIONS:

Preferred site of vascular access during neonatal resuscitation.

PRECAUTIONS:

Sterile procedure. Cannulate the single umbilical vein, not one of the2 umbilical arteries. Do not insert the cannula more than 6 cm.

PROCEDURE:

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

VAGAL MANEUVERS

EMT-I, Paramedic

INDICATIONS:

Narrow complex tachycardias in stable patients.

CONTRAINDICATIONS:

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

PROCEDURE:

1. Modified Valsalva - preferred
   a. With the patient sitting up, have the patient blow for 15 seconds into the wider end of a 10 ml syringe from which the plunger has been removed.
   b. Have the patient quickly lie supine and elevate the patient's legs at a 45° angle for 45 seconds.

2. Increased intra-abdominal pressure
   a. Ask the patient to cough.
   b. Ask the patient to close his or her mouth and bear down – "like having a bowel movement", "like having a baby", "like blowing up a balloon" or "tighten up your stomach muscles and push".

3. Vagal stimulation
   a. Ask the patient to swallow water.
   b. Ask the patient to splash ice water on his or her face.

MASS CASUALTY INCIDENT (MCI) PROTOCOL

Jackson County Fire EMS Agencies Mass Casualty Incident (MCI) Protocol

INTRODUCTION

This section of the Standing Orders has been prepared to provide a management plan for a coordinated response to a single or multi-agency Mass Casualty Incident (MCI). An MCI involves five (5) or more patients transported for treatment. 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 have been made into checklists to be used on scene as a reference during an MCI.

Under these standing 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 Incident Commander (or designee) assigns a person to a position and delegates duties to that individual.

The Incident Commander is responsible for all duties on the incident until he or she delegates such duties to others. Therefore, when an MCI occurs the Incident Commander may initially be responsible for multiple functions.

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 aspects consider a unified command structure following the NIMS-ICS model.

1. **Plan Priorities**
    a. **Safety of response personnel, patients, bystanders, and others.**
    b. **Effective patient triage and resource management to maximize care for the patient group as a whole.**

c. **Effective care of patients within the conditions and relative limitations of resources available. This may include improvised and austere care measures.**

d. **Rapid and clinically appropriate distribution of patients to available receiving hospitals and, as needed, temporary receiving facilities.**

e. **Effective after action review to institutionalize lessons learned and update practices as needed.**

OVERVIEW OF MCI PLAN

1. **Establish Command**
   - **a.** The first arriving unit will establish command by the most qualified person on the unit acting as the incident commander
   - **b.** Identification vests are to be worn to identify people to their ICS positions.
2. **Declare an MCI**
   - a. MCI Definition: Five or more patients anticipated to be transported for treatment.
   - b. The on scene Incident Commander shall declare over the radio to the ECSO that an MCI is in progress so that other personnel and agencies (including hospital(s) and dispatch center(s)) will be notified.
   - c. State the location of the incident
   - d. Describe the type of incident (traffic crash, fire, plane crash, explosion, hazmat, etc.)
   - e. Assume command and name the incident
   - f. Designate best access and a staging area.
   - g. Report critical hazards of the scene

     ("FireCom 3114 is on scene, we have an explosion and hazmat release at the Phillips plant. 3114 will be Phillips command. All units stage at the corner of Main and Commercial streets. ")

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

     ("FireCom from Phillips Command I am declaring this incident an MCI. We have about 15 patients including 5 or 6 critical")
   - h. Declaring an MCI automatically means that the following will occur:
     - i. All EMS personnel, responding and on scene, will operate under this MCI plan, including use of triage tags or markings (black, red, yellow, and green categories) and the START triage.
     - ii. ECSO will contact potential receiving hospital(s) and notify each of:
       - The type of incident
       - Estimated patient numbers
       - Any special considerations (contamination, unusual injury types, need for translators, etc.)
     - iii. ECSO will determine from hospitals how many patients of each triage category they can receive.
     - iv. When notified of a multi-casualty incident, each hospital will assign personnel to monitor the radio.
     - v. Utilization of the Mercy Flights Ambulance Resource Management System (ARMS) should be considered when (2) two or more mutual aid ambulances are requested to a single incident or ambulance resources are anticipated to

become inadequate for a prolonged time period. Activation requests can be made by the incident agency's dispatch or by the incident commander (IC) through Mercy Flights Dispatch. Once activated, Mercy Flights will assume responsibility for the comprehensive management of ambulance resources for Jackson County. See Administration Rules Section U. ARMS.

