

Spokane County EMS Protocols

October 2014 Update



**Spokane County
EMS & Trauma Care Council**

*Assuring the integration, coordination,
and organization of the EMS system in
Spokane County.*



FORWARD

The following Spokane County EMS Protocol Manual describes the methods in which the Spokane Fire Department EMS System will continue providing the highest quality clinical care available. Our cross-trained Fire/EMT/Paramedics are a critical part of the overall quality improvement efforts in Spokane County, and we have incorporated the collective evidence-based guidelines to produce this document. While it is impossible to address every feasible variation of disease or injury, these Protocols provide a sound foundation for treating the vast majority of patient we encounter. Certainly, our education, experience and clinical judgment will assist us as we provide the highest quality care available. Additionally, on-line medical control is available for those patient presentations that do not fall within the scope of this document.

In sum, these protocols exemplify the proven practices that are the foundation of our pre-hospital care program. The protocols coupled with your education, skills and experience will allow us to provide pre-hospital care that is clinically superior and life-saving.

Finally, the manner in which we carry ourselves is often as important as the care we provide. For many of the less critical situations, the human interaction has more of a healing effect than any medication or procedure.

**“Be kind, for everyone you meet is
fighting a harder battle”– Plato**

Our system operates in a very unique practice of medicine where firefighters work in partnership with other EMS and medical professionals without sacrificing patient care—and I am very proud of that fact. We are an organization committed to learning and improving—not one for practicing blame or settling for average. As a provider in the system, you are ultimately the “Spokane Fire Department” in the patient’s perspective and with that comes incredible responsibility and opportunity.

Thank you for continuing to provide clinically extraordinary and compassionate care while protecting the City of Spokane’s citizens and visitors.



Brian Schaeffer, EMT-P
Assistant Chief

COUNTY INTRODUCTION

To fully understand these protocols, you must understand the philosophy of Spokane County's practice of paramedicine. The protocol book should not be viewed as the rule book, but rather as guidelines for your daily practice. No amount of rules can supplant good judgment and good thinking skills.

In order to develop good judgment, you must be allowed to use it. This privilege comes with responsibility for your actions. It is important that you develop a strong understanding of the reasons behind each protocol. With this understanding you will be able to think your way through each call, not just follow a set of rules.

We have developed a system where paramedics are expected to use their judgment. However, the paramedic is not an independent practitioner, but rather an extension of the physician into the prehospital phase of care. Therefore, physician involvement is of paramount importance.

In the same way no paramedic training course can prepare you for every situation you will encounter, no protocol book can cover all possible situations that you may face. In cases where you are unsure of the care that is indicated, direct physician involvement in the case is recommended. The dedicated EMS ground line is a powerful tool, only if it is used.

Good field care is the direct result of proper education, medical control, and medical judgment. Each portion of this triad must be attended to, if a system is to function well. Experience alone will not keep you up to date. Continuing medical education is the only tool that will keep you abreast of the ever changing understanding of paramedicine.

This book does not tell you how to run a prehospital medical scene; it only acts as a set of guidelines. You have the responsibility to see that each and every patient you encounter receives high quality medical care through knowledge and understanding.

(Borrowed from the City & County of Denver Department of Health & Hospital EMS/Paramedic Division).

“ Substituting rules for judgment starts a self-defeating cycle, since judgment can only be developed by using it. ”

From *In Search of Excellence*

UPDATES

OCTOBER 2014

- **10-16-2014** - Added **Suspected Ebola Virus Disease** protocol
- **10-09-2014** - Added missing **Hospital Emergency Response Team Operating Procedure**

SEPTEMBER 2014

- **Severe Sepsis** Protocol added
- Spokane County EMS logo added

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SECTION 1: COUNTY OPERATING PROCEDURES

ABANDONED BABIES NEWBORN SAFETY ACT



If a parent wishing to leave a newborn at a fire station approaches any fire department employee, the employee will immediately bring the newborn, with parent if possible, inside the fire station.



PROCEDURE:

1. Assure the parent that there is no need to provide any identifying information in order to leave the newborn at this location, and that the fire department personnel want to ensure the health and safety of both the parent and the newborn.
2. Notify fire department EMS personnel if the person who has accepted the transferred newborn is not EMS certified. EMS personnel will notify appropriate authorities. If on duty crew are not available, call 911.
3. Accept the newborn from the parent. Assess the need for emergency intervention. Assign incident number.
4. Attach a trauma ID band that includes a trauma number, date of transfer, and patient name (Babyboy Doe or Baby girl Doe) to the newborn. Write a “receipt” with the number, date, and name and give it to the parent.
5. Assign the appropriate triage category for medical care. This category is determined by the highest level of prehospital care provider available and depends on infant’s and parent’s needs.
6. Provide the parent information packet immediately, in case the parent leaves the facility prior to interview (**See Parent Information Packet**).
7. Interview the parent immediately to obtain as much prenatal/birth/medical history as possible, regardless of the triage category assigned. Use the **Medical and Social History Form** to guide the interview. If the parent is unwilling to provide information at this time, encourage completion and return of the medical/social history form included in the Parent Information Packet.

8. Encourage the parent to complete the “**Parental Message to the Newborn**” found in the Parent Information Packet.
9. Notify your Chief/EMS Officer/Administrator.
10. Offer treatment to the parent as indicated in the following Care of the Parent section.
11. Inform online medical control of newborn and mother (if mother is the parent leaving the infant), consistent with assigned triage category.
12. Report incident to **Child Protective Services (CPS)** at **(509) 363-3333** as soon as possible.
13. Transfer newborn by ambulance (or staff vehicle if the infant does not need medical attention en route and the vehicle is equipped with an infant seat) to the nearest Hospital Emergency Department for observation/treatment or while awaiting CPS.

CARE OF THE PARENT:

1. If the parent leaving the newborn is, or appears to be, the newborn’s mother, offer/encourage a medical screening examination and any indicated treatment to ensure postpartum stability. Protect the mother’s anonymity during the examination and treatment (i.e., patient is entered into the system as “Jane Doe”).
2. Give the parent a copy of the Parent Information Packet. Encourage the parent to complete and return the packet, including any medical/social history information not obtained during the interview.

FOLLOW UP:

Requests for information about the infant’s medical condition and status should be referred to the hospital or CPS.

AFFILIATE EMS AGENCIES

DEFINITION: An affiliate service is an organization that is not required to be licensed under the Revised Code of Washington (RCW) 18.73, but may be recognized by the Department of Health as a participant in the EMS and Trauma Care System. Affiliated services provide response for rescue and/or care of patients in accordance with approved regional and state plans, regional patient care procedures, and Spokane County patient care protocols, and County Operating Procedures, but do not respond with an EMS vehicle.

Examples of these types of services, which may request affiliation, are:

- ✓ Law Enforcement
- ✓ Park/forest service personnel
- ✓ Rescue agencies (includes ski patrol, dive rescue, and mountain rescue)
- ✓ Corporations or large private businesses which employ many employees over a large area and are likely to need to perform emergency medical or trauma services on employees or visitors
- ✓ Government agencies, including the military
- ✓ Emergency medical training organizations, only for use by instructors who are otherwise unable to be recertified

STATE REQUIREMENTS:

- ✓ Ensure EMS personnel employed by or associated with the service who have patient contact, are currently Washington State certified.
- ✓ Maintain a record of certification for all EMS personnel, which includes the level of certification and the expiration date of their certification.
- ✓ Follow all state and local laws, rules, protocols, County Operating Procedures, and patient care procedures to ensure standards for the health, safety and welfare of the citizens of this State.
- ✓ Follow medical control and protocols established by the county Medical Program Director (MPD).

SPOKANE COUNTY REQUIREMENTS:

- ✓ The affiliate must annually send a letter to the Spokane County EMS Council stating endorsement and compliance with Spokane County EMS protocols and County Operating Procedures and the East Region EMS Patient Care Procedures and Protocols.
- ✓ The affiliate must annually provide the Spokane County EMS Council with evidence of liability coverage (minimum \$1million / \$3 million) and notify them immediately if such coverage lapses.
- ✓ The affiliate must comply with all State of Washington, East Region, and Spokane County data collection and submission requirements. Specifically, all patient encounters should be documented and either reviewed by the physician advisor or submitted to the Spokane County EMS office.
- ✓ The affiliate must document their specific commitment to the 911 system for all trauma and medical emergencies.
- ✓ The affiliate agency must complete the **Affiliate Agency Intent to Cover a Special Event** form that is available from the Spokane County EMS office when operating outside of their normal place of business. The approved form (Affiliate Agency Intent to Cover a Special Event) should be submitted to the jurisdictional EMS agency at least 2 weeks prior to the event. If an event organizer does not request affiliate coverage soon enough to allow for 2 week notification to the jurisdictional agency, the form should be completed and submitted as soon as possible.
- ✓ **NON-COMPLIANCE:** The Spokane County EMS & Trauma Care Council may recommend to the Department of Health any revision, revocation, suspension, modification, or denial of an individual EMS certification or an affiliate recognition.

BLOOD DRAWS

Indications for blood draws will be limited to:

1. Medical cases requiring laboratory documentation (see **blood tube information**).
 - ✓ Suspected hypoglycemia (prior to IV glucose)
 - ✓ Suspected drug overdose
 - ✓ Unconscious patient, unknown cause
 - ✓ Trauma patients
 - ✓ Hypotensive patient, unknown cause
 - ✓ Suspected MI
 - ✓ Suspected Stroke
 - ✓ Unstable Medical Condition
2. Method of transporting field blood samples
 - I. The blood tubes should be labeled with the patient's name, date, time of draw, and the initials and agency of drawer.
 - II. The blood tubes should then be placed in a sealable plastic bag bearing a bio-hazard logo and then taped to the patient's IV bag.
3. Legal blood alcohol specimens. Use aseptic technique (povidone-iodine and **NO** alcohol swabs).



Blood may be drawn at the request of law enforcement as provided in RCW 46.20.308. Document law enforcement request on "Direction to Take Blood Test"



SEE NEXT PAGE FOR EXAMPLE FORM

DIRECTIONS TO TAKE BLOOD TEST

The undersigned states that _____ is either:

- ☐ Unconscious
- ☐ Has had a Search Warrant issued for blood to be drawn
- ☐ Is under arrest/in custody for the crime of vehicular homicide as provided in RCW 46.61.520 or vehicular assault as provided in RCW 46.61.522.
- ☐ Is under arrest/in custody for the crime of driving while under the influence of intoxicating liquor or drugs as provided in RCW 46.61.502 and/or RCW 46.20.308.

The undersigned directs Spokane County EMS to administer a blood test without the consent of the individual so unconscious or so arrested.

OFFICER _____ DATE _____

CANCELLATION/SLOW DOWN



It is recognized that it is in the best interest of patient care and public safety to slow or cancel units responding in the emergency mode to calls when it is determined that the patient does not require an additional emergency response. However, all patients having an altered mental status, complaining of breathing problems or chest pain must have a paramedic assessment and transport to the hospital.



1. Rescue Only: First responding agencies (fire or police) may slow ALS or BLS ambulances when a patient does not require Advanced Life Support. They may cancel ALS or BLS ambulances when there is no patient or no transport required (Department policy to apply).
2. ALS ambulances or fire/rescues staffed at the paramedic level may slow or cancel other responders once the patient has been evaluated at the scene and the determination is made that no other units are required or no other units are required in the emergency mode.
3. Additional reasons for cancellation:
 - ✓ No patient found
 - ✓ Cancelled by dispatch
 - ✓ No emergency health care needed

DETERMINATION OF PATIENT TRANSPORT DESTINATION

Patient destination shall be determined according to the following criteria*
(see **Levels of Trauma chart**):

1. Trauma patients:
 - A. Patients meeting major trauma triage criteria (Step 1 and 2) as defined by **State of Washington Prehospital Trauma Triage Destination Procedures** will be transported to Providence Sacred Heart Medical Center, our Level II trauma facility.
 - B. Patients meeting Step 3 and 4 criteria shall be transported to the closest appropriate designated trauma facility.
2. Stroke Patients:
 - ✓ Follow the **State of Washington Prehospital Stroke Triage Destination Procedure**
3. ACS Patients:
 - ✓ Follow the **State of Washington Prehospital Cardiac Triage Destination Procedure**
4. General Patients:
 - A. Patient request
 - B. Senior Medical Officer judgment
 - C. MD to MD arrangement

*Patient requests and MD to MD referrals must, in general, be respected. However, if the Senior Medical Officer judges that a critical patient requires transport to an alternative hospital for stabilization, it is the Senior Medical Officer's responsibility to explain this to the patient or physician. If a conscious patient or physician who, in the judgment of the Senior Medical Officer, is capable of making a rational decision persists in requesting transport to a different facility, the patient and/or physician request should be followed (see **Patient Treatment Rights**). Attempt to obtain a signature on a medical release form.

DISPATCH OF MEDICAL PERSONNEL

PURPOSE:

- ✓ To provide appropriate timely care to all emergency medical and trauma patients as identified in WAC 246-976-390
- ✓ To ensure properly licensed and recognized emergency ambulance service designated by Fire Districts, County, or Municipalities are dispatched to all calls that fall within established 911 dispatch policies and guidelines

STANDARD:

- ✓ Licensed ambulance and/or aid services shall be dispatched to emergency medical incidents per EMD protocol
- ✓ Verified aid and/or verified ambulance services shall be dispatched to all known and unknown injury incidents per EMD protocol.
- ✓ All licensed and verified ambulance and aid services shall operate 24 hours a day, seven days a week
- ✓ All communications/dispatch centers charged with the responsibility of receiving calls for emergency medical services shall use an Emergency Medical Dispatch system approved by the Spokane County EMS & Trauma Care Council
- ✓ Emergency calls placed by citizens directly to communications/dispatch centers and not through the 911 system shall be triaged according to an EMD system approved by the Spokane County EMS & Trauma Care Council and forwarded to the appropriate first response agency with jurisdiction.
- ✓ Successful transfer of an emergency call to the 911 system that was initially placed directly to an ambulance service fulfills that ambulance service's obligation to ensure that the purpose of the ambulance/response policy is met.
- ✓ Ambulance services shall not respond to an emergency call independently of the 911 system without a request to do so by the Combined Communication Center provided that the communication system is intact.

PROCEDURE:

1. The dispatcher shall determine appropriate response category of call using EMD guidelines approved by the Spokane County EMS & Trauma Care Council.
2. Following Spokane County's PCP's, the nearest verified agency with jurisdictional authority shall be dispatched according to the above standards.

DOCUMENTATION



An EMS incident report (MIR) must be appropriately documented and filed for any call for EMS assistance within Spokane County, regardless of patient transport. This will apply to both basic and advanced life support units and includes public assist calls.

Cooperative charting is essential when more than one agency is documenting the same call. Sharing of pertinent information will help to ensure accuracy and adequacy of the prehospital care record and will help to avoid unnecessary duplication.

Any written hand-off patient documentation from a non-transporting care provider of the patient shall be transported with the patient and immediately left with patient's receiving facility. The document shall not be edited, altered, or appended to by the transporting agency.



EMERGENCY TRANSPORTS AND ALS RENDEZVOUS

GENERAL TRAUMA

- ✓ Injuries resulting in unstable vital signs, altered level of consciousness, or severe anatomic injuries
- ✓ Injuries associated with severe mechanisms or comorbid factors which increase the likelihood of immediate complications or deterioration which would require immediate hospitalization or ALS intervention

GENERAL MEDICAL

- ✓ Medical emergencies resulting in unstable vital signs or altered level of consciousness
- ✓ Medical emergencies associated with the potential for significant complications requiring immediate hospitalization or ALS intervention

SPECIFIC INJURY CONDITIONS REQUIRING EMERGENCY TRANSPORT AND/OR ALS RENDEZVOUS

1. Vital signs and level of consciousness:
 - A. Shock: Systolic Blood Pressure < 90
 - B. Respiratory Distress: Respiratory Rate < 10 or > 29
 - C. Altered Mentation: Glasgow Coma Score < 13
2. Anatomy of Injury:
 - A. Penetrating injury of head, neck, torso, or groin
 - B. Combination of burns > 20% of total body surface or involving face, airway, hands, feet, and genitalia
 - C. Amputation above wrist or ankle
 - D. Spinal cord injury
 - E. Flail chest
 - F. Two or more obvious proximal long bone fractures
3. Consider emergency transport and/or ALS rendezvous if the following conditions apply:

- A. Biomechanics of injury
 - a. Death of same car occupant
 - b. Ejection of patient from enclosed vehicle
 - c. Falls > 20 feet
 - d. Pedestrian hit at > 20 mph or thrown 15 feet
 - e. Rollover
 - f. Motorcycle, ATV, or bicycle accident
 - g. Extrication time > 20 minutes
 - h. Significant intrusion
- B. Comorbid factors
 - a. Extremes of age (< 12 years old or > 60 years old)
 - b. Hostile environment (extremes of heat or cold)
 - c. Medical illness (such as **COPD**, CHF, renal failure, etc.)
 - d. Presence of intoxicants
 - e. Second/third trimester pregnancy
 - f. Emergency care provider judgment of injury severity
- C. Emergency care provider judgment of injury severity

SPECIFIC MEDICAL CONDITIONS REQUIRING EMERGENCY TRANSPORT AND/OR ALS RENDEZVOUS

- | | |
|--|----------------------|
| ✓ Cardiopulmonary arrest | ✓ CVA |
| ✓ Acute myocardial infarction | ✓ G.I. bleeding |
| ✓ Respiratory distress | ✓ Anaphylaxis |
| ✓ Altered level of consciousness (Glasgow Coma Scale < 13) | ✓ Near drowning |
| ✓ Seizures | ✓ Imminent birth |

EMERGENCY TRANSPORT OF THE PHYSICALLY DISABLED AND THEIR SERVICE ANIMALS

A patient's service animal should receive special considerations, provided that these measures will not adversely affect the provision of care to the patient.