vi. Agency's dispatch will continue to handle incident communications with responding resources. Ambulances will be assigned by the ARMS but will not automatically remain in the MCI "system". When Dispatch receives 9-1-1 requests for ambulance resources they will forward those requests to ARMS for assignment of resources.

vii. Agency's dispatch will continue to dispatch all resources, other than ambulances assigned to the ARMS, and provide agency move-ups and resources as required by the IC. Dispatch will maintain unit time logs for incidents, however patient information will be tracked by the ARMS.

viii. Ambulances responding to the MCI may be directed to report to a designated staging location to be assigned by the Incident Management Team. If a staging area is not identified, responding ambulances will "self-stage" a short distance from the designated scene, in their normal direction of travel (Level 1 staging), and seek radio confirmation on the designated frequency (EMS Tac 7) from the Incident Management Team of their assignment before entering the scene.

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. Non-licensed transportation modes such as mass transit may be used to transport patients. Whenever practical, such transportation should include qualified EMS personnel, 2-way radio communications, and basic medical supplies, e.g. a medical pack.

3. Establish Incident Facilities

a. Under most circumstances, there will only be one Incident Commander (IC) per incident, stationed at the Incident Command Post which must be recognizable and located safely away from any hazard zone. If Unified Command is used, it will direct the Medical Branch using standard ICS practices.

b. A Staging Area or areas may be established to best facilitate the incident traffic flow and be organized by type i.e., transport ambulances, fire engines, other resources. If multiple staging areas are necessary, they should be identified by geographic location, e.g. "North Staging" or "First Street Staging".

c. Treatment areas may be established by the Medical Branch or Incident Management Team.

d. Patient movement from one area to another, e.g. a triage area to a treatment area, is managed by the sending area.

4. Manage transporting ambulances assigned to the MCI

a. Arriving medical units will report to the Staging Area on the staging frequency

(EMS Tac 7) unless assigned differently by the Incident Management Team.

b. Transporting ambulances will be assigned patients and destination hospital by the Transportation Group Supervisor.

c. Each transporting ambulance crew should remain together and not get involved in the Treatment Area during their patient loading unless directed otherwise.

d. Transporting ambulances will notify Dispatch or Mercy Flights ARMS when they are on the MCI scene, enroute to the hospital, when arriving at the hospital, and when available for reassignment.

e. EMS-hospital radio traffic will be restricted during MCI incidents. The preferred radio frequency will be MEDNET Primary. The Transportation Group Supervisor will direct transporting units to specific locations after discussing available resources with the Medical Branch Director or Incident Commander.

f. Transporting units will notify dispatch (if ARMS is activated transporting units will notify Mercy Flights Dispatch) as they leave the scene with the MCI name, unit ID, destination, and patient age, gender and triage color
("Mercy Flights Dispatch - Mercy 21 from Main Street MCI en route to ACH with 1 Red female teenager and 1 Yellow male about 50 years old.")

g. Transporting units will then notify the destination hospital while en route via MEDNET and the report to the hospital will consist of <u>essential information, primarily the</u> following items:

   i. The transporting unit ID

   ii. The number of patients, their ages, genders and their respective triage codes

   iii. ETA to destination

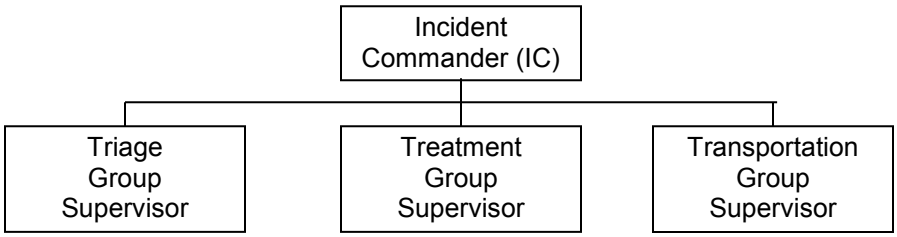
   ("RRMC - 8831 is inbound to your facility from Brentwood MCI with 2 patients. Red. First patient triage "Red" female child age about 4 years and second patient "Red" 42 year old male. We have an ETA of 15 minutes.")

h. Transporting units will notify Dispatch or Mercy Flights-ARMS when they arrive at their destination with their unit ID and location..
("Mercy Flights Dispatch – 7431 is out at RRMC.")

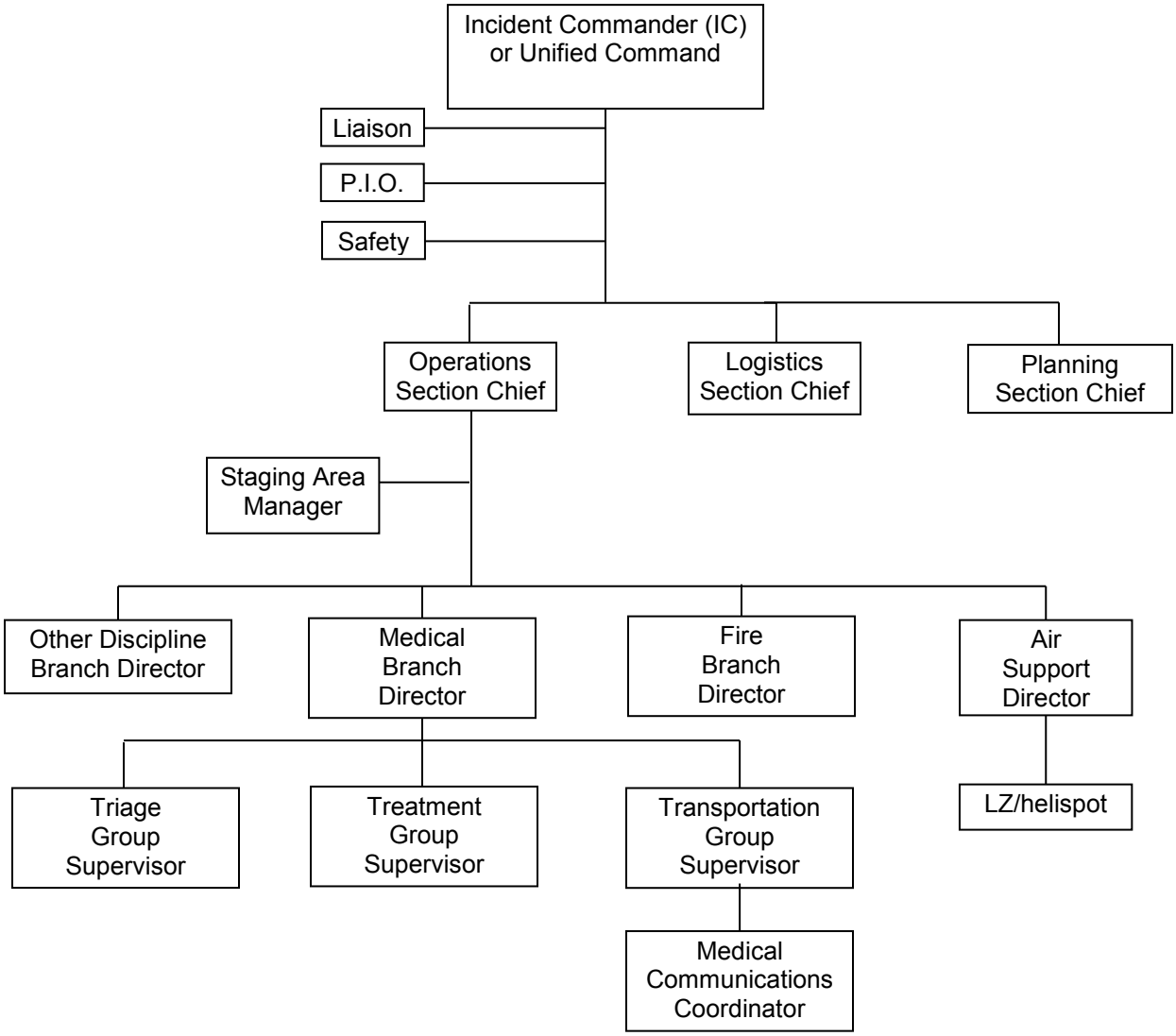
i. Ambulances transporting non-MCI patients will report to the hospital with short and concise reports on MEDNET Primary