1. If the animal is handled by the EMS provider, he will use extreme gentleness.
2. Ambulance transport of the service animal with his owner should be provided unless it jeopardizes patient care or the safety of EMS personnel. If so, the transport of the service animal will be requested of family, friends, or other civil services.

EMS – No CPR



A sample of the POLST (**Physician Order for Life-Sustaining Treatment**) form can be found in Appendix D: Reference Forms. This was developed as a recognition tool for emergency care providers in cases in which a patient does not desire full resuscitation due to a rapidly deteriorating medical circumstance. When you find the form in use with a patient, make certain the attending physician, ARNP, or PA-C has signed it.

Other forms of written documentation may appear from time to time. When they clearly express a wish for limited measures and are signed by a physician, ARNP, or PA-C, they too, should be respected. The presence of a signed DNR order or physician's order should be recorded in the prehospital care record.

Telephone orders are to be discouraged, unless the EMS provider can identify the physician on the phone. Consultation with the emergency physician on duty at the potential receiving hospital is an additional option to provide some guidance.

In the absence of an EMS-No CPR form and bracelet, or in case of uncertainty, you are obligated to undertake full resuscitative measures to the full level of your training.



EMS PERSONNEL ENDANGERMENT



The first goal of protecting responding EMS personnel from criminal assault relates to the importance of respecting law enforcements responsibility for assuring scene security prior to responding to a patient in a known hazardous situation. Our desire to render emergency medical care must be tempered by our recognition of the limitations of our role as well as our responsibility to our fellow EMS responders.

However, unanticipated physical threats may develop in the course of treatment and transport of emergency patients. In their most extreme form, they may represent an immediate life threat to EMS responders. Should this occur at the scene or during transport, immediate notification of the appropriate law enforcement jurisdiction should occur. In order to help ensure a means by which EMS personnel could request law enforcement assistance in a covert fashion, a Code 99 category communication patch may be used as follows:



1. EMS personnel should contact their dispatch center and/or receiving facility to notify them of a Code 99 situation and/or transport.
2. In anticipation of the arrival of a Code 99 transport at our receiving facilities, our hospitals should consider responding with in-house security and should alert the local jurisdictional law enforcement agency.

EMS SCENE MANAGEMENT AND INTER-AGENCY RELATIONS

OBJECTIVE:

Provide consistent, countywide, guidelines that promote positive inter-agency relationships on the scene of EMS emergencies, with patient care being the focus of the Patient Care Team.

GENERAL GUIDELINES:

- ✓ Safety of response personnel is the highest priority.
- ✓ Following that, patient care and customer relations will be given the next highest priority.
- ✓ For scene safety and security, personnel shall secure clearance from the Incident Commander prior to entering the scene.
- ✓ On-scene Medical Authority will be in accordance with Spokane County Patient Care Protocols.
- ✓ First personnel on-scene will bring adequate equipment to the patient area to provide complete patient care.
- ✓ The stretcher will be brought to the patient area by transport personnel unless otherwise directed.

COMMUNICATIONS:

- ✓ Responding apparatus/units will monitor the appropriate radio frequencies assigned to the incident by CCC.
- ✓ All agencies will provide timely communications with CCC when arriving on-scene and at other times during the incident.
- ✓ Units will contact the IC on arrival for assignment.
- ✓ Updates to incoming units should be unit to unit and not through CCC.
- ✓ Incoming units will be briefed as soon as practical by IC or designated personnel.

INCIDENT COMMANDER:

- ✓ Fire Department will establish Incident Command on all emergencies.
- ✓ If other agency is on-scene, IC will get a briefing as soon as practical□
- ✓ The IC will remain in charge of the overall scene, regardless of who is in charge of patient care.
- ✓ Requests for additional resources will be made by the IC. Requests from field units will be made to the IC.
- ✓ IC will be responsible for staging (placement) of all apparatus & vehicles.
- ✓ Incident Command will be conducted in accordance with the Spokane County Incident Command Plan.

MVA AND HAZARDOUS AREA:

- ✓ Once command is established, anyone without proper PPE in the Hot Zone will be replaced or removed as soon as possible. Motor Vehicle Accidents are hazardous areas.
- ✓ No one will enter the Hot Zone from that time forward without proper PPE until the IC determines that the scene is safe.
- ✓ Incoming apparatus/units will stage out when responding to larger incidents, hazardous materials incidents or major motor vehicle accidents.

TRANSFER OF PATIENT CARE

- ✓ The person in charge of patient care will remain in charge until a report has been provided detailing the condition of the patient, treatment provided and any other pertinent information.
- ✓ Transfer of patient care will be formally completed and will not be assumed.
- ✓ Where there is no agreement in transfer of patient care between paramedics, no transfer of patient care will occur. Both paramedics will complete patient care reports for submission to the QI Committee at a later date.

TRANSPORT:

- ✓ No attempt will be made to dissuade patients from being transported. In the event the patient openly refuses transport, a medical release will be obtained by on-scene medical authority.
- ✓ When the FD paramedic is in charge of patient care he/she will remain in charge when accompanying the patient to the hospital.
- ✓ Transport destination will be in accordance with Spokane County Protocols.
- ✓ Patient transport agency will be determined by the incident commander or their designee representing the jurisdictional EMS agency.
- ✓ In circumstances of mass casualty, the Patient Transportation Group Supervisor shall determine the most appropriate vehicle and staffing for emergency transport.
- ✓ Moving the patient is the transporting agency's responsibility; FD assistance may be requested.
- ✓ The use of BLS personnel to assist with patient care during transport will be agreed upon by the on-scene medical authority.
- ✓ All written documentation available will be provided to transport personnel.
- ✓ If FD personnel accompany the patient during transport, transporting agency personnel will assist with attending patient during transport.
- ✓ The decision to allow passengers to ride in the transporting apparatus (vehicle) will rest solely with the transporting agency.

CONFLICT RESOLUTION:

It is recognized that differences of opinion will occasionally occur. Differences of opinion shall not delay therapy or negatively impact the outcome of patient care. If a particular therapy is recognized as potentially harmful, the patient care team will consult medical control to ensure appropriate therapy. The on-scene medical authority will be responsible for making the final determination when such conflict arises. Personnel are encouraged to resolve differences of opinion at their level, whenever possible. In all cases, both parties will exercise professionalism and respect. Any action that is considered to be

unprofessional or disrespectful will not be tolerated by any agency.

- ✓ Conflict shall never be exhibited in front of a patient, the patient's family, hospital staff, or the general public. When a difference of opinion arises, the personnel from the respective agencies should professionally discuss the incident in private. It is expected that this occur as soon as possible so that differences can be resolved to the satisfaction of all parties.
- ✓ If no resolution to an issue can be achieved, the involved parties should contact their respective agencies and follow the chain of command. In most cases, this will be the individual's immediate supervisor.
- ✓ The Supervisors will then contact each other and discuss the differences in an attempt to remedy any conflict. If no resolution can be achieved at this point, the administration of each agency will be contacted for final resolution. Under no circumstances shall an employee contact another agency's administration.
- ✓ Final resolution, when administration is involved, will be achieved collaboratively. The resolution will be clearly communicated to the involved parties and will be binding upon all parties.

EXPECTATIONS OF THE EMS AGENCY, EMS AGENCY SUPERVISOR, AND EMS AGENCY SUPERVISING PHYSICIAN

All licensed EMS agencies are required, by state, to have Physician Medical oversight. This may be accomplished by the Medical Program Director (MPD) or an MPD delegated EMS Agency Supervising Physician. All ALS or BLS licensed agencies that are providing advanced skills are required, by statute, to have a physician supervisor. Licensed BLS agencies may, at their discretion, have an MPD delegate Physician Supervisor. The following is a list of expectations of the agency and the described positions:

- ✓ A current listing of the EMS Agency Supervisor and the physician advisor, if required, shall be provided at all times to the Spokane County EMS/MPD's office by the licensed EMS agency. The Physician Supervisor must be formally delegated as such by the county MPD.
- ✓ The EMS Agency Supervisor shall be the point of contact for questions/concerns regarding EMS provided by the represented agency.
- ✓ Ensure all care providers are listed on their agency's roster that is maintained by Washington State DOH.

EMS AGENCY SUPERVISOR:

1. The EMS Agency Supervisor shall be signatory on all EMR/EMT initial certification applications. By signing, they are verifying that the applicant is knowledgeable of the Spokane County Operating policies and procedures applicable to the agency they are serving. This signature shall act as a recommendation to the Spokane County Medical Program Director to approve the applicant.
2. The EMS Agency Supervisor shall be signatory to all EMR/EMT recertification applications. By signing, they are verifying that the applicant is knowledgeable of the Spokane County Operating Procedures, protocols, and practices applicable to the agency they are serving, county specific protocols, and have completed the continuing education and proficiency in procedural skills as required by the provider's level of certification. This signature shall act as a

recommendation to the Spokane County Medical Program Director to approve the applicant.

3. The EMS Agency Supervisor shall be signatory on all EMR/EMT personal status change applications to be added to an agency's rosters when coming new into Spokane County from another Washington county or another State. By signing, they are verifying that the applicant is aware of the Spokane County Operating policies and procedures applicable to the agency they are serving, Spokane County/Washington State protocols, and proficient in procedural skills within the scope of the practice of the EMS provider's level of certification prior to the individual providing patient care. This signature shall act as a recommendation to the Spokane County Medical Program Director to approve the applicant.
4. Shall assure all care providers are listed on their agency's roster with the Washington State Department of Health.
5. Shall provide a list to the Spokane County EMS Office/MPD of ALS certified providers that are required to perform at a BLS Level while providing care for their Agency.
6. Provide all requested documentation to the Spokane County EMS/MPD's office to facilitate the Q.I./Q.A. process.
7. Ensure all agency personnel are informed/educated on procedure/protocol changes in the time frame as provided by the EMS Council.
8. Shall be required to report any acts or perceived acts of gross neglect to provide care, abuse of a patient or actions/convictions that would preclude a care provider to maintain a certification in the State of Washington to the Spokane County EMS office/MPD and the Washington State Department of Health immediately.

MPD DELEGATED SUPERVISING PHYSICIAN:

1. The Supervising Physician, after collaboration with the EMS Agency Supervisor, shall be signatory on all EMT-IV/AEMT/Paramedic initial certification applications. By signing, they are verifying that the applicant is aware of the Spokane County Operating Procedures, Spokane County

Protocols and practices applicable to the agency they are serving. The Supervising Physician is verifying the candidate's knowledge and skills competency with their signature. This signature shall act as a recommendation to the Spokane County Medical Program Director to approve the applicant.

2. The Supervising Physician, after collaboration with the EMS Agency Supervisor, shall be signatory on all EMT-IV/AEMT/Paramedic recertification applications. By signing, they are verifying that the applicant is aware of the Spokane County Operating Procedures, protocols, practices applicable to the agency they are serving, county specific protocols, and have completed the continuing education and proficiency in procedural skills as required by provider's level of certification. The Supervising Physician verifies the candidate's knowledge and skills competency with their signature. This signature shall act as a recommendation to the Spokane County Medical Program Director to approve the applicant.
3. The Supervising Physician, after collaboration with the EMS Agency Supervisor shall be signatory on all EMT-IV/AEMT/Paramedic personnel status change applications to be added to an agency's rosters when coming new into Spokane County from another Washington county or another State. By signing, they are verifying that the applicant is aware of the Spokane County Operating Procedures, protocols, practices applicable to the agency they are serving, Spokane County/Washington State protocols, and proficient in procedural skills within the scope of the practice of the EMS provider's level of certification prior to the individual providing patient care. The Supervising Physician is verifying the candidate's knowledge and skills competency with their signature. This signature shall act as a recommendation to the Spokane County Medical Program Director to approve the applicant.

FIELD RESUSCITATION

WITHHOLDING OF CPR

1. CPR must be initiated on all cardiac arrest victims, unless a condition exists which warrants the withholding of CPR
 - A. CPR may be withheld on **Adult** or **Pediatric** victims who present with any of the following:
 - a. Injuries obviously incompatible with life such as decapitation or hemicorporectomy.
 - b. Total incineration
 - c. Decomposition
 - d. Dependent lividity
 - e. Rigor mortis without vital signs
 - f. Apnea in conjunction with separation from the body of either the brain, liver, or heart
 - g. Mass casualty incidents where triage principles preclude CPR from being initiated on every victim
 - h. Documentation of Do Not Resuscitate Orders
 - B. CPR may be withheld on adult victims of unwitnessed medical cardiac arrest or witnessed/unwitnessed trauma arrest who present with **all** of the following:
 - ✓ No CPR in progress
 - ✓ No vital signs
 - ✓ Using 2 or more leads on a properly functioning monitor, document electrical asystole on patients who have had CPR or who have a non-capturing pacemaker
 - ✓ EMS personnel will document lack of **Ventricular Fibrillation** by attaching defibrillator and recording "No Shock Indicated"
 - ✓ No evidence of **hypothermia**, drug ingestion or poisoning
2. Notify appropriate law enforcement agency as soon as possible.

3. Complete a prehospital care record, documenting clinical conditions which warranted not initiating CPR and law enforcement agency notification.