INCIDENT COMMAND SYSTEM
(ICS)

SIMPLE MCI EVENT



COMPLEX MCI EVENT



INITIAL FIRST UNIT IN MCI ON-SCENE RADIO REPORT

1. Radio that your unit is on scene and conduct size-up
2. Establish Command
3. Communicate estimated patient count and declare an MCI
4. Name command by location
5. Specify access route(s) and reporting location(s)
6. Identify and communicate hazards
7. Request needed additional resources
8. Specify staging location(s) if used
9. Identify tactical radio channel(s) for on-scene coordination as necessary

("Dispatch - 2171 is on scene of a multi-vehicle collision, I see an estimated 12 patients, 2171 will be 140 Command, and I am declaring this an MCI. Advise all units to approach from the East on Highway 7 at Gnarly Road and stage in single file line starting behind 2171)

INCIDENT COMMANDER - DUTY CHECKLIST

The Incident Commander may fill multiple roles
until additional personnel arrive

☐ Wear "COMMAND" vest.
Radio Call Sign: "*incident name* COMMAND".

Determine the location of incident facilities consider the following:

☐ Locate Command Post – Consider close proximity but safe distance.

☐ Consider activating ARMS.

☐ Establish Staging Area – To avoid congestion in the immediate area.

☐ Establish Rehab – Sufficiently distant from the incident that responders can rest.

☐ Establish Helicopter LZ/helispot – Accessible and not disruptive to other operations.

☐ Establish Morgue Facility – Secure and out of sight.

Provide information briefing and assign ICS positions as needed

☐ Medical Branch Director

☐ Triage Group Supervisor

☐ Treatment Group Supervisor

☐ Transportation Group Supervisor

The Incident Commander has the following responsibilities until delegated

☐ Determine the incident priorities and incident action plan (IAP).

☐ If needed, plan for the next operational period or assign a **Planning Chief.**

☐ Provide for the safety of the responders. Assign a **Safety Officer as necessary**.
A safety officer must be assigned if the MCI is considered a Hazardous Materials incident.

☐ Provide coordination between assisting agencies or assign a **Liaison Officer.**

☐ Provide information to the public or assign a **Public Information Officer** (PIO).

☐ Direct branch directors to complete the incident action plan (IAP) or assign an **Operations Chief.**

☐ Order resources or assign a **Logistics Chief.**

☐ Manage staging area or assign a **Staging Manager.**

☐ Be responsive to additional incident needs.

MEDICAL BRANCH DIRECTOR - DUTY CHECKLIST

- ☐ Wear "MEDICAL" vest.
  Radio Call Sign is "*incident name* MEDICAL".

This position is activated to manage medical operations

- ☐ This position reports directly *to* the Incident Commander or Operations Section Chief if one is assigned.
- ☐ This position is responsible *for* Triage, Treatment, and Transportation Group Supervisors.

Responsibilities of the Medical Branch Director

- ☐ Oversee medical operations of the IAP and coordinate with other appropriate ICS positions.
- ☐ Ensure all assigned Group Supervisors get the support they need to fulfill their responsibilities.
- ☐ Reassign resources within the Medical Branch to facilitate evolving operational needs.
- ☐ Report triage count with updates as needed to dispatch and to Incident Command.
- ☐ Obtain hospital capabilities from your agency's dispatch.
- ☐ Communicate hospital resources to the transport group supervisor.
- ☐ Anticipate additional resource needs; request resources as needed.
- ☐ Coordinate the set up of on-site and off-site treatment areas.
- ☐ Coordinate regarding the need for air medical transport and landing zone(s) (LZ/helispot).
- ☐ Maintain log of activities.

STAGING AREA MANAGER – DUTY CHECKLIST

Wear "STAGING" vest.

Radio Call Sign is "*incident name* STAGING".

☐ If additional staging areas are established for other resources, identify yourself as "incident name *medical* STAGING" or coordinate medical staging with the overall Staging Area Manager.

This position is activated to manage the resources for the entire incident that are assigned to the staging area

☐ Although communications may be directly between Transportation Group Supervisor and this position, the staging manager reports directly to Incident Commander, or the Operations Section Chief if one is assigned.

☐ This position is responsible for any assistant staging area manager.

Responsibilities of Staging Area Manager

☐ Track all available resources in the staging area.

☐ Assign resources that are in the staging area to the proper location within the incident and provide information regarding their contact person and assignment.

☐ Facilitate traffic flow in conjunction with the Transportation Group Supervisor.

☐ Brief ambulance personnel on incident details, radio frequencies and traffic flow.

☐ Request and assign additional staging personnel as needed.

☐ Sort all resources, transporting ambulances may need to be marshaled into a separate portion of the staging area, to facilitate ease of utilization and quick rotation.

TRIAGE GROUP SUPERVISOR - DUTY CHECKLIST

☐ Wear "TRIAGE" vest.
Radio Call Sign is "*incident name* TRIAGE".

This position is activated to manage the counting and sorting of patients prior to treatment

☐ This position reports directly to the Incident Commander, or Operations Section Chief or Medical Branch Director. *(The lowest of the above positions that is activated).*

☐ This position is responsible for any assigned personnel .

Responsibilities of Triage Group Supervisor

☐ Determine proper level of responder PPE as patients may be involved in hazardous materials or near fire.

☐ Ensure all patients that enter the treatment area have been properly decontaminated.

☐ Sort victims according to the S.T.A.R.T. criteria *(may use appropriate colored ribbon system during initial triage).*

☐ Attach triage tag securely to the patient. Ensure that the tag is clearly visible and tear off all colored tabs below determined priority; retain all tabs.

☐ Replace any colored ribbon used during the initial triage with a formal triage tag prior to or at entry to Treatment or Transportation.

☐ Inform Medical Branch Director of the initial triage count. *(make sure that the sum of the red, yellow, green and black patients is the same as the total patient count).*