DISCONTINUING CPR

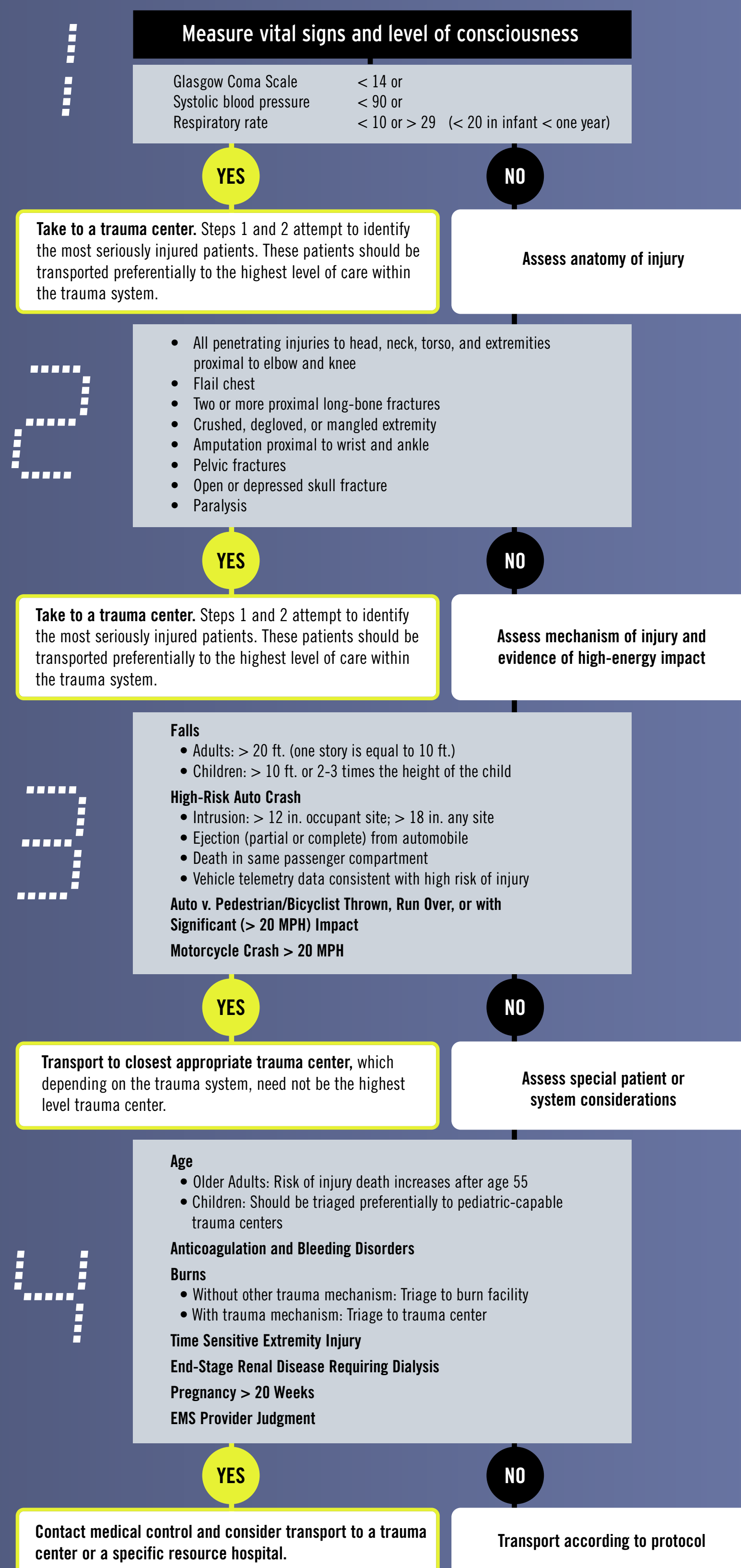
1. A Supervising Physician should consider discontinuing CPR in the prehospital setting and pronounce a patient dead at the scene, provided certain conditions are met, including, but not limited to, the following:
 - A. Brady-Asystole unresponsive to resuscitation with complete and appropriate Spokane County ALS protocol:
 - ✓ **Asystole** will be documented for 30 seconds in 2 leads with documented evidence that the monitor is functioning properly (i.e., artifact due to manual compression or precordial thump)
 - ✓ Blood pressure, pulse, and respiration are absent
 - B. Ventricular Fibrillation which, after ALS resuscitation, is now Asystole or Agonal rhythm.
 - C. No evidence of Hypothermia, drug ingestion, or poisoning as cause of arrest.
 - D. CPR may be discontinued in trauma patients with EMS witnessed cardio pulmonary arrest and 15 minutes of unsuccessful resuscitation and CPR.
 - E. Victims of penetrating trauma found apneic and pulseless should be rapidly assessed for other signs of life such as pupillary reflexes, spontaneous movement, or organized EKG activity. If any of these signs are present, the patient should have resuscitation performed and be transported to the nearest trauma center if transport time is < 15 minutes.
2. Notify Supervising Physician before discontinuing CPR. If unable to contact Supervising Physician because of geographic isolation, the emergency care provider will contact the physician as soon as possible and document the reason for delay of communication.

3. If, after a brief discussion with the family on the futility of continued resuscitative efforts, supported by consultation with medical control, the family still insists upon continued resuscitation and transport, it should be done.
4. Complete a prehospital record documenting the physician who was consulted and discontinued resuscitation.
5. Obtain an EKG strip with documented evidence of asystole and attach to run report.
6. Notify appropriate law enforcement agency.
7. Notify appropriate support facility for family as needed.
8. Once death has been determined, the body should not be moved unless required by scene safety concerns. If, in the judgment of the EMS provider, scene safety or other concerns require movement of the body, the County Medical Examiner (509-477-3680) or coroner, in the county of occurrence of deaths, should be contacted with the request to move the body prior to doing so.
9. When appropriate, remain with family as long as necessary, until other support has arrived. If you are called for another emergency response, emergency care for the living must always assume priority.

FIELD TRIAGE DECISION SCHEME: THE NATIONAL TRAUMA TRIAGE PROTOCOL

SEE NEXT PAGE

FIELD TRIAGE DECISION SCHEME: THE NATIONAL TRAUMA TRIAGE PROTOCOL



When in doubt, transport to a trauma center.
For more information, visit: www.cdc.gov/FieldTriage

GENERAL GUIDELINES FOR ALL PATIENTS

PRIMARY ASSESSMENT: Done initially on every patient and repeated every few minutes as indicated.

- ✓ Check responsiveness
- ✓ Airway: Is it patent? Identify and correct any obstruction
- ✓ Breathing: Rate and quality. Identify and correct any compromising factors
- ✓ Circulation: Pulse, rate, quality, and location.
- ✓ Control external bleeding
- ✓ Check for shock, if present, treat

SECONDARY ASSESSMENT: Complete as indicated by patient condition

1. Level of consciousness (**see Glasgow Coma Scale**).
2. Reassure patient. Inform patient about exam and treatment.
3. Obtain a brief history of illness or injury from patient, family, or bystanders. Check for medical identification.
4. Perform a head to toe assessment. Record vital signs, to include pulse, blood pressure, respirations, skin color, pupils, etc.

FIELD TREATMENT:

1. Triage problems according to severity (see **Mass Casualty Incident protocols**).
2. Provide treatment, using appropriate protocols.
3. Transport:
 - A. Use of lights and sirens should be limited to the emergency transportation of critical patients.
 - B. Destination determined by:
 - a. Patients meeting major trauma triage criteria, as defined by **State of Washington Prehospital Trauma Triage Destination Procedures**, will be transported to the Level II facility, as the

primary receiving facility as determined by the annual schedule of weekly rotation provided by our Regional Level II Trauma centers.

- b. MD to MD arrangement*
 - c. Patient request*
 - d. Senior Medical Officer judgment
- C. If the intended receiving hospital ER is on divert (Red), the patient destination should rely upon the same factors as they relate to the available receiving facilities.[†]

COMMUNICATIONS:

1. **H.E.A.R. Radio during transport:** All users of the H.E.A.R. system are urged to transmit essential communications and keep air times as short as possible. The following format for communications should be used. If Medical Control feels additional communications are necessary, they may contact the transporting unit via the H.E.A.R. system.
2. **Emergency Prehospital H.E.A.R. Report Format:**
 - ✓ Unit identification
 - ✓ Category of emergency:
 - A. Code Red - Critical
 - B. Code Yellow - Urgent
 - C. Code Green - Stable
 - D. Code 99 - EMS Personnel Endangerment
 - E. Hazmat Code
 - a. Code Red
 - b. Code Yellow
 - c. Code Green
 - ✓ Age and sex of patient
 - ✓ Chief complaint or reason for transport
 - ✓ Very brief pertinent medical history (one sentence, if possible)

- ✓ Vital signs and level of consciousness
- ✓ Pertinent treatment rendered and results, if any
- ✓ Request for additional information or treatment
- ✓ Estimated time of arrival



The H.E.A.R. report should be provided as soon as practical, once transport has begun. All reports should be given in this order and should be a maximum of 30 seconds. The H.E.A.R. report is not meant to be a full patient record and should relay only pertinent patient care information. Patient identification information is inappropriate to be given on the H.E.A.R. frequency. Advise Medical Control or receiving emergency department of changes in patient's condition en route, and request direction for further treatment.



3. **Verbal report to emergency department:** The verbal report to emergency department physician and/or triage nurse should contain more detail than the radio report. The emergency care provider now has the time to present thorough details of the scene, complete assessment of the patient, and complete report on patient care and result of efforts.
 - ✓ Name, age, sex, and patient's physician
 - ✓ Chief complaint of injuries
 - ✓ If trauma, describe the trauma scene/mechanism of injury
 - ✓ Pertinent medical history
 - ✓ Vital signs and level of consciousness
 - ✓ Condition changes or trends in vital signs or level of consciousness during transport
 - ✓ Explain patient treatments and results
4. **Written Report:** Complete an EMS Medical Incident Report (MIR) on all patient encounters. The **C.H.A.R.T.E.D.** method ([see figure 1.1](#)) has been adopted as the standard for report writing in Spokane County. The MIR is a LEGAL record and may be called upon as evidence in any court of law. An MIR should be formatted on a

triplicate copy paper document. Each individual using this format should clearly identify their name and agency in association with the information that they have contributed to the effort. The color coded copies should be used in the following manner:

White Copy:	First responding EMS agency
Yellow Copy:	Transporting EMS agency
Pink Copy:	Receiving hospital

SEE NEXT PAGE FOR C.H.A.R.T.E.D TABLE

*Patient requests and physician to physician referrals must, in general, be respected. However, if in the judgment of the Senior Medical Officer a critical patient requires transport to a nearer hospital for stabilization, it is the Senior Medical Officer's responsibility to explain this to the patient or physician. If a conscious patient or physician who, in the judgment of the Senior Medical Officer, is capable of making a rational decision persists in requesting transport to a different facility, the patient and/or physician request should be followed (see **Patient Treatment Rights**). Attempt to obtain a signature on a medical release form.

† In spite of ER divert (Red status) Sacred Heart Medical Center will receive pediatric and adult major trauma patients. In spite of ER divert (Red status) Deaconess Medical Center, Holy Family Hospital, and Sacred Heart Medical Center will still receive Level I STEMI patients.

Fig. 1.1: C.H.A.R.T.E.D Method

- C Chief Complaint:** The major problem with the patient. May include significant associated symptoms
- Hx History:** Will include subjective information which the patient, family, bystanders, or other witnesses tell you.
- S Symptoms:** What you are told associated with the problem at hand. Should include pertinent negatives.
- A Allergies:** Known drug allergies.
- M Medications:** Medications the patient has or should have taken. Bring medication bottles to hospital.
- P Past Medical History:** Pertinent or possibly pertinent problem of the past. Name of patient's physician. History of smoking, if known.
- L Last Food/Beverage:** Anything the patient ate or drank prior to the incident
- E Events Prior:** What the patient was doing prior to the incident.
- D Description of PT:** Age, gender, race, size, etc.
- Ax Assessment:** Physical findings of primary and secondary survey, as well as vital signs.
- R Rendered Treatment:** What you did for the patient and any change as a result of treatment.
- Tx Transport/Transfer:** Who, where, and how the PT was transported, patient care transferred to, and any changes while transporting
- Ex Evaluation:** Was the *Trauma Triage Tool* used for destination decision?
- Dx Destination:** Name of destination hospital and reason(s) selected:
 - A. Highest designated facility within 30 minutes (Step 1 or Step 2)
 - B. Nearest designated facility within 30 minutes (Step 3)
 - C. Per documented online Medical Control
 - D. Patient/family request
 - E. Physician request
 - F. Other (must be documented)

HAZARDOUS MATERIALS RESPONSE



This protocol is to be used in all incidents involving hazardous materials where there is an actual or potential exposure to any hazardous substance.



1. Call for help - Contact local fire jurisdiction. Notify and/or respond Spokane Fire Department Hazardous Materials Team.
2. Contact Washington State Poison Center's special direct line (**1-800-709-0911**) and/or the Agency for Toxic Substances and Disease Registry (**1-888-422-8737**) or for emergency (**1-404-498-0120**) for initial guidance in assessing the hazard and providing for EMS personnel safety and patient care.
3. Establish a SAFE staging area uphill, upwind if possible. Notify all incoming response agencies of proper route for a SAFE scene approach to the staging area. Helicopters, when indicated, should be landed far enough away from the scene to avoid spread of contamination from prop wash.



Refer to the D.O.T. Emergency Response Guidebook, or Hazmat Team for general precautions and isolation/evacuation guidelines. As a general rule of thumb, isolate the hazard area, 100 feet for a minor incident and 500 feet for a major incident. If explosives are involved, evacuate area for a 1/2 mile. Remember: The evacuation zone downwind or downhill will be much greater.



4. Protect yourself and others from any significant exposure. Do not attempt rescue without proper protective gear. Minimize continued exposure of any personnel and secondary contamination of rescue personnel by ensuring that proper decontamination has been completed prior to treatment or transport to a medical facility. Prevent unnecessary contamination of transport vehicles or equipment.
5. Obtain accurate information on health effects of the product(s) involved. Attempt to identify product(s) involved by placard, ID#, shipping papers, personnel on-scene, etc.

6. Provide your certification level of prehospital care. In general, it is not recommended to begin any medical treatment without first referring to proper guidelines (interventions as automatic as providing oxygen may be dangerous if not compatible with the agent involved).
7. HEAR radio patch to the receiving hospital should be titled Hazmat Code Red, Yellow, or Green to allow the hospital to initiate appropriate decontamination and treatment preparations.

HELICOPTER TRIAGE GUIDELINES



The goals of the helicopter transport are to:

- ✓ Decrease transport time to definitive care
- ✓ Provide on-scene and en route critical care capabilities where such care is otherwise unavailable.
- ✓ Provide integrated support in multiple casualty incidents.

Spokane County's current helicopter emergency transport service is **Northwest MedStar**. The helicopter service is responsible for judging if weather conditions and local terrain are suitable for helicopter transport and notifying the appropriate EMS agency. Selection of a safe landing zone should be accomplished with regard to the **Helicopter Safety Reference** section.



DISPATCH PROCEDURE:

Dispatch of the helicopter is done through the local fire service dispatch. The dispatched helicopter should communicate on the radio frequency of the dispatching agency, unless otherwise specified by dispatching agency. Non-EMS agencies in Spokane County requesting dispatch of the helicopter will notify the fire service dispatcher covering the area where the incident is located, who will in turn notify EMS field providers.

INDICATIONS

1. Helicopter transport should be requested when transport time to the appropriate facility may be reduced by more than 15 minutes and meets one or more of the following criteria:
 - A. Vital signs and level of consciousness
 - ✓ Shock: Systolic Blood Pressure < 90
 - ✓ Respiratory Distress: Respiratory Rate < 10 or > 29
 - ✓ Altered Mentation: **Glasgow Coma Score** <13
 - B. Anatomy of Injury
 - ✓ Penetrating injury of head, neck, torso, or groin

- ✓ Combination of burns > 20% of total body surface or involving face, airway, hands, feet, or genitalia
 - ✓ Amputation above wrist, ankle
 - ✓ Spinal cord injury
 - ✓ Flail chest
 - ✓ Two or more obvious proximal long bone fractures
2. Consider air transport if the following conditions or risk factors apply. The potential for severe injuries is more likely as multiple risk factors apply.
- A. Biomechanics of injury
- ✓ Death of same car occupant
 - ✓ Ejection of patient from enclosed vehicle
 - ✓ Falls > 20 feet
 - ✓ Pedestrian hit at > 20 mph or thrown 15 feet
 - ✓ Rollover
 - ✓ Motorcycle, ATV, or bicycle accident
 - ✓ Extrication time > 20 minutes
 - ✓ Significant intrusion
- B. Comorbid factors
- ✓ Extremes of age (< 12 or > 60 years old)
 - ✓ Hostile environment (extremes of heat or cold)
 - ✓ Medical illness (such as **COPD**, CHF, renal failure, etc.)
 - ✓ Presence of intoxicants
 - ✓ Second/third trimester pregnancy
- C. Unstable medical problems
- ✓ Airway problems with concern for possible obstruction
 - ✓ Breathing problems with respiratory distress and SaO₂ < 90%
 - ✓ Circulatory problems, including:
 - Chest pain, with possible acute MI
 - Unstable cardiac dysrhythmias

- Internal bleeding with unstable vital signs
- ✓ Acute Stroke
- ✓ Altered level of consciousness
- ✓ Significant environmental incidents with unstable patient, including:
 - **Drowning**
 - **Hypothermia**
 - CO poisoning
- ✓ Imminent birth

ADDITIONAL INDICATORS

- ✓ Emergency care provider's judgment of injury or illness severity.
- ✓ Multiple casualty incidents that exceed ground transport capabilities.
- ✓ Difficult or unusual terrains where helicopter abilities may be of benefit.
- ✓ Unusual or hazardous road conditions.

PATIENT DESTINATION: Patient destination will be determined by the following, in descending order of priority:

1. General:
 - A. Patient or family request
 - B. Prior MD to MD or MD to hospital arrangements
 - C. MedStar rotation
2. For major trauma patients, the trauma triage procedure should be followed.

AUTHORITY: The First Responder, EMT, paramedic, or flight nurse arriving on-scene will be in charge. During transport, the flight nurse will be in charge of patient care.

HOSPITAL EMERGENCY RESPONSE TEAM (H.E.R.T)

1. This team would be a potential resource for individual patient as well as MCI events. The team may be utilized to assist in the provision of surgical as well as nonsurgical care that exceeds the capability of EMS responders.
2. That we will look to our hospitals, primarily our Level II Trauma Center (PSHMC) and our Disaster Medical Coordination Center (DH), as well as our other hospitals to indicate a willingness to respond, if requested.
3. That a response team composition will be recommended to include an emergency physician, a critical care nurse, and any combination of physicians, nurses, mid-level providers, respiratory therapists and other hospital based personnel as deemed by the response team leader appropriate to support the response.
4. The team will be requested through a call made from the Incident commander at the scene to the Combined Communications center (CCC) who in turn will contact the emergency department charge nurse at the identified response hospital. The CCC communications personnel will also provide the hospital contact person with the contact information for the field incident commander or his designee.
5. The emergency charge nurse in consultation with the on-duty emergency physician will determine the most appropriate team composition and initiate the recruitment of the hospital response.
6. Either Northwest MedStar or AMR will be contacted, depending upon which service can provide the most timely response and which vehicle will have adequate carrying capacity, by the Emergency Department nurse to provide for rendezvous at the hospital with the response team members and provide transport by air or ground to the scene.