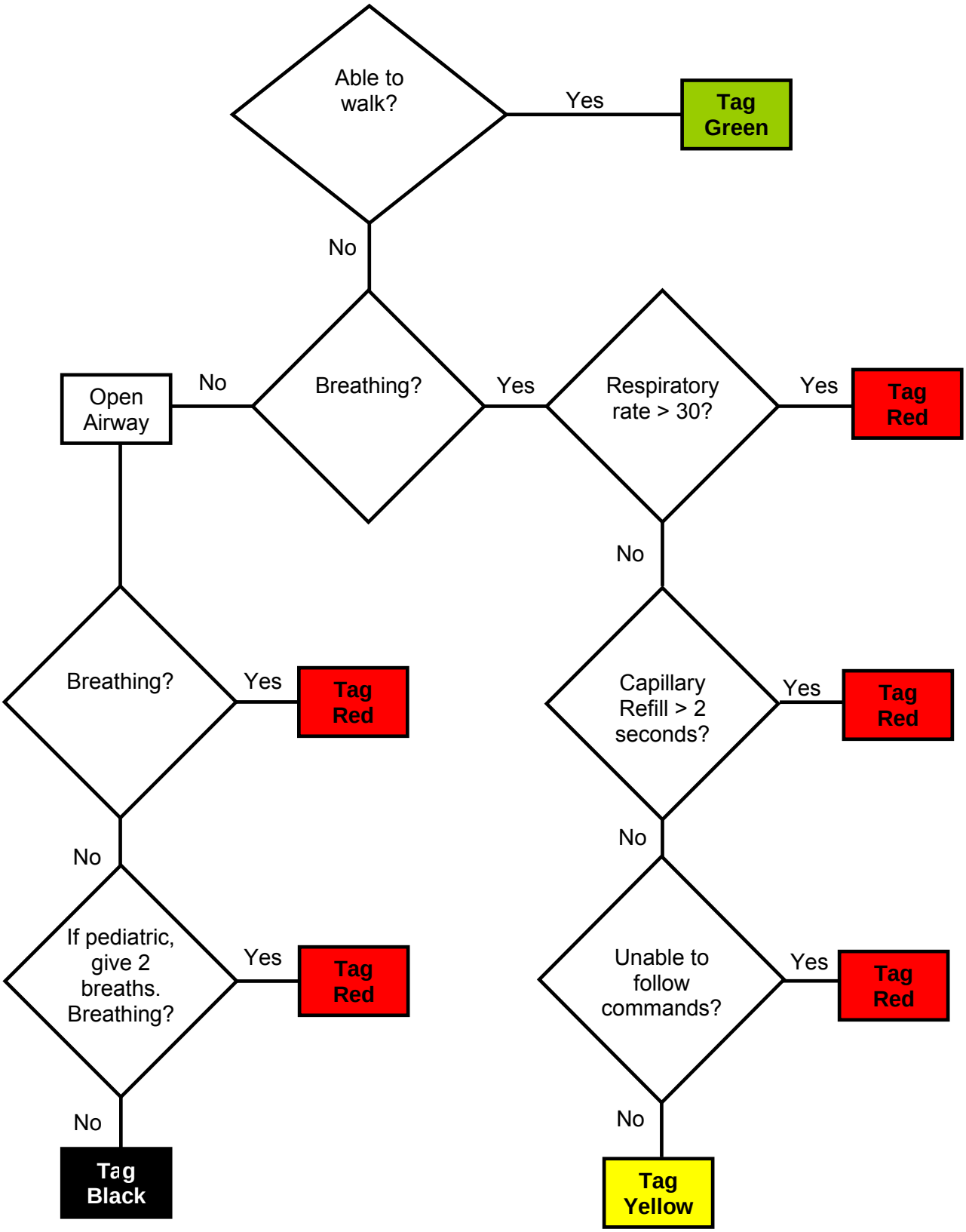
☐ Direct patient movement to treatment area based on triage criteria and other on scene conditions.

☐ Keep supervisor informed of current triage count.

☐ Direct the scene search for additional patients to ensure no one is left behind.

☐ When triage is complete, forward all triage tag stubs to Medical Branch Director.

SIMPLE TRIAGE AND RAPID TREATMENT
(S.T.A.R.T.)



QUICK COLORED RIBBON TRIAGE TAGS

1. Triage ribbons are acceptable for initial triage of patients.

2. Ribbon should be at least 1” in width.

3. Agencies should carry green, yellow, red and black ribbon.

4. It is preferred that the black ribbon be black and white striped for visibility against different backgrounds.

5. Those conducting triage should tear off a small piece of the applied ribbon and place in their pocket to help track the number and color of total patients triaged.

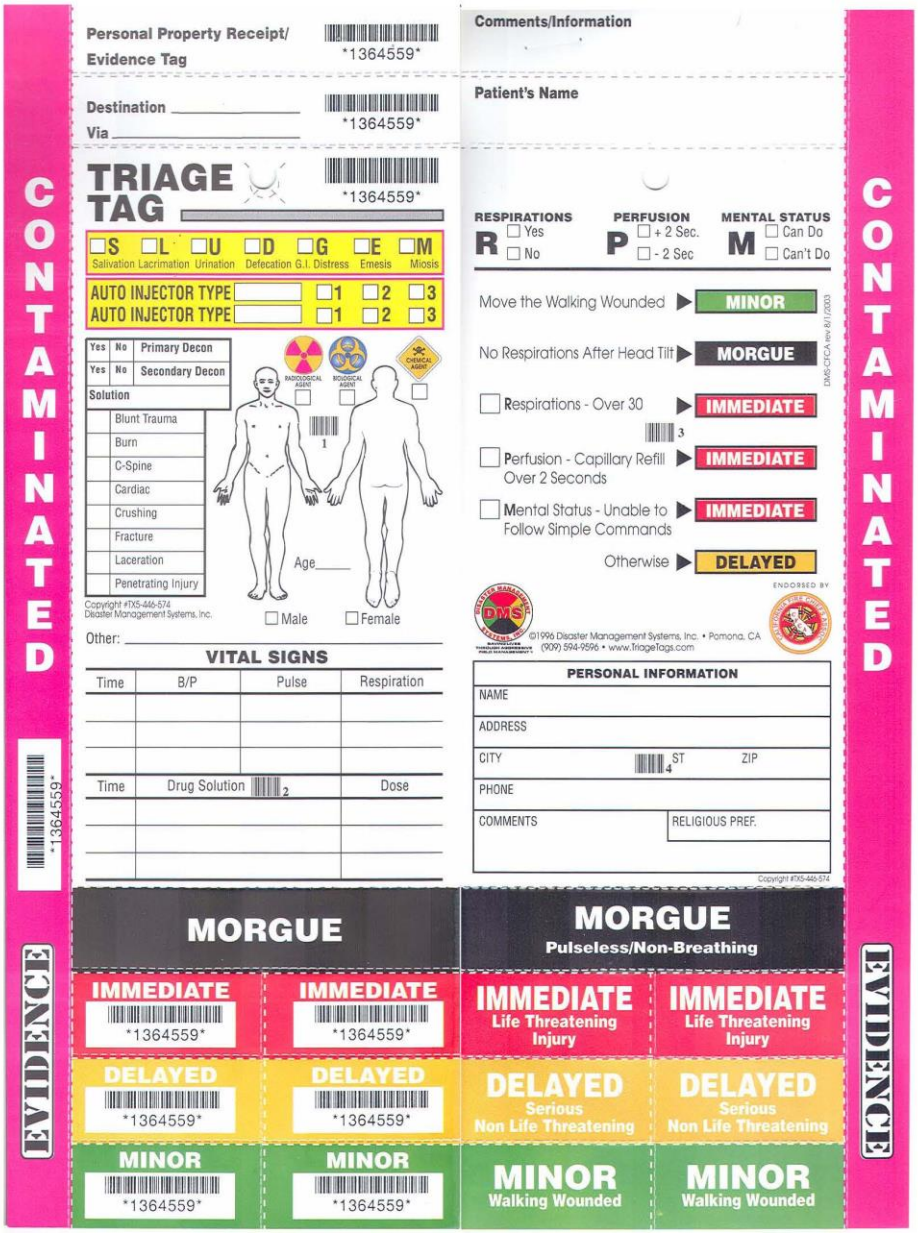
6. The ribbon should be attached to a very visible body part that will be easily identified by other rescuers. The neck is preferred.

FORMAL TRIAGE TAG

1. Use S.T.A.R.T system to prioritize patients.
2. Attach tag securely around patient's neck so to be clearly visible.
3. Tear off all colored tabs below determined priority and retain.
4. Indicate injuries on body diagrams if time permits.
5. Enter time, BP, pulse and respirations in blank spaces as time permits.
6. Document IV start and time if applicable.

*if airport triage tag used:

- Each "AIRPORT OPTION" triage tag has a grommet and short loose-end tie in one upper corner.
- The upper corner with grommet and tie is to be torn off and secured to whatever is close to the patient's location.
- This tag allows airport personnel to plot patient locations in accidents.



TREATMENT GROUP SUPERVISOR - DUTY CHECKLIST

☐ Wear "TREATMENT" vest.
Radio Call Sign is "*incident name* TREATMENT"

This position is activated to manage the treatment area(s) and any incident response personnel assigned there

☐ Report to the Incident Commander, or Operations Section Chief or Medical Branch Director *(the lowest of the above positions that is activated).*

☐ This position is responsible for any assigned personnel

Responsibilities of Treatment Group Supervisor

☐ Establish area for red, yellow and green treatment

☐ Coordinate and oversee patient treatment according to red, yellow or green prioritization

☐ Request additional resources, assist and brief staff as needed

☐ Oversee documentation on triage tag of available patient information

☐ Oversee documentation of treatment performed on the patient's triage tag

☐ Coordinate the movement of patients out of treatment area with the Transportation Group Supervisor

TRANSPORTATION GROUP SUPERVISOR - DUTY CHECKLIST

☐ Wear "TRANSPORTATION" vest.