INFECTIOUS DISEASE PRECAUTIONS



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



1. EMS responders shall don emergency medical gloves and eye protection prior to initiating any emergency patient care. Change gloves after contact with each patient. Wash hands immediately after removing gloves
2. EMS responders shall don emergency medical garments prior to any patient care during which splashes of body fluids can occur (e.g. situations involving spurting blood or child birth).
3. Wash hands and other skin surfaces immediately, if contaminated with blood or other bodily fluids.
4. Use mouthpieces, resuscitation bags, or other ventilation devices to avoid mouth to mouth contact.
5. Sharp instruments, needles, and scalpels should be handled carefully during procedures, cleaning, and disposal. Needles should not be recapped, bent, broken by hand, or removed from disposable syringes. Place used disposable syringes, needles, scalpels, and other sharp items in puncture resistant containers for disposal. Place large-bore reusable needles in puncture resistant container for transport to the reprocessing area.



These precautions will afford protection to pregnant emergency care providers to minimize risk of perinatal transmission of infectious disease.

Emergency care providers who have open lesions or weeping dermatitis should refrain from direct patient care and from handling patient care equipment.



INTER-FACILITY TRANSPORT

GENERAL PRINCIPLES

In general, health care facilities, other than hospitals, should access 911 to ensure the most immediate EMS response. A more sophisticated medical facility that maintains a staff fully trained and equipped to provide ACLS may elect to contact an ambulance transport provider directly, if the patient is currently stable and any potentially unstable events are fully treatable by the services provided at their facility. An arrangement such as this requires that there be a letter of agreement between the jurisdictional fire agency and the facility which acknowledges this arrangement.

Interfacility transport will occur at BLS, ILS, ALS, and Critical Care levels within the following special categories:

- ✓ Transfer between facilities for admission for services not available at initial facility.
- ✓ Transfer and return of patient to facility for diagnostic evaluations at second facility.
- ✓ Transfer from hospital to extended care facility.
- ✓ Transfer of patient between facilities at patient and/or physician request.
- ✓ Transfer of a psychiatric patient to a psychiatric facility.

As a general rule, it is the responsibility of the transferring facility to ensure that the medical necessities for safe patient transfer are met. Medical instructions of the attending physician and registered nurses will be followed unless specifically contrary to EMS protocols. If treatment is recommended that is contrary to protocol or beyond the scope of training of the EMS personnel, medical control at the receiving facility should be contacted for advice. If a physician attends the patient during transfer, he will direct all care regardless of standing orders. If a registered nurse attends the patient, she will direct the care of the patient from the standing orders given by the physician at transfer or by contact with the receiving hospital physician. The registered nurse may choose to defer emergency care in some situations to

the EMT or paramedic as long as it's within the EMS provider's scope of practice.

The responsibility for transfer to another facility resides with the transferring facility. Patients will not be transferred to another facility without first being stabilized. Stabilization includes adequate evaluation and initiation of treatment to ensure that transfer of a patient will not, within reasonable medical probability, result in material deterioration of the condition, death, or loss and/or serious impairment of bodily functions, parts, or organs. Furthermore, the benefits of transfer to the next facility outweigh the risks of transfer to that facility. Evaluation and treatment of patients prior to transfer are to include the following:

- ✓ Establish and ensure adequate airway and ventilation.
- ✓ Cardiac monitoring and emergency defibrillation, when indicated.
- ✓ Establish control of hemorrhage.
- ✓ Stabilize and splint the spine or fractures, when indicated.
- ✓ Establish and maintain adequate access routes for fluid administration.
- ✓ Administer adequate fluid and/or blood replacement.
- ✓ Determine that the patient's vital signs (blood pressure, pulse, respiration, and urinary output, if indicated) are sufficient to sustain adequate perfusion. Initiate important therapeutic regimens that can be started in a timely fashion and safely continued during transport.

For requests for transports not meeting the above criteria, the following may apply:

- ✓ The transporting personnel may request compliance with the above criteria.
- ✓ If the transporting personnel do not think the plan for transfer can be safely accomplished, contact the receiving physician for concurrence or consultation.

It is also the transferring facility's responsibility to establish the need for BLS, ILS, ALS, or Critical Care transport. If a BLS/ILS transport is requested and it is the judgment of the BLS/ILS crew that the patient needs to be transported by an ALS or Critical Care team, it is mandated that dispatch be contacted

and an ALS or Critical Care crew dispatched.

Similarly, if an ALS transport is requested and it is the judgment of the ALS crew that the patient needs to be transported by a Critical Care team, it is mandated that dispatch be contacted and a Critical Care team dispatched. Under no circumstances should an EMS crew transport a patient if, in their judgment, the patient requires a higher level of care than that crew can provide (Mass-casualty incidents are an exception).

Specific conditions requiring the presence of a critical care RN, during transport, provided the RN is available within an acceptable time interval:

- ✓ Cardiogenic shock
- ✓ Post cardiac arrest (acute)
- ✓ Unstable arrhythmias
- ✓ Complicated IV infusions (more than 2 pumps or 3 IV lines)
- ✓ Severe or worsening ischemic chest pain
- ✓ Complicated patients who have a fibrinolytic infusion may require a critical care RN according to physician's discretion
- ✓ Unsuccessful fibrinolytic infusion

A Paramedic level ALS crew may transfer stable patients on IV infusions and/or drugs not typically used for prehospital care, provided the following conditions are met:

- ✓ That the drugs being used do not have direct hemodynamic effects
- ✓ That the rate of administration is controlled by a mechanical pump and was established prior to transfer
- ✓ That the Paramedic in charge during the transfer has had specific MPD approved training relevant to the effects and potential side effects of the IV infusions and/or drugs involved

If during a patient transport, an emergency condition develops that was not anticipated prior to transport, prehospital patient care procedures and protocols will immediately apply. Medical Control should be contacted for concurrence of any orders as appropriate. The receiving facility should be contacted ASAP to inform them of changes in the patient's condition.

LEVEL OF CERTIFICATION OF EMS PERSONNEL TO ATTEND THE PATIENT DURING TRANSPORT

1. In general, the highest level certified EMS provider should attend the patient during transport.
2. State law requires that at least one individual certified at the EMT level must be attending the patient in the back of an ambulance.
3. The EMS provider with the highest level of certification may allow an EMT to attend the patient during transport, provided that, in the highest level provider's judgment, the patient's illness or injury is stable and that any anticipated treatment would not be better rendered by a higher level of certified individual.

MASS CASUALTY, TREATMENT, AND TRANSPORT

The following material represents a broad guideline for the common practice of our EMS providers when dealing with a mass casualty event. A much more comprehensive overview of the important role and responsibilities of EMS responders in a mass casualty event is found within our Field Operations Guide (FOG).

Included in this County Operating Procedure section are the following:

1. General Principles of Triage, Treatment, and Transport
2. References
 - A. START
 - B. JumpSTART
 - C. Combined START/JumpSTART
 - D. Triage tags

RECOMMENDATIONS

1. Triage:
 - ✓ Initial triage should be rapid with an emphasis on identifying severe but survivable injuries.
 - ✓ A single system should be used throughout our EMS system. START and Jump/START are simple and effective tools for initial triage.
 - ✓ A triage tag or identifier should be applied at the time of initial EMS contact.
 - ✓ Secondary triage should be applied at the scene (treatment area) with a focus on identifying patients whose outcome will depend primarily on time critical hospital based interventions (surgery/critical care).

2. Treatment:

A. A few immediate lifesaving treatments should be done as soon as possible at the time of initial EMS contact.

- I. Open the airway.
- II. Stop severe external bleeding.
- III. Treat open (sucking) chest wounds.

B. Secondary treatment

- I. Spinal immobilization (prior to moving the patient).
- II. Definitive airway placement and oxygen administration.
- III. Needle decompression of tension pneumothorax.

3. Transport:

A. All RED (critical) patients should be the priority for earliest transport to receiving hospitals with an emphasis on those that need immediate surgical interventions.

B. EMS staffed transport vehicles should be loaded to full capacity with all RED patients and provided ALS level EMS during transport, if possible.

C. When ambulance capacity is exceeded, alternative transport vehicles (buses, etc.) should be considered to move the less severely injured EMS personnel should be assigned to the vehicles.*

SEE FOLLOWING PAGES FOR ALGORITHM AND FIGURES

*The number and level of certification of EMS providers assigned to transport vehicles will depend upon the need for immediate triage and treatment of victims who initial remain at the scene.

Fig 1.2 START and JumpSTART

START		JumpSTART	
Move the walking wounded	Minor	Move the walking wounded	Minor
No respirations after head tilt	Deceased	No respirations No peripheral pulse	Deceased
Respirations Over 30/min	Immediate	Respirations above 45/min less than 15/min	Immediate
Perfusion No radial pulse Cap refill +2/sec	Immediate	No respirations with peripheral pulse, give 5 ventilations via barrier. Respirations resume.	Immediate
Mental status Unable to follow simple commands	Immediate	Perfusion No peripheral pulse Cap refill +2/sec	Immediate
Stable RPM	Delayed	Mental status AVPU	
		AV	Delayed
		PU	Immediate

Fig 1.3 Combined START/JumpSTART Triage Algorithm

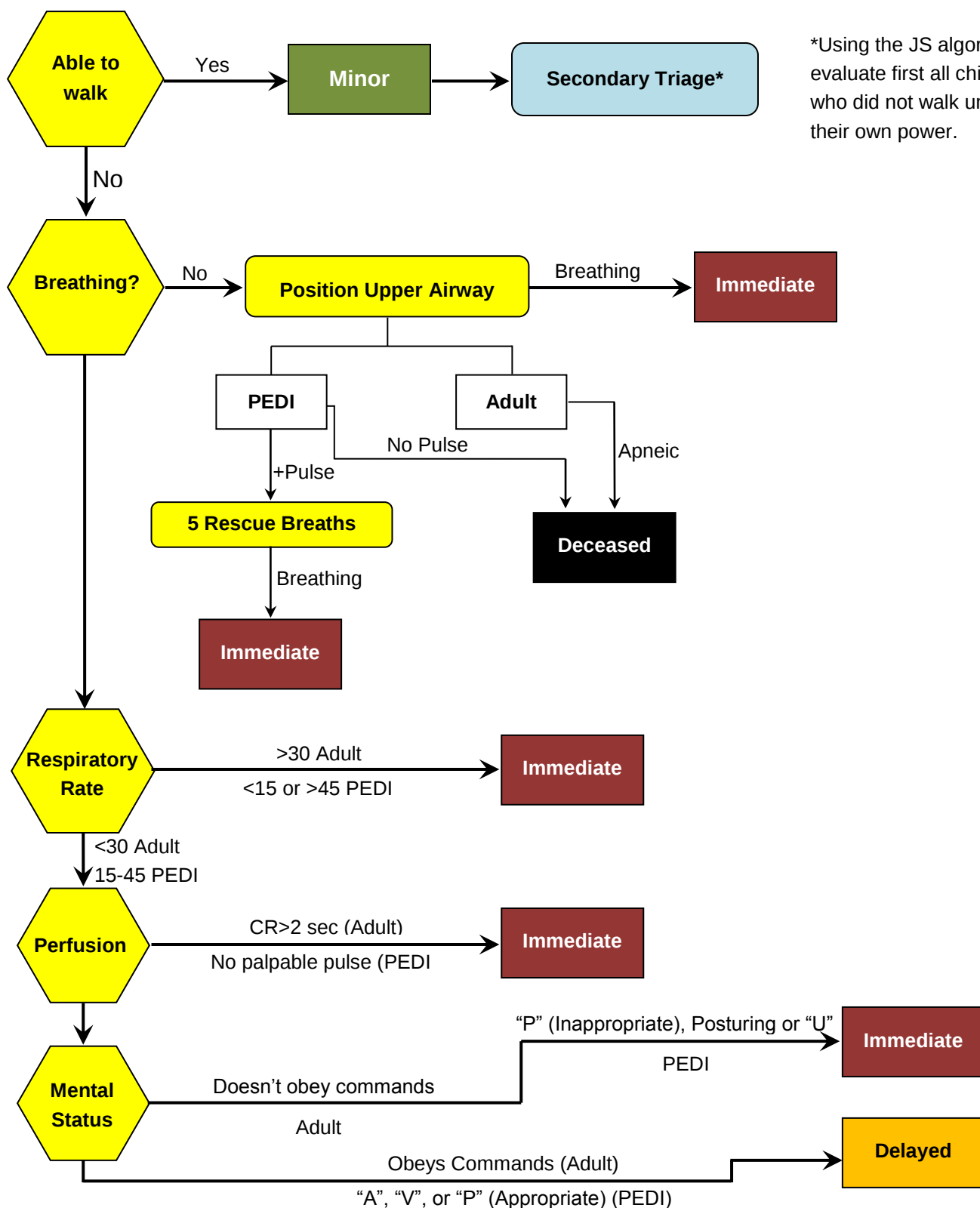


Fig 1.4 Wrist Band

CONTAMINATED

Wristband

Personal Property Receipt/ Evidence Tag

Destination: _____ Via: _____

All Risk® TRIAGE TAG

☐ S ☐ L ☐ U ☐ D ☐ G ☐ E ☐ M

AUTO INJECTOR TYPE ☐ 1 ☐ 2 ☐ 3

Yes No Primary Decon

Yes No Secondary Decon

Solution

Burn Trauma
Burn
C-Spine
Cardiac
Crushing
Fracture
Laceration
Penetrating Injury

VITAL SIGNS

Time	B/P	Pulse	Respiration

Time Drug Solution Dose

MORGUE

IMMEDIATE

DELAYED

MINOR

Comments/Information

Patient's Name

RESPIRATIONS R ☐ Yes ☐ No

PERFUSION P ☐ + 2 Sec. ☐ - 2 Sec.

MENTAL STATUS M ☐ Can Do ☐ Can't Do

Move the Walking Wounded **MINOR**

No Respirations After Head Tilt **MORGUE**

☐ Respirations - Over 30 **IMMEDIATE**

☐ Perfusion - Capillary Refill Over 2 Seconds **IMMEDIATE**

☐ Mental Status - Unable to Follow Simple Commands **IMMEDIATE**

Otherwise **DELAYED**

ENDORSED BY

PERSONAL INFORMATION

NAME _____

ADDRESS _____

CITY _____ ST _____ ZIP _____

PHONE _____

COMMENTS _____ RELIGIOUS PREF. _____

MORGUE
Pulseless/Non-Breathing

IMMEDIATE
Life Threatening Injury

DELAYED
Serious Non Life Threatening

MINOR
Walking Wounded

EVIDENCE

MEDICAL CONTROL



Prehospital Medical Control is provided in Spokane County via the Hospital Emergency Administrative Radio (H.E.A.R.) system and telephone communication systems. All practicing emergency physicians in Spokane County are designated Supervising Physicians.

Radio contact will be made between the EMS unit and the receiving hospital prior to arrival of the EMS unit at the hospital using the standard reporting format outlined under **General Guidelines for All Patients**.

Consultation with the receiving physician is available via the H.E.A.R. system or direct telephone line. Direct contact with the receiving physician should be used when the need for medical advice arises.

On occasions when communications are not technically possible or a Supervising Physician is not available, EMS personnel must rely on these policies, protocols, and their own judgment until communication can be established.



MEDICAL PROFESSIONALS AT THE SCENE

Medical professionals at the scene of an emergency may provide assistance to paramedics and should be treated with professional courtesy. Medical professionals who offer their assistance should identify themselves. Physicians should provide proof of their identity, if they wish to assume or retain responsibility for the care given the patient after the arrival of the EMS unit (**See Relationship between Advanced Life Support Team and Private Physician**).

In addition to physicians, EMS personnel may encounter other health care professionals at the scene, such as physician's assistants, nurse practitioners, and nurses. In general, the following statements should guide the EMS personnel's interaction with other health care providers at the scene of an emergency:

- ✓ EMS personnel who arrive first on the scene and initiate care must continue treatment of the patient until the patient can be placed under the supervision of personnel with equal or greater competence.
- ✓ EMS personnel should not perform any procedure for which they do not possess training, certification, and fall within the guidelines of MPD protocols, even if they are requested to do so by another provider.
- ✓ When there is lack of clarity as to whether a procedure is appropriate, EMS personnel should always be instructed to contact medical control.
- ✓ When EMS personnel encounter physicians or other health care providers who insist on taking charge of patient care, they should contact medical control for instructions before releasing the patient.
- ✓ Well trained health care providers should be encouraged to assist when and where appropriate.

MEDICATIONS AND ALLERGIES

All medications in these protocols are to be administered only after ascertaining that the patient is **NOT** allergic to them. In critical situations when the patient has an altered level of consciousness, emergency care providers should question family, friends, and look for medical alert identification and/or "Vial of Life" canisters.

MOONLIGHTING

UNCOMPENSATED: Certified EMS providers who volunteer to provide EMS services outside of their normal EMS certifying agency for no compensation of any kind may do so and should be 'protected' under the Washington State good Samaritan law.

COMPENSATED: Certified EMS providers who are compensated in any manner who wish to provide services outside of their normal EMS certifying agencies recognized by DOH within Spokane County must make certain the following conditions are met. Although these guidelines are specific to Spokane County, similar guidelines should be observed when 'moonlighting' outside Spokane County and the protocols and procedures of the local County MPD should be applied.

- ✓ EMS providers must have a clear understanding of the employer's expectations for the level of EMS service provided as well as the availability of the equipment necessary to render that level of care.
- ✓ The EMS provider must have documentation of an appropriate amount of medical liability coverage (minimum \$1 million / \$3 million), whether provided by themselves or the organization that has hired them for this EMS service.
- ✓ The local jurisdictional EMS agency must be notified of your intent to provide coverage at an event.
- ✓ Spokane County EMS Patient Care Policies and Protocols must be followed.
- ✓ The 911 system must be used to initiate the local EMS response when additional patient care or transport is indicated. The moonlighting EMS provider should facilitate timely access of the responding jurisdictional EMS agency, identify themselves according to their level of certification, and provide a verbal summary of the nature of the call and treatment rendered.
- ✓ A Medical Incident Report should be prepared regarding each patient contact and a copy forwarded to the Spokane County EMS office.

NON-TRANSPORT OF PATIENTS

The decision to seek emergency medical services usually resides with the patient, family, or, in certain instances, with legal custodians. Similarly, the decision to transport or not to transport should reside with the patient, family, or legal custodian. Major trauma patients are an exception and shall be transferred according to **trauma triage procedures**. In general, the only reasons for non-transport are:

- ✓ Signed refusal for transport completed by competent patient, family, or custodian
- ✓ No patient
- ✓ The emergency care provider may be of the judgment that the patient need not be transported by ambulance, but unless the patient and/or custodian agree with this judgment, transport will be done
- ✓ If the patient has a well-established history of frequent EMS requests unsubstantiated by medical need and the on-scene medical evaluation does not identify a significant acute medical problem, the EMS provider may contact medical control to consider denying ambulance transport to the patient

SEE NEXT PAGE FOR EXAMPLE FORM

CALL IDENTIFICATION

Patient Name _____ Age _____

Call location _____ Date _____ Time _____ Unit# _____ Agency Run # _____

PATIENT ASSESSMENT Chief Complaint _____

VITAL SIGNS

BP _____ Pulse _____ Resp _____

Oriented to: _____ Person _____ Place _____ Time _____ Situation _____

GENERAL ASSESSMENT

-

-

-

DISPOSITION

___ Patient transported by private vehicle.

___ Released in care or custody of self.

___ Released in care or custody of relative or friend. _____

Name

___ Released in care or custody of other agency. _____

Agency Name

Name of Responsible Individual

PATIENT INSTRUCTIONS

___ Patient instructed to call 9-1-1 or follow up with his/her physician if condition persists or worsens.

Patient signature Print patient name Date Time

Surrogate signature Print surrogate name Date Time

Witness signature Print witness signature Date Time

EMS personnel signature Print EMS Personnel Name Date Time

ON-SCENE MEDICAL AUTHORITY

Patient care at an incident is subject to the following ascending order of authority:

1. First Responder (first arriving, on duty)
2. Emergency Medical Technician (first arriving, on duty)
3. Paramedic or Flight Nurse (first arriving, on duty)
4. Physician with acceptance of 'Thank You For Your Offer Of Assistance' card
5. EMS Supervising Physician

PATIENT TREATMENT RIGHTS



Spokane County EMS guidelines and protocols are intended for use with a conscious and consenting patient, or an unconscious (implied consent) patient. Patients refusing EMS care or transport represent a significant medical legal risk for EMS agencies and their personnel. Adherence to medical release principles will minimize liability and maximize patient care.



MEDICAL RELEASE PRINCIPLES: The founding principle for medical release is informed consent by the patient. The patient cannot be held to have refused treatment or care unless and until (1) the patient has been fully informed of their condition, (2) the patient understands the information provided on their condition and the potential consequences of refusing the treatment or care, and (3) a medical release form has been read to, understood, and signed by the patient.

MINIMUM MEDICAL INCIDENT REPORT DOCUMENTATION

- ✓ Patient history*
- ✓ Vital signs*
- ✓ Physical examination appropriate for the complaint*
- ✓ Mental status documented as "alert and oriented" and no significant impairment of mental status by drugs, alcohol, other organic causes, or mental illness
- ✓ Informed consent: Risk of refusing care or transport explained to and understood by patient
- ✓ Spokane County Emergency Medical and Trauma Care Cancel/Refusal form signed by the patient and attached to the Medical Incident Report ([see next page for sample form](#))

If a conscious patient who is irrational (or impaired by alcohol or drugs) or may harm themselves, refuses treatment, the emergency care provider should contact law enforcement.

*If these criteria cannot be met, document refusal by patient

PATIENT REFUSAL OF TREATMENT/TRANSPORT

CALL IDENTIFICATION

Patient Name _____ Age _____

Call location _____ Date _____ Time _____ Unit# _____ Agency Run # _____

PATIENT ASSESSMENT Chief Complaint _____

VITAL SIGNS BP _____ Pulse _____ Resp _____

Oriented to: _____ Person _____ Place _____ Time _____ Situation _____

GENERAL ASSESSMENT

PATIENT INFORMED

- ____ Medical Treatment/ambulance transport needed
- ____ Further harm could result without medical evaluation/treatment
- ____ Transport by other than ambulance could be hazardous in light of patient's illness/injury

SPECIFIC EMS SERVICE REFUSED

- ____ Patient refused treatment
- ____ Patient refused ambulance transport
- ____ Patient refused ambulance transport to appropriate facility.

PATIENT DISPOSITION

- ____ Transported by private vehicle.
- ____ Released in care or custody of self.
- ____ Released in care or custody of relative or friend. _____

Name

- ____ Released in care or custody of other agency. _____

Agency Name _____ Name of Responsible Individual _____

PATIENT INSTRUCTIONS

- ____ Patient instructed to call 9-1-1 or follow up with his/her physician if condition persists or worsens.

The following statement should be read to the patient:

The evaluation and / or treatment provided to you by the EMS providers is not a substitute for medical evaluation and treatment by a doctor. By signing this, you indicate that you understand the nature of the proposed care and transportation and that you fully comprehend the potential consequences of this refusal. And that you further attest that you are capable and authorized to make said refusal, that you do forever release and give up any claim, demand, or action against all Emergency Medical Services personnel and their agents and do hereby covenant and agree to hold such persons harmless from any claim, demand, loss, or action for any alleged act or omission in the care or transport in compliance with this refusal. This release is binding on your heirs, executors, and assigns.

_____ Patient signature	_____ Print patient name	_____ Date	_____ Time
_____ Surrogate signature	_____ Print surrogate name	_____ Date	_____ Time
_____ Witness signature	_____ Print witness signature	_____ Date	_____ Time
_____ EMS personnel signature	_____ Print EMS Personnel Name	_____ Date	_____ Time

RELATIONSHIP BETWEEN EMS TEAM AND PRIVATE PHYSICIAN

When the patient's private physician is in attendance and has identified himself upon the arrival of the EMS team, the EMS team will comply with the private physician's instructions for the patient. The receiving hospital will be contacted for reporting an estimated time of arrival. If orders are given, which are inconsistent with established protocols, clearance must be obtained through the Supervising Physician.

The Physician at the scene may:

- ✓ Request to talk directly to the Supervising Physician to offer advice and assistance
- ✓ Offer assistance to the EMS team with another pair of eyes, hands, or suggestions, leaving the EMS team under Medical Control
- ✓ Take total responsibility for the patient with the concurrence of the Supervising Physician.



If, during transport, the patient's condition should warrant treatment other than that requested by the private physician, the Supervising Physician will be contacted, using the H.E.A.R. system, for information and concurrence with any treatment, except in cases of cardiopulmonary arrest.

The above "Physician at Scene" will also apply to cases where a physician may happen upon the scene of a medical emergency and interacts with the EMS team. Show physician at scene the **Thank You for Your Offer of Assistance** card.



RESTRAINTS FOR AGGRESSIVE OR VIOLENT PATIENTS



The use of physical restraints for patients who pose a threat to themselves or others is indicated as a last resort. Physical restraint should be preceded by an attempt at verbal control and only the least restrictive means of control necessary should be employed. If restraints are used, care must be taken to protect the patient from possible injury. When patient care and the provider's safety requires the use of restraints, special precautions must be taken to reduce the risk of respiratory compromise. In addition, the combative behaviors requiring restraints may be associated with a syndrome of excited delirium posing an additional risk to the patient's health.



1. Request assistance from law enforcement.
2. Restraint equipment applied by EMS personnel must be either padded leather restraints or soft restraints (i.e. posey, Velcro, or seat belt type). Both methods must allow for quick release.
3. The application of any of the following forms of restraint should not be used by EMS personnel:
 - A. Hard plastic ties or any restraint device requiring a key to remove.
 - B. "Sandwiching" patients between backboards, scoop-stretchers, or flat, as a restraint.
 - C. Restraining a patient's hands and feet behind the patient (i.e. leg restraints)
 - D. Other methods or materials applied in a manner that could cause respiratory, vascular, or neurological compromise.
4. Restraint equipment applied by law enforcement (i.e. handcuffs, plastic ties, or leg restraints) must provide sufficient slack in the restraint device to allow the patient to straighten the abdomen and chest and to take full tidal volume breaths. Restraint devices applied by law enforcement require the officer's continued presence to ensure patient and scene safety. The officer should, if possible, accompany the patient in the ambulance, or follow by driving in tandem with the

ambulance on a predetermined route. A method to alert the officer of any problems that may occur during transport should be discussed prior to leaving the scene.

5. Patients should not be transported in the prone position (on their stomach) unless necessary to provide emergency medical stabilization. EMS personnel must ensure that the patient position does not compromise the patient's respiratory/circulatory systems or does not preclude any necessary medical intervention to protect the patient's airway should vomiting occur.
6. If providers are at risk of contamination by salivary and respiratory secretions from a combative patient, a protective device may be applied to the patient to help reduce the chance of disease transmission in this manner.
7. Perform **blood glucose test**. If blood glucose is < 60, obtain blood sample and administer 50 ml of 50 % dextrose IV.
8. Chemical restraints may be used to help control combativeness. Administer 2.5 mg of **midazolam (Versed®)** q 3-5 minutes IV/IM, up to a maximum of 10 mg.
9. RSI and chemical paralysis should be used as a last resort to allow for patient/provider safety and emergency patient care based upon the severity of illness and/or injury.
10. Restrained extremities should be evaluated for pulse quality, capillary refill, color, nerve, and motor function every 15 minutes. It is recognized that the evaluation of nerve and motor status requires patient cooperation, and thus may be difficult or impossible to monitor.
11. The medical incident report shall document the following:
 - ✓ The reason the restraints were needed
 - ✓ The agency that applied the restraints
 - ✓ The periodic extremity evaluation
 - ✓ The periodic evaluation of the patient's respiratory status

SCHEDULE II MEDICATIONS

1. Each agency ordering their own controlled medications must be registered with the DEA.
 - ✓ Registration is through the Medical Program Director (MPD) or the agency MPD delegate supervising physician
 - ✓ Using a Power of Attorney form, the MPD or agency supervising physician may delegate one or more individuals per agency the responsibility for purchase and storage of controlled medications
2. Schedule II medications such as **Fentanyl** and **Morphine**:
 - ✓ Must be ordered using a DEA form 222
 - ✓ All schedule II medications may be logged on one sheet, but must be separate from the schedule III and IV medications log sheet.
3. Schedule III and IV medications (**Diazepam**, **Lorazepam**, and **Midazolam**):
 - ✓ Do not require the use of the DEA form 222
 - ✓ May not be ordered using a prescription form
 - ✓ Once credentials have been established (DEA registration number, name, address) agencies can work with the agency's pharmaceutical supplier, using an invoice method to order schedule III and IV medications. *Note: The pharmacy must be presented with a properly filled out DEA form 222 in order to fill a request for Schedule II medications. Bi-annual Audit.*
4. Disposal of Waste and Out-Dated Controlled Substances
 - ✓ Vials, ampoules and injections intended for single patient use that have been opened or partially used may be wasted. Use and wasting controlled medications must be documented on the patient care report and the controlled substance log.
 - ✓ Outdated or unusable schedule II-IV medications must be disposed of by transferring them to a registrant who is authorized to receive such materials. These registrants are referred to as Reverse Distributors. Schedule II controlled substances should be

transferred via the DEA form 222. Schedule III and IV compounds may be transferred via invoice. The MPD or supervising physician should maintain copies of the records documenting the transfer and disposal of controlled substances for two years. This requirement does not include the medications that were wasted after a single patient use. Agent or agency records must be kept for two years. Patient care records and agency controlled medication logs document proof of use or disposal.

- ✓ DEA registered *Reverse Distributors* are listed in the **Department MPD Controlled substance guidelines**, found in the Reference Documents section.

SUSPECTED EBOLA VIRUS DISEASE

INTENT

To provide EMS personnel with information and guidance for treating patients suspected of having Ebola Virus Disease (EVD). In all cases, responder safety and closely following infection control procedures is critical.

BACKGROUND

The current Ebola outbreak in West Africa raises the possibility of patients with Ebola traveling from the affected country to the United States.

The likelihood of contracting EVD is extremely low unless a person has direct, unprotected contact with the body fluids of a person who is sick with EVD. EVD is not transmitted by air, food or water. Early recognition is critical to controlling the spread of EVD.

Signs and symptoms of Ebola include:

- ✓ Sudden fever (fever >101.5 degrees);
- ✓ Chills, and muscle aches;
- ✓ Diarrhea, nausea, vomiting, and abdominal pain occurring after about five (5) days.
- ✓ Other symptoms such as chest pain, shortness of breath, headache, or confusion may also develop.
- ✓ Advanced and severe symptoms may include jaundice (yellow skin), severe weight loss, mental confusion, bleeding inside and outside the body, shock, and multi-organ failure.

ACTIONS

The CCC has a process in place to screen certain calls that may suggest the presence of EVD. If the Communications Specialist has a high index of suspicion for presence of EVD, they will advise the EMS responders. When notified, EMS personnel will:

1. Prior to entering the residence, put on gloves, protective eyewear, fluid resistant or impermeable gown, and mask. Check with other responders to confirm that PPE is intact and put on appropriately.
2. Providers are encouraged to consider double gloving if there is obvious blood or other bodily fluids present.
3. Limit the number of people with patient contact to only essential care providers.
4. Avoid direct, unprotected contact with patient bodily fluids including urine, saliva, feces, vomit, sweat and semen.
5. Obtain a thorough history from the patient, including if the patient has:
 - i. Recently lived in, or traveled to, a country where an Ebola outbreak is occurring;
 - ii. Recently travelled through major airports in the U.S. If possible, specify the airport; Current key airports include: JFK in New York, Washington D.C.-Dulles, Newark-New Jersey, Chicago-O'Hare, and Atlanta International.
 - iii. Had recent contact with someone who is sick with EVD or had contact with the bodily fluids of someone who is sick with EVD.
6. Obtain baseline vital signs including temperature. Document findings.
7. Treat any acute symptoms (e.g., breathing problems, hypotension, etc.) in accordance with the appropriate Spokane County Patient Care Protocol. If endotracheal intubation is required, exercise care to avoid exposure to respiratory secretions. Providers must use a N95 filtering face piece for respiratory protection.
8. Aggressive IV fluid replacement may be required. If so, make sure to exercise caution to avoid needle stick or splashing of blood. At all times, gloves, mask gown and protective eye wear must be worn while placing the IV. Immediately dispose of all needles and sharps in puncture-proof, sealed containers.
9. Prior to transport, contact the destination Emergency Department and advise them of the pending arrival of a potential infectious disease patient.

10. Continue supportive care as needed until arrival at the hospital.
11. As soon as patient care is transferred to the Emergency Department, immediately begin decontamination of equipment and the transport vehicle. After exiting the patient's room:
 - i. Remove PPE carefully without contaminating eyes, mucous membranes or clothing with potentially infectious materials;
 - ii. Discard disposable PPE in containers specified by the hospital;
 - iii. Thorough hand washing should be performed immediately after removal of PPE; and
 - iv. Thoroughly decontaminate non-disposable equipment (e.g., Thermometer, Blood Pressure Cuff, Heart Monitor and Leads, etc.) prior to re-using. Under no circumstances should non-disposable equipment be used to treat subsequent patients without first being decontaminated.
12. Ambulances and personnel should not respond to subsequent calls without having been thoroughly decontaminated.
13. In detail, document the patient contact as soon as possible following decontamination procedures.

THANK YOU FOR YOUR OFFER OF ASSISTANCE

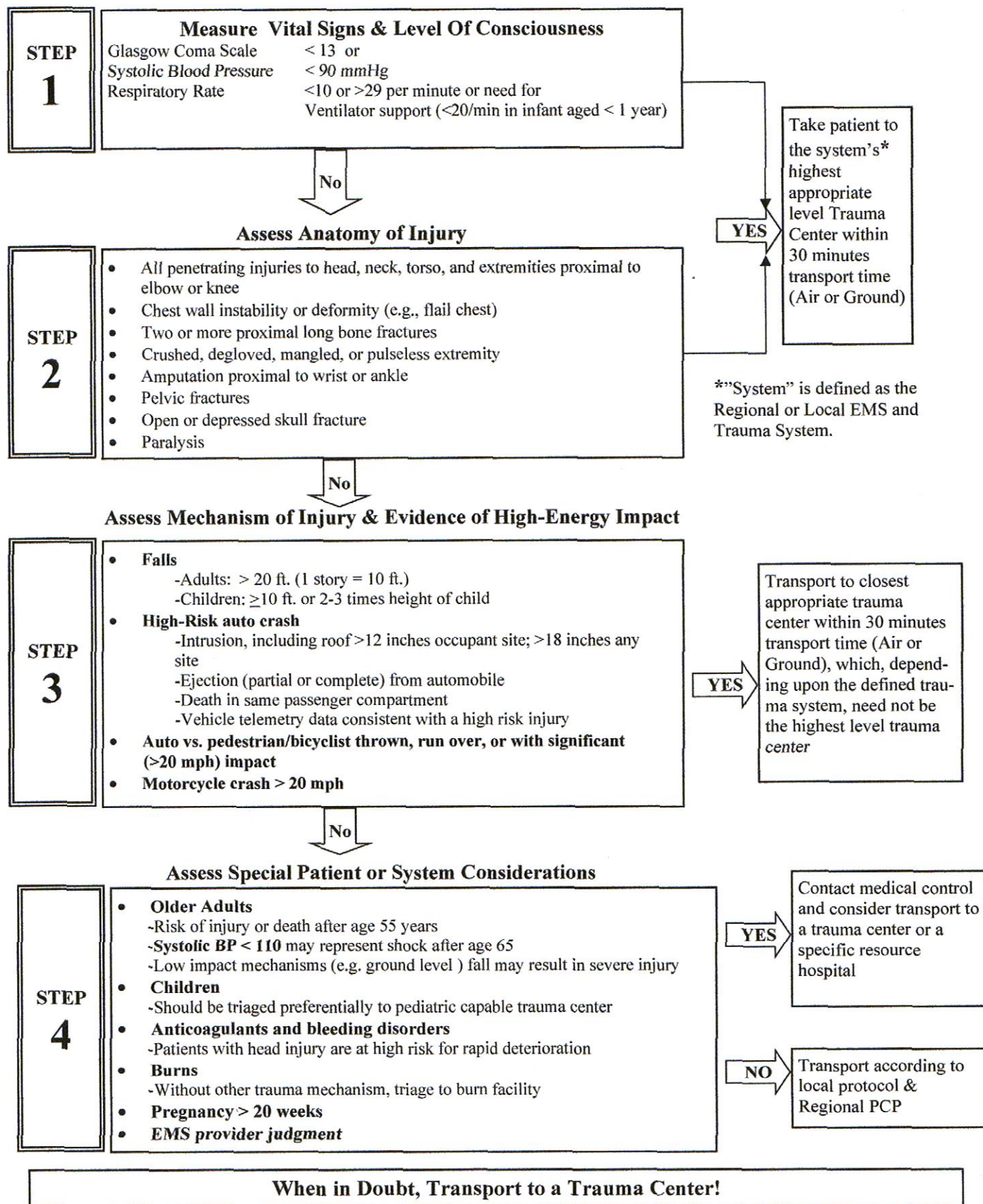
Please be advised that this EMS team is operating under the authority of Washington State Law and protocols that were developed and approved by me as Medical Program Director. The EMS team performs their functions at the scene under the guidance of EMS Medical Control. If you, as a physician at the scene, decide you must intervene in the patient's care, then you are responsible for any and all care given, and must accompany the patient to the hospital in the ambulance and sign the Medical Incident Report.

James M. Nania, MD, FACEP
Medical Program Director
Spokane County, Washington

WASHINGTON STATE PREHOSPITAL TRAUMA TRIAGE DESTINATION PROCEDURE

SEE NEXT PAGE

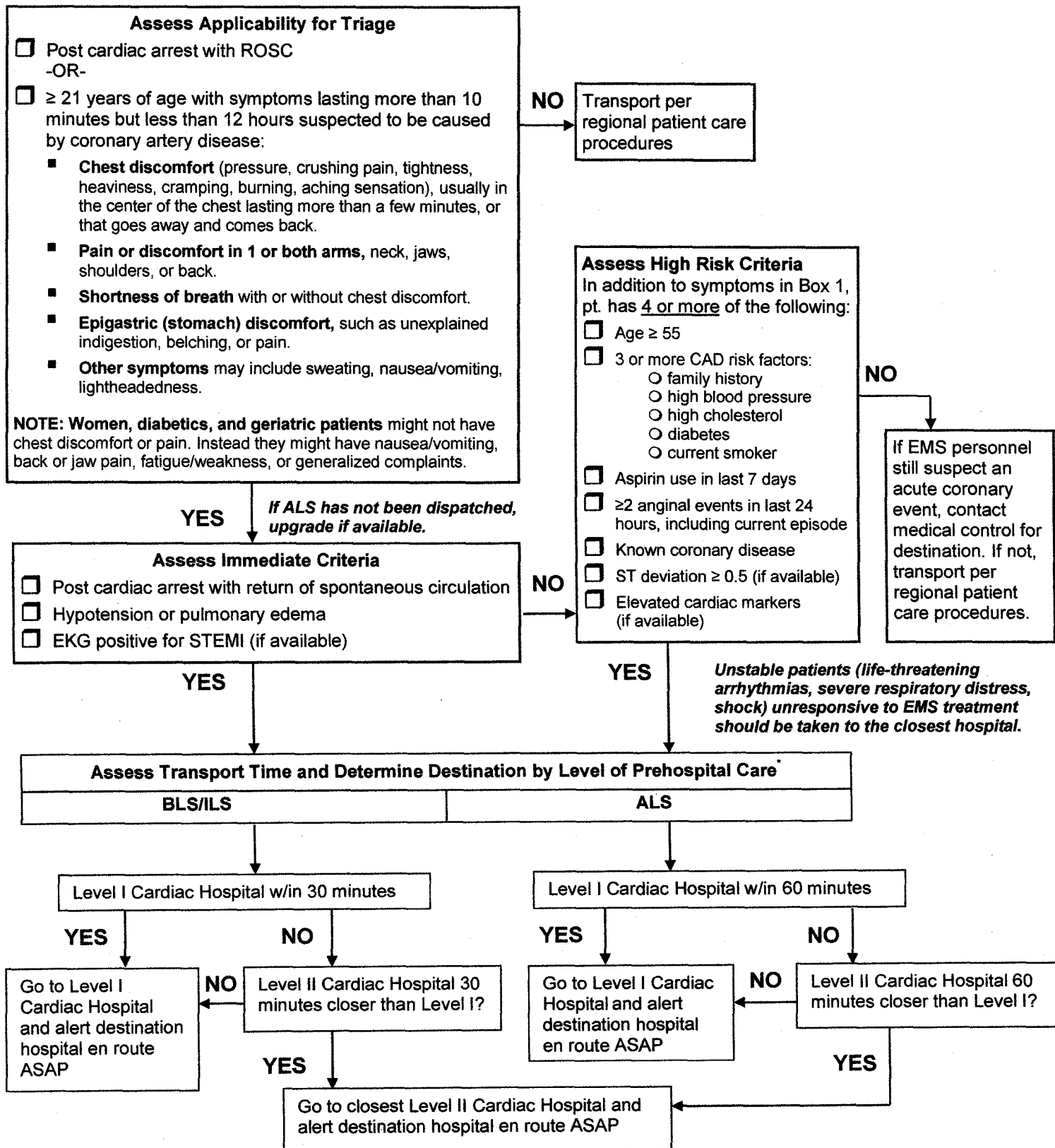
Washington State Trauma Triage Destination Procedures



**WASHINGTON STATE PREHOSPITAL CARDIAC TRIAGE
DESTINATION PROCEDURE**

**SEE NEXT PAGE
AND
LEVELS OF TRAUMA, CARDIAC, AND STROKE**

State of Washington Prehospital Cardiac Triage Destination Procedure



* Slight modifications to the transport times may be made in county operating procedures. See page 2.
Consider ALS and air transport for all transports greater than 30 minutes.

If there are two or more Level I facilities to choose from within the transport timeframe, patient preference, insurance coverage, physician practice patterns, and local rotation agreements may be considered in determining destination. This also applies if there are two or more Level II facilities to choose from.

State of Washington

Prehospital Cardiac Triage Destination Procedure

Why triage cardiac patients?

The faster a patient having a heart attack or who's been resuscitated gets treatment, the less likely he or she will die or be permanently disabled. Patients with unstable angina and non-ST elevation acute coronary syndromes (UA/NSTE) are included in the triage procedure because they often need immediate specialized cardiac care. This triage procedure is intended to be part of a coordinated regional system of care that includes dispatch, EMS, and both Level I and Level II Cardiac Hospitals.

How do I use the Cardiac Triage Destination Procedure?

- A. Assess applicability for triage** – If a patient is post cardiac arrest with ROSC, or is over 21 and has any of the symptoms listed, the triage tool is applicable to the patient. Go to the "Assess Immediate Criteria" box. **NOTE:** Women, diabetics, and geriatric patients often have symptoms other than chest pain/discomfort so review all symptoms with the patient.
- B. Assess immediate criteria** – If the patient meets any one of these criteria, he or she is very likely experiencing a heart attack or other heart emergency needing immediate specialized cardiac care. Go to "Assess Transport Time and Determine Destination" box. If the patient does not meet immediate criteria, or you can't do an ECG, go to the "Assess High Risk Criteria" box.
- C. Assess high risk criteria** – If, in addition to meeting criteria in box 1, the patient meets four or more of these high risk criteria, he or she is considered high risk for a heart attack or other heart emergency needing immediate specialized cardiac care. These criteria are based on the TIMI risk assessment for unstable angina/non-STEMI. If the patient does not meet the high risk criteria in this box, but you believe the patient is having an acute coronary event based on presentation and history, consult with medical control to determine appropriate destination. High risk criteria definitions:
- ☐ 3 or more CAD (coronary artery disease) risk factors:
 - Age ≥ 55 : epidemiological data for WA show that incidence of heart attack increases at this age
 - Family history: father or brother with heart disease before 55, or mother or sister before 65
 - High blood pressure: $\geq 140/90$, or patient/family report, or patient on blood pressure medication
 - High cholesterol: patient/family report or patient on cholesterol medication
 - Diabetes: patient/family report
 - Current smoker: patient/family report.
 - ☐ Aspirin use in last 7 days: any aspirin use in last 7 days.
 - ☐ ≥ 2 anginal events in last 24 hours: 2 or more episodes of symptoms described in box 1 of the triage tool, including the current event.
 - ☐ Known coronary disease: history of angina, heart attack, cardiac arrest, congestive heart failure, balloon angioplasty, stent, or bypass surgery.
 - ☐ ST deviation ≥ 0.5 mm (if available): ST depression ≥ 0.5 mm is significant; transient ST elevation ≥ 0.5 mm for < 20 minutes is treated as ST-segment depression and is high risk; ST elevation > 1 mm for more than 20 minutes places these patients in the STEMI treatment category.
 - ☐ Elevated cardiac markers (if available): CK-MB or Troponin I in the "high probability" range of the device used. Only definitely positive results should be used in triage decisions.
- D. Determine destination** – The general guideline is to take a patient meeting the triage criteria directly to a Level I Cardiac Hospital within reasonable transport times. For BLS, this is generally within 30 minutes transport time, and for ALS, generally 60 minutes transport time. See below for further guidance. Regional patient care procedures and county operating procedures may provide additional guidance.
- E. Inform the hospital en route so staff can activate the cath lab and call in staff if necessary.**

What if a Level I Cardiac Hospital is just a little farther down the road than a Level II?

You can make slight changes to the 30/60 minute timeframe. The benefits of opening an artery faster at a Level I can outweigh the extra transport time. To determine whether to transport beyond the 30 or 60 minutes, figure the difference in transport time between the Level I Cardiac Hospital and the Level II Cardiac Hospital. For BLS, if the difference is more than 30 minutes, go to the Level II Cardiac Hospital. For ALS, if the difference is more than 60 minutes, go to the level II Cardiac Hospital.

BLS examples: A) minutes to Level I minus minutes to Level II = 29: go to Level I
B) Minutes to Level I minus minutes to Level II = 35: go to Level II

ALS examples: A) minutes to Level I minus minutes to Level II = 45: go to Level I
B) Minutes to Level I minus minutes to Level II = 68: go to Level II

NOTE: We recommend ALS use a fibrinolytic checklist to determine if a patient is ineligible for fibrinolysis. If ineligible, transport to closest Level I hospital even if it's greater than 60 minutes or rendezvous with air transport.

What if there are two or more Level I or II facilities to choose from?

If there are two or more of the same level facilities to choose from within the transport times, patient preference, insurance coverage, physician practice patterns, and local rotation agreements may be considered in destination decision.

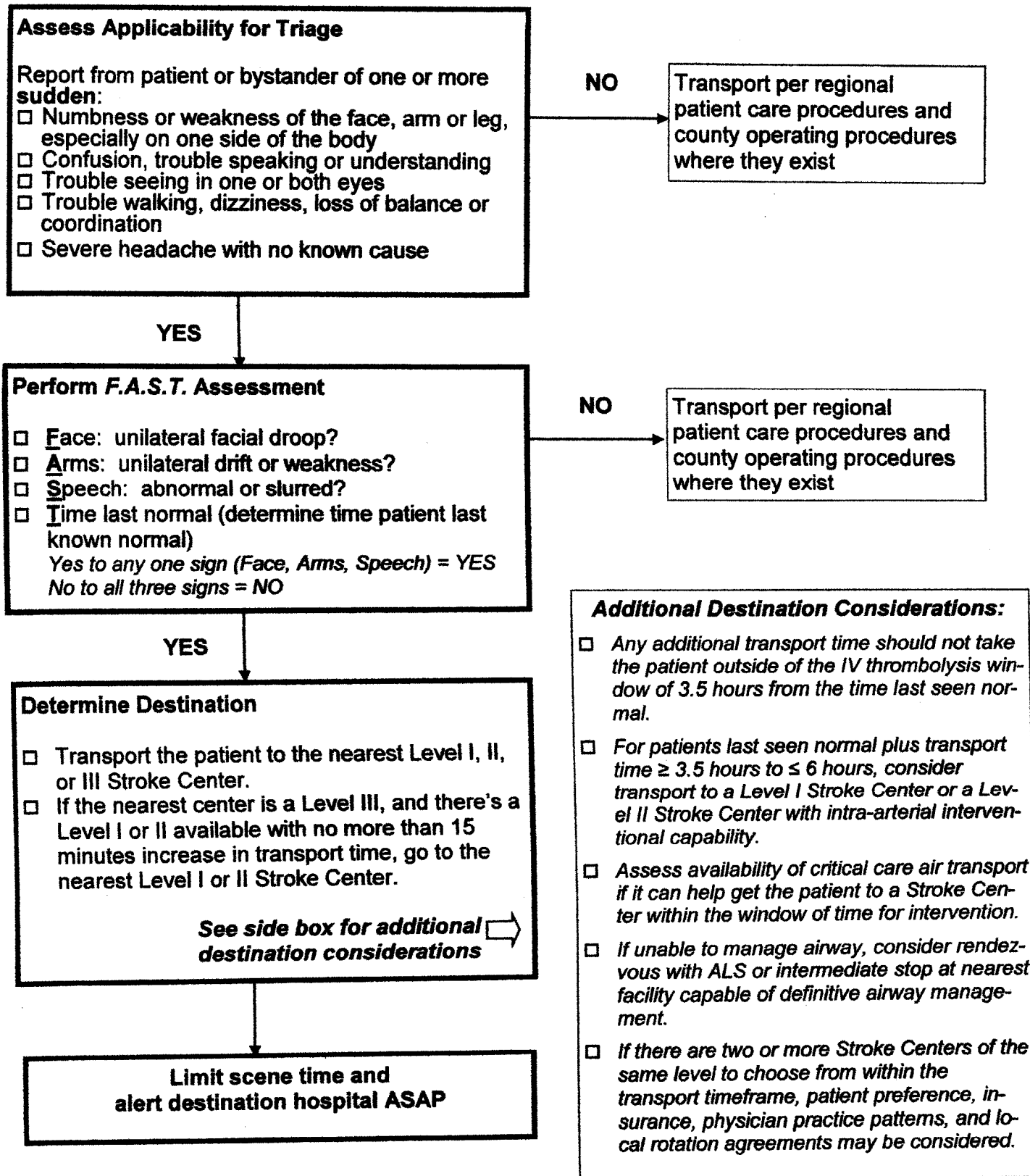
WASHINGTON STATE PREHOSPITAL STROKE DESTINATION PROCEDURE

At the January 8, 2013 meeting of the Spokane County EMS Council, the following clarifications regarding Spokane County implementation of the Washington State Prehospital Stroke Triage and Destination Procedure were endorsed.

1. Level I (Providence Sacred Heart Medical Center) and Level II (Deaconess Hospital and Providence Holy Family Hospital) categorized Stroke Centers within Spokane County are considered equivalent primary destination for stroke patients as directed by time and distance considerations in the Washington State Prehospital Stroke Triage and Destination Procedure.
2. All stroke patients, regardless of the time interval measured by EMS providers from when the patient was last seen normal to the time of their assessment will be transported according to the State determined directions.

SEE NEXT PAGE

State of Washington Prehospital Stroke Triage Destination Procedure



State of Washington Prehospital Stroke Triage Destination Procedure

Purpose

The purpose of the Prehospital Stroke Triage and Destination Procedure is to identify stroke patients in the field and take them to the most appropriate hospital. Like trauma, stroke treatment is time-critical – the sooner patients are treated, the better their chances of survival and recovering function. For strokes caused by a blood clot in the brain (ischemic), clot-busting medication must be administered within 4.5 hours from the time they first have symptoms. For most bleeding strokes (hemorrhagic), time is also critical. Currently, there are no accurate tools to distinguish between an ischemic and hemorrhagic stroke in the field so there is no difference in prehospital triage.

This triage tool, along with protocol guidelines and other state policies, are the framework for the Washington State Emergency Cardiac and Stroke System. Regional patient care procedures (PCPs) and especially county operating procedures (COPs) define exactly how the system will work in each community based on its unique EMS resources and stroke centers. The formula for success will look slightly different in each community. Use this tool to develop PCPs and COPs that get the right patient to the right treatment in time, using local resources effectively and efficiently.

Stroke Assessment – F.A.S.T.

The F.A.S.T. assessment tool (also known as the Cincinnati Prehospital Stroke Scale + Time) is a simple but pretty accurate way to tell if someone might be having a stroke. It's easy to remember: Facial droop, Arm drift, Speech, + Time. If face, arms, or speech is abnormal, it's likely the patient is having a stroke. Immediately transport the patient to a stroke center. Regional patient care procedures and county operating procedures may provide additional guidance. Alert the hospital on the way. Transport should not be delayed for IV or EKG monitoring.

TEST	NORMAL	ABNORMAL
Facial droop: Ask the patient to show his or her teeth or smile.	 Both sides of the face move equally.	 One side of the face does not move as well as the other.
Arm drift: Ask the patient to close his or her eyes and extend both arms straight out for 10 seconds. The palms should be up, thumbs pointing out.	 Both arms move the same or both arms do not move at all.	 One arm drifts down, or one arm does not move at all.
Speech: Ask the patient to repeat a simple phrase such as "Firefighters are my friends."	The patient says it correctly, with no slurring.	The patient slurs, says the wrong words, or is unable to speak.
Time: Ask the patient, family or bystanders the last time the patient was seen normal. Encourage family to go to the hospital to provide medical history, or obtain contact information for a person who can provide medical history.		

Stroke Warning Signs

- Sudden numbness or weakness of the face, arm or leg, especially on one side of the body
- Sudden confusion, trouble speaking or understanding
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, loss of balance or coordination
- Sudden, severe headache with no known cause

SECTION 2: PROCEDURE PROTOCOLS

AED DEFIBRILLATION PROTOCOL



AED Technicians in Spokane County are authorized to deliver an unlimited number of countershocks, as long as the unit continues to charge.

All defibrillation technicians should strive to meet the following goals:

- ✓ CPR is interrupted for a minimum amount of time
- ✓ V-fib is shocked repeatedly and as fast as possible
- ✓ Overall patient care and safety are never neglected



GENERAL ORDERS:

1. Immediately verify cardiopulmonary arrest by the absence of consciousness, respirations, and pulse.
2. If time of arrival to scene is greater than 5 minutes and effective bystander CPR is not in progress, 5 cycles of CPR should be performed prior to defibrillation.
3. Initiate protocol.

OPERATIONAL PROCEDURE[†]:

1. Turn unit power on.
2. Attach defibrillator pads (use pediatric pads, if available) for patients < 12 years of age.
3. Begin performing verbal report.
4. Clear the patient, press the analyze button.
5. If a shockable rhythm is present, the defibrillator will charge (ensure there is no physical contact with the patient).
6. Deliver the first shock.
7. Resume CPR immediately.
8. CLEAR THE PATIENT, press the analyze button.

9. If a shockable rhythm is present, the defibrillator will charge. Ensure there is no physical contact with the patient.
10. Deliver the second shock.
11. Resume CPR immediately.
12. Clear the patient, press the analyze button.
13. If a shockable rhythm is present, the defibrillator will charge. Ensure there is no physical contact with the patient.
14. Deliver the third shock.
15. Resume CPR immediately.
16. Check for pulse, if none present, repeat steps 4 through 14 at 360 J (for biphasic unit, follow manufacturer's recommendations). Continue until the defibrillator no longer charges or ALS arrives.

***Age and Weight Guidelines:** AEDs may be applied to children down to 1 year of age who remain in cardio pulmonary arrest after 1 minute of CPR. The smaller children's pads, if available should be used in this age group
†Safety: All defibrillation technicians should have a heightened awareness of safety, always remembering to ensure that all personnel are clear of the patient and the environment is safe prior to analyzing and/or delivery of countershocks.

BAG VALVE MASK (BVM): FACE AND THIGH SQUEEZE TECHNIQUE

1. Choose correct size of face piece and bag for the patient. Select appropriate size of oropharyngeal airway and insert.
2. To hold mask firmly in position:
 - ✓ Place heel of hand on top of mask or valve
 - ✓ The fingers and thumb should extend straight forward
 - ✓ Lower hand to grasp jaw with middle 2 or 3 fingers
3. Using head-tilt/chin-lift, open airway by sitting back on the heels and tilting the head while lifting the chin with the hand on the mask or valve.
4. Squeeze knees together to keep patient's head hyperextended. This helps to stabilize the neck and also to take pressure off of the hand holding the mask in place so that the hand can concentrate on maintaining the seal. Make sure pressure is applied at the same angle as the faceplate to the face to get even distribution of pressure and a proper seal.
5. With your free hand, squeeze the bag against your thigh, once every 5 seconds. The squeeze should cause the patient's chest to rise.
6. Release pressure on the bag and let the patient passively exhale and the bag refill from the atmosphere or oxygen source.

BLOOD TUBE INFORMATION



Filling blood tubes in their correct order is essential. If you do not follow the proper sequence, the various anticoagulants may cause cross contamination resulting in erroneous test results.



1. Blood should be injected into tubes within 1 minute and mixed gently.
2. Blood tubes should be fully filled in the following order (See table 2.1):

Table 2.1: Order of blood tubes

COLOR OF TOP	ADDITIVES
1. Red	None
2. Blue	Citrate
3. Green	Heparin
4. Yellow/Marble	Clot activator
5. Purple	EDTA

3. Use the following method of transporting field blood samples:
 - I. Label the blood tubes with the patient's name, date, time of draw, and the initials and agency of drawer.
 - II. Place the blood tubes in a sealable plastic bag bearing a bio-hazard logo and tape to the patient's IV bag.

CAPNOMETRY/CAPNOGRAPHY



When available, the use of quantitative CO₂ measurement may be beneficial under the following indications:

- ✓ Intubated patients
- ✓ Patients with severe respiratory distress
- ✓ Hypotensive patients
- ✓ Significant altered mental status (GCS < 10)
- ✓ Severe head injury
- ✓ As an adjunct to further substantiate the futility of prolonged resuscitative efforts in CPA, a PCO₂ < 10 after 20 minutes of resuscitative efforts predicts non-survivability



CAROTID SINUS MASSAGE (CSM)

1. Ensure the following:
 - ✓ Patient is not > 70 years old
 - ✓ **DO NOT** perform CSM if a bruit is audible over either carotid artery
 - ✓ **DO NOT** perform CSM if carotid pulse is either weak or absent
 - ✓ A cardiac monitor is applied and IV/IO is established
 - ✓ Equipment to manage a cardiac arrest is at hand
 - ✓ Patient is lying supine with their neck extended and their head turned away from the side to be massaged
2. Run the monitor strip recorder while performing CSM.
3. Place 2 fingers on the right carotid artery at the angle of the jaw and apply firm pressure against the cervical spine, not the trachea, and massage for 5 seconds.
4. If unsuccessful, wait 2-3 min. and repeat CSM on left side.

NEVER MASSAGE BOTH CAROTID ARTERIES SIMULTANEOUSLY!

CONTINUOUS POSITIVE AIRWAY PRESSURE (CPAP)

INDICATIONS: Severe respiratory distress or hypoxia in the setting of any of the following conditions:

- ✓ **COPD**
- ✓ **Pulmonary edema**
- ✓ **Asthma**
- ✓ **Pneumonia**

CONTRAINDICATIONS:

- | | |
|--|--|
| ✓ Respiratory arrest or agonal breathing | ✓ Vomiting |
| ✓ Unconsciousness | ✓ Chest trauma |
| ✓ Hypovolemic shock | ✓ Suspected pneumothorax |
| ✓ Acute MI with hypotension | ✓ Facial trauma with significant deformities |

RISKS:

- ✓ Gastric distension (potential for vomiting and aspiration)
- ✓ Hypotension
- ✓ Pneumothorax
- ✓ Corneal drying

PROCEDURE:

1. Apply CPAP mask and ensure snug fit without air leak.
2. Apply an adjustable PEEP valve at 5 cm H₂O. If patient's condition does not improve in 15 minutes, may increase to 7.5 cm H₂O .
3. Discontinue CPAP and consider BVM ventilation or intubation if:
 - ✓ Mental status declines significantly
 - ✓ Significant drop in blood pressure (to a systolic BP <90 mmHg)
 - ✓ Worsening hypoxia or severe respiratory fatigue

DOUBLE LUMEN AIRWAYS

AUTHORIZATION: The following orders apply to all BLS and ALS personnel approved to use the device in Spokane County.

INDICATIONS:

- ✓ Cardiopulmonary arrest (CPA)
- ✓ Respiratory arrest with palpable pulses (absent gag reflex) and unresponsive to 1 minute of bag valve mask ventilation
- ✓ Patients must be over 5'6" tall for large device. For patients between 4' and 5'6" in height, the small adult (SA) size Combi-Tube should be used

CONTRAINDICATIONS:

- ✓ Known esophageal diseases
- ✓ Known ingestion of a caustic substance
- ✓ Conscious/unconscious breathing patients
- ✓ Patients with a gag reflex

PROCEDURE:

1. Perform ABCs assessment.
2. Obtain EKG for defibrillation protocol, if available.
3. Begin CPR with BLS procedures.
4. As soon as practical, apply a double lumen airway device.
5. Do not delay patient care, primary BLS procedure, or transport to place device.
6. If unsuccessful after 2 double lumen airway device insertion attempts, return to conventional methods of airway care (i.e., **bag valve mask**, suction).

ESOPHAGEAL TRACHEAL DOUBLE LUMEN (COMBI-TUBE):

1. Prepare Combi-Tube by lubricating the distal tip with sterile lubricating jelly.

2. Insert Combi-Tube. Hyperextend neck, if no c-spine injury suspected.
3. Inflate Combi-Tube:
 - ✓ Line 1, blue pilot balloon, with 100 ml air
 - ✓ Line 2, white pilot balloon, with 15 ml air
 - ✓ Small adult (SA) size Combi-Tube
4. Verify location
 - I. Perform ventilation using the long blue tube. Observe for chest rise.
 - ✓ Line 1, blue pilot balloon with 85 ml air
 - ✓ Line 2, white pilot balloon with 5-12 ml air
 - II. If no chest rise, perform ventilation using the clear tube. Observe for chest rise.

A. Chest Rise:

- i. Continue ventilations through successful tube with bag valve or pressure demand valve.
- ii. Auscultate (listen to) lung fields and epigastrium (mid-abdomen).
- iii. Secure the tube prior to transport.
- iv. Monitor patient's airway/respiratory status.

B. No Chest Rise

- i. With suction device standing by, turn patient on side.
- ii. Deflate lines 1 and 2.
- iii. Carefully remove the Combi-Tube.
- iv. Return the patient to the supine position.
- v. Hyperventilate patient with bag valve for a minimum of 1 minute.
- vi. Reinsert the Combi-Tube. Begin again with Step iii.
- vii. If unsuccessful on second attempt, return to conventional methods of airway care (i.e. bag-valve mask, suction).

PHARYNGEAL TRACHEAL LUMEN (PTL AIRWAY):

1. Prepare PTL by lubricating the distal tip with sterile lubricating jelly.
2. Insert PTL. Hyperextend neck, if no c-spine injury suspected.
3. Secure neck strap.
4. Inflate both cuffs using #1 inflation valve.
5. Verify location:
 - I. Ventilate the #2 short green tube. Observe for chest rise.
 - II. If no chest rise, remove stylet from long clear tube #3.
 - III. Ventilate the #3 long clear tube. Observe for chest rise.

A. Chest Rise:

- i. Continue ventilations through successful tube with bag valve or pressure demand valve.
- ii. Auscultate (listen to) lung fields and epigastrium (mid-abdomen).
- iii. Secure the tube prior to transport.
- iv. Monitor patient's airway/respiratory status.

B. No Chest Rise

- i. With suction device standing by, turn patient on side.
- ii. Open the white port and deflate cuffs.
- iii. Carefully remove the PTL.
- iv. Return patient to supine position
- v. Hyperventilate patient with bag valve or pressure demand valve for a minimum of 1 minute.
- vi. Reinsert the PTL. Begin again with step 2 (insert PTL).
- vii. If unsuccessful on second attempt, return to conventional methods of airway care (i.e. bag-valve mask, suction).

ENDOTRACHEAL INTUBATION:

1. Device in esophageal position:
 - I. Hyperventilate the patient while preparing to intubate.
 - II. Deflate the proximal (mouth) cuff.
 - III. Push double lumen device to the left side of patient's mouth.
 - IV. Insert the laryngoscope into the right side of the mouth and intubate the patient.
 - V. Assess bilateral breath sounds.
 - VI. With suction standing by, deflate remaining cuff.
 - VII. Remove double lumen airway device after full deflation of all cuffs.
 - VIII. If unsuccessful intubation, reinflate proximal (mouth) cuff and hyperventilate.
2. Device in tracheal position:
 - I. Generally, the device should be left in place if functioning correctly. However, if ET intubation is deemed necessary by ALS certified personnel, follow protocol for removal and replacement of an ET tube.

DOCUMENTATION:

- ✓ Documentation of use must be provided on a medical incident report
- ✓ Case by case review must be provided by physician advisor or Medical Program Director

ADDITIONAL NOTES:

- ✓ Placement of the device should never delay CPR or other necessary patient care
- ✓ These are single use devices. They should not be reused or recycled
- ✓ The device is only for use by BLS/ALS endorsed personnel
- ✓ Before releasing the patient to another level of care (i.e. paramedic, physician), the person who inserted the device must ensure that the

receiving provider is knowledgeable about the proper use and function of the device

- ✓ The double lumen airway is a short-term device. It may be left in place for a maximum of 2 hours, unless otherwise instructed by the receiving physician

ENDOTRACHEAL DRUG ADMINISTRATION

If an endotracheal tube has been placed and venous access is delayed, the following drugs may be administered via the endotracheal tube:

Table 2.2: NAVEL drugs

N	Narcan
A	Atropine
V	Versed
E	Epinephrine
L	Lidocaine

ADULT:

Medications should be administered at 2x the recommended IV dose and should be diluted to a total of 10 ml with normal saline or distilled water. Endotracheal absorption is greater with distilled water than with normal saline, but distilled water has a more negative effect on PaO₂. A catheter should be passed beyond the tip of the endotracheal tube, at which point chest compressions should be stopped. The drug solution should be sprayed quickly down the endotracheal tube, and several quick insufflations should be administered to aerosolize the medication and hasten absorption. Chest compressions should be withheld during these insufflations.

PEDIATRICS:

The same medications can be administered via the endotracheal tube in pediatric patients. However, the pediatric endotracheal dose of **epinephrine** is tenfold greater or 0.1 mg/kg. In order to avoid high volumes, the 1:1 000 solution should be used for this dose by diluting it to a total of 3 ml with normal saline.

ENDOTRACHEAL INTUBATION*

ASSESSMENT:

- ✓ Airway status
- ✓ Ventilation
- ✓ Oxygenation
- ✓ Level of consciousness

INDICATIONS:

- ✓ Ensure airway patency
- ✓ Facilitate pulmonary hygiene
- ✓ Prevent aspiration
- ✓ Actively ventilate and oxygenate
- ✓ Administer drugs

PROCEDURE:

1. Preoxygenate with positive pressure ventilation while preparing for definitive airway management.
2. Apply Sellicks maneuver during positive pressure ventilation and when preparing to intubate.
3. Take spinal precautions, if trauma suspected.
4. If the nasal tracheal route is used in a breathing patient, consider pretreatment with a topical nasal vasoconstrictor.
5. Consider **Rapid Sequence Intubation**, if muscle tone impedes necessary endotracheal intubation[†].
6. The number of attempts at endotracheal intubation should be a total of 2 for a single provider or 3, if 2 EMS providers attempt intubation. Then focus on placement of a rescue airway device or quality BVM technique to provide oxygenation and ventilation.

7. Determine proper airway placement and ventilation by using the following appropriate techniques:
 - ✓ Observation of passing the tube through the vocal cords
 - ✓ Palpation of cuff inflation in the suprasternal notch
 - ✓ Observation of symmetric upper chest wall movement with ventilation
 - ✓ Observation of fogging of the endotracheal tube during expiration
 - ✓ Feeling or hearing air expelled from the tube during expiration
 - ✓ Feeling the compliance of manual ventilations
 - ✓ Auscultation of bilaterally equal breath sounds and noting the absence of gurgling on auscultation over the epigastrium
 - ✓ Observation of improvement in patient's color and vital signs*
 - ✓ Documentation of end-tidal CO₂ via a qualitative or quantitative measuring device
8. Apply PEEP valve to all intubated patients, unless one of the following conditions is present:
 - ✓ Asthma
 - ✓ Hypotension from hypovolemia
 - ✓ Suspected pneumothorax
 - ✓ Cardio pulmonary arrest
9. Immobilize the head and neck of all intubated patients. Apply a cervical collar in conjunction with other immobilization techniques, as needed.
10. Document items substantiating proper airway placement as well as the method/device used to stabilize the endotracheal tube.
11. The EMS provider should reassess endotracheal tube position subsequent to each significant movement of the patient.‡

*Cuffed endotracheal tubes are recommended for all ages.

†Devices such as lighted endotracheal stylets, CO₂ detectors, and pulse oximeters may help confirm clinical observation.

‡The preferred format for this documentation should be 5 STC (5 Step Tube Check) based upon the following: observation, auscultation, vapor in the tube, CO₂ detection, and SAO₂ response.

ESTIMATING TRACHEAL TUBE SIZE AND DEPTH OF INSERTION



Cuffed Endotracheal tubes are recommended for patients of all ages who require endotracheal intubation provided that attention is paid to ET tube size, position, and cuff inflation pressure. **Keep cuff inflation pressure <20 cm H2O or use minimally occlusive volume (MOV).**



Color Coded Resuscitation Tapes or Pediatric References are recommended to be used routinely.

CUFFED

Size (mm internal diameter) for children > 1 year of age =

$$\left(\frac{\text{Age in years}}{4} \right) + 3$$

UNCUFFED

Size (mm internal diameter) for children > 1 year of age =

$$\left(\frac{\text{Age in years}}{4} \right) + 4$$

Depth of Insertion (cm) for children > 2 years of age =

$$\left(\frac{\text{Age in years}}{2} \right) + 12$$

OR

Depth of insertion (cm) for children = tube internal diameter x3

FAILED RESUSCITATION: CONSIDERATIONS FOR FAMILY SUPPORT

1. If the resuscitation is underway and the outlook is poor, prepare the family by telling them so.
2. At the moment of calling the code, let the family know with no uncertainty that death has occurred.
3. If you can do so with honesty, tell the family the following:
 - ✓ You did all you could and were successful in doing the procedures that could have helped, but the efforts were to no avail
 - ✓ This death was not preventable and that in this case, even were the patient to be in an intensive care unit when it happened, the result would have been the same
 - ✓ The patient did not suffer - death was quick and or painless
4. To the best of your ability, offer words of condolence.
5. Make physical contact with the family members, if you are comfortable in doing so.
6. Offer to contact family, friends, or clergy to provide immediate support.
7. Answer any questions the family might have.
8. Allow the family members to view the body if they desire, but discourage their observation of the resuscitation process.
9. Remain with the family to show your respect and concern, as long as other emergency responsibilities do not call you away.

HELMET REMOVAL FROM INJURED PATIENTS*

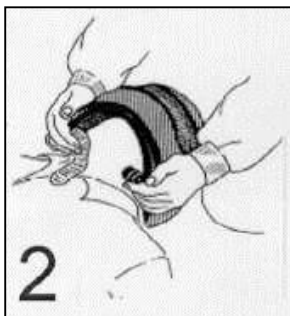


The varying sizes, shapes, and configurations of motorcycle and sports helmets necessitate some understanding of their proper removal. The rescuer who removes a helmet improperly may unintentionally aggravate cervical spine injuries.

The Committee on Trauma has concluded that physicians who treat the injured should be aware of helmet removal techniques. A gradual increase in the use of helmets is anticipated, because many organizations are urging voluntary wearing of helmets, and some states are reinstating laws requiring the wearing of helmets.



One rescuer maintains inline immobilization by placing their hands on each side of the helmet with the fingers on the victim's mandible. This position prevents slippage if the strap is loose.



A second rescuer cuts or loosens the strap at the D-rings.



The second rescuer places one hand on the mandible at an angle, the thumb on one side, the long and index fingers on the other. With their other hand, they apply pressure from the occipital region. This maneuver transfers the inline immobilization responsibility to the second



The rescuer at the top removes the helmet. Three Factors should be kept in mind:

- ✓ If the helmet is egg shaped, it must be expanded laterally to clear the ears
- ✓ If the helmet provides full facial coverage, glasses must be removed first
- ✓ If the helmet provides full facial coverage, the nose may impede removal. To clear nose, the helmet must be tilted backward and raised over it.



Throughout the removal process, the second rescuer maintains inline immobilization from below to prevent unnecessary neck motion.



After the helmet has been removed, the rescuer at the top places their hands on either side of the victim's head with their palms over the patient's ears.



Maintain inline immobilization from above until a backboard is in place and a cervical immobilization device (collar) is applied.

SUMMARY: The helmet must be maneuvered over the nose and ears while the head and neck are held rigid.

- ✓ Inline immobilization is first applied from above.
- ✓ Inline immobilization is applied from below by a second rescuer with pressure on the jaw and occiput.
- ✓ The helmet is removed.
- ✓ Inline immobilization is reestablished from above.

SPECIAL CONSIDERATIONS REGARDING FOOTBALL HELMETS:

When to remove the helmet:

- ✓ The Inter-Association Task Force recommends that neither the football helmet nor the shoulder pads be removed before transportation.
- ✓ The Inter-Association Task Force recommends that only the facemask be removed, unless the rescuer is unable to access the airway by any other means or if the helmet does not adequately secure the head.
- ✓ By removing only the facemask and not the entire helmet, the spine will remain in a neutral position.

Guidelines for removal: The helmet should be removed on the field only under any of the following circumstances:

- ✓ If after a reasonable period of time, the facemask cannot be removed to gain access to the airway.
- ✓ If the design of the helmet and chin strap is such that even after removal of the facemask, the airway cannot be controlled or ventilation provided.
- ✓ If the helmet and chin straps do not hold the head securely, such that immobilization of the helmet does not also immobilize the head.
- ✓ If the helmet prevents immobilization for transport in an appropriate position.

How to remove the helmet:

- ✓ The Inter-Association Task Force recommends that the helmet be removed in a controlled environment after radiographs have been

obtained and only by qualified medical personnel with training in equipment removal.

- ✓ Helmet removal should never be attempted without thorough communication among all involved parties.
- ✓ One person should stabilize the head, neck, and helmet while another person cuts the chinstrap.
- ✓ Accessible internal helmet padding (cheek pads) should be removed, and air padding should be deflated before removal of the helmet, while a second assistant manually stabilizes the chin and back of the neck, in a cephalad direction, making sure to maintain the athlete's position.
- ✓ The pads are removed through the insertion of a tongue depressor or a similar stiff, flat-bladed object between the snaps and helmet shell to pry the cheek pads away from their snap attachment.
- ✓ The helmet should slide off the occiput with slight forward motion of the helmet.
- ✓ In the event that the helmet does not move, slight traction can be applied to the helmet which can then be gently maneuvered anteriorly and posteriorly, although the head/neck unit must not be allowed to be moved.
- ✓ The helmet should not be spread apart by the ear holes as this maneuver only serves to tighten the helmet on the forehead and occiput region.

When to remove the shoulder pads: Possible situations in which removal of shoulder pads would be necessary before transport to an emergency facility may include, but are not limited to, the following:

- ✓ The helmet is removed
- ✓ Multiple injuries require full access to shoulder area
- ✓ Ill-fitting shoulder pads caused the inability to maintain spinal immobilization

Studies have shown excess movement in the cervical spine when helmet or shoulder pads are removed alone, thus helmet and shoulder pads must be removed simultaneously to avoid cervical hyperextension and maintain in-line neutral stabilization.

Concerns regarding the removal of equipment include:

- ✓ The ability to maintain neutral spinal alignment
- ✓ The ability to secure rigid fixation of the athlete to the board
- ✓ A guarantee of access to the airway and to the chest for resuscitation efforts



The Inter-Association Task Force recommends that neither the football helmet nor the shoulder pads be removed before transportations. Furthermore, the simultaneous removal of the helmet and shoulder pads is best done in a controlled atmosphere.



How to remove the shoulder pads: The Inter-Association Task Force recommends that the shoulder pads be removed only in conjunction with the athlete's helmet and only when it is warranted. It is favorable to follow the following steps:

1. Cut the jersey and all other shirts from the neck to the waist and from the midline to the end of each arm sleeve.
2. Cut all of the straps used to secure the shoulder pads to the torso.
3. Cut all of the straps used to secure the shoulder pads to the arms.
4. Cut lace and straps over the sternum. A consistent manufactured characteristic of shoulder pads is the mechanism to attach the two halves of the shoulder pad unit on the anterior aspect. This lace or strap system allows for quick and efficient access to the anterior portion of the chest.
5. Cut and/or remove all accessories, e.g., neck rolls or collars, so they can be removed simultaneously with the shoulder pads. Release the shoulder pads allowing for full access to chest, face, neck, and arms. The posterior portion of the shoulder pads helps to maintain spinal alignment when the helmet and shoulder pads are in place.
6. A primary responder maintains cervical stabilization in a cephalad direction by placing his or her forearms on the athlete's chest while holding the maxilla and occiput.

7. With responders at each side of the athlete, their hands are placed directly against the skin in the thoracic region of the back.
8. Place additional support at strategic locations down the body as deemed appropriate, taking into consideration the size of the patient.
9. While the patient is lifted, the individual who was in charge of the head/shoulder stabilization should remove the helmet and immediately remove the shoulder pads by spreading apart the front panels and pulling them around the head.
10. Remove all shirts, jerseys, neck rolls, extenders, etc.
11. Lower the patient.



It is highly recommended that these procedures be practiced with all necessary rescue and medical personnel using the equipment commonly worn by the athletes.

Poorly maintained or modified equipment may hamper the safe removal process, which may lead to an increase in the severity of the initial injury, so be sure all equipment is properly maintained.



*As recommended by the American College of Surgeons Committee on Trauma, April 1997 and modified by recommendations from the Inter-Association Task Force of the National Association of Athletic Trainers.

INTRAOSSIOUS INFUSION – ADULTS

INDICATIONS: To establish intraosseous access for the critical unstable adult when peripheral or necessary IVs cannot be established after 2 attempts.*
DO NOT delay transport of critical adult patients due to prolonged attempts of this technique. All medications and IV solutions that are usually administered intravenously may be administered through the intraosseous route.

PRECAUTIONS:

- ✓ The safety of emergency intraosseous infusions in patients with osteoporosis, disease, or other proximal tibia bone pathologies that may blur or obscure landmarks has not been proven
- ✓ **Hypoglycemia**-intraosseous access should only be used under the following circumstances:
 - Severe hypoglycemia (< 35 mg/dl)
 - Moderate hypoglycemia (< 60 mg/dl) unresponsive 10 minutes after the administration of glucagon
 - All hypoglycemic patients who have IO established must be transported to the hospital
- ✓ When using intraosseous devices, the possibility of air immobilization may exist
- ✓ In general, intraosseous devices are not recommended for use for more than 24 hours
- ✓ Needle insertion must be directed away from the joint space and epiphyseal plate

CONTRAINDICATIONS (SOME INTRAOSSIOUS DEVICES ARE NOT APPROVED FOR PEDIATRIC USE):

- ✓ Fracture of the tibia or femur
- ✓ Some types of previous extensive orthopedic procedures (e.g. knee replacement)
- ✓ Any infection over the insertion site
- ✓ Inability to locate anatomic landmarks
- ✓ Excessive tissue over the insertion site

✓ Burns

PROCEDURE:

1. Restrain limb, if necessary.
2. Position patient in the supine position.
3. Cleanse skin with povidone-iodine solution.
4. Locate site 1-2 cm medial and 1 cm distal to the tibial tuberosity.[†]
5. Follow the device specific manufacturer's instructions for placement of the device ([see fig 2.1](#)).
6. Aspirate to confirm placement and obtain blood samples.
7. Connect primed extension tubing.
8. If the patient is responsive to painful stimuli, slowly administer 20-40 mg of 2% **lidocaine (Xylocaine®)** (preservative free) into the port.
9. Perform a pressure flush by administering 10-20 ml of 0.9 NS via syringe.
10. To maintain optimal flow, apply pressure (up to 300 mmHg) to the infusion bag.
11. Secure tubing and catheter.

TROUBLESHOOTING IN THE EVENT OF OBSTRUCTION OR FAILURE:

1. Reassess insertion site landmarks.
2. Flush needle cannula.
3. If unsuccessful, consider alternative insertion site, i.e. the contra lateral proximal tibia.

*Critically unstable patient types would include CPA, severe hypotension (shock), respiratory failure, and coma.

†If the proximal tibia is inaccessible or contraindicated, the distal tibia or proximal humerus may be used as an alternative.

INTRAOSSUEOUS INFUSION IN CHILDREN



INDICATIONS: To obtain emergency intraosseous access for the critically unstable* infant or child < 3 years old when peripheral, central, or additional IV's cannot be established within 90 seconds. **DO NOT** delay transport of critical pediatric patients by prolonged attempts of this technique.

COMPLICATIONS:

- ✓ Incorrect placement with SQ infiltration
- ✓ Osteomyelitis
- ✓ SQ infection
- ✓ Leakage from original puncture site, if same base repeatedly punctured
- ✓ Sepsis
- ✓ Fat/bone embolism

EQUIPMENT:

- ✓ 15 gauge 1" bone marrow needle
- ✓ Povidone-iodine solution for skin prep
- ✓ Gauze 2 x 2's
- ✓ Tape
- ✓ T-piece adapter
- ✓ 3-way stopcock
- ✓ 10 cc syringe
- ✓ IV fluid

PROCEDURE:

1. Restrain limb, if necessary.
2. Position child in the supine position.
3. Cleanse skin with povidone-iodine solution.
4. Locate site approximately 1.5-3 cm below and slightly medial to tibial tuberosity over flat edge of the bone.†