Radio Call Sign is "*incident name* TRANSPORTATION"

This position is activated to manage the transportation plan which includes traffic flow and assigning patients to receiving facilities

☐ This position reports directly to the Incident Commander, or Operations Section Chief or Medical Branch Director *(the lowest of the above positions that is activated).*

☐ This position is responsible for any single resource, strike team or task force that is assigned to them.

Responsibilities of Transportation Group Supervisor

☐ Assign and brief staff as needed.

☐ Establish patient loading zone(s).

☐ Coordinate helicopter landing zone (LZ)/helispot as needed via Medical Branch Director.

☐ Consider one way on-scene traffic patterns to facilitate traffic flow from the staging, to patient loading, to LZ/helispot or for departing the scene.

☐ Coordinate the transport of patients out of treatment area with the Treatment Group Supervisor.

☐ Receive hospital resource information from your supervisor.

☐ Arrange non-medical transport for green patients, as necessary.

☐ Direct transportation of specific patients to specific receiving facilities.

☐ Maintain log of patients transported.

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Jackson County Fire EMS Agencies Transportation Log

MCI = **involve 5 or more (≥ 5) patients transported for treatment.**

Incident Location:

Inc. #

Date:

Total triage count		Red	Yellow	Green	Black	Responding Units								
	1													
	2													

	RRMC			PMMC			ACH			TRMC		
	Red	Yellow	Green	Red	Yellow	Green	Red	Yellow	Green	Red	Yellow	Green
Number hospital can take. >>>>>>>>>>>>>												

Triage Tag#/ Patient Name	Unit Number	Depart Time		Patient Priority			Patient Information		
			HOSPITAL	R	Y	G	AGE	SEX	INJURIES
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	

Revised: July 1, 2016
Effective: July 1, 2019

Jackson County Fire EMS Agencies Transportation Log

Triage Tag#/ Patient Name	Unit Number	Depart Time		Patient Priority			Patient Information		
			Hospital	R	Y	G	AGE	SEX	INJURIES
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	
			☐ RRMC ☐ ACH ☐ PMMC ☐ TRMC	☐	☐	☐		M / F	

HELISPOT/ LANDING ZONE (LZ) - DUTY CHECKLIST

(Must be familiar with helicopter operations)

Establish air-to-ground radio contact

Landing area must be fairly level. (8 degree slope max).

Minimum of 60 x 60 foot area free of obstructions
(75 x 75 foot area preferred).

Check carefully for overhead wires and other objects.

Secure any loose or movable objects

Wet down the area to control dust and debris

Consider noise interference and rotor wash. Establish landing zone far enough from the scene so these will not be a problem.

Notify Medical Branch Director and Transportation Group Supervisor of landing zone location.

Maintain close security of the landing zone.

CONCLUSION OF AN MCI

Demobilizing an MCI

a. Before releasing resources 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. Consider leaving at least one ambulance on scene until all emergency operations have ceased as additional patients may be discovered or workers may be injured.

c. The Incident Management Team 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. All requests for information, photos or videos about the event shall be directed to the Public Information Officer (PIO) or Incident Commander (IC).

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 Incident Commander (or 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 Incident Commander (or 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.

MCI POST-INCIDENT ANALYSIS REPORT

Date of Incident: _____ **Incident # (CAD):** _____

Location: _____ **Time:** _____

Agencies Involved: _____

_____

Patient Count:

Green:	Yellow:	Red:	Black:	Total:

ICS Positions Filled

Position	Name
Incident Commander	
Medical Branch Director	
Triage Group Supervisor	
Treatment Group Supervisor	
Transportation Group Supervisor	
Other:	
Other:	
Other:	

ARMS Activated: Y / N

Details: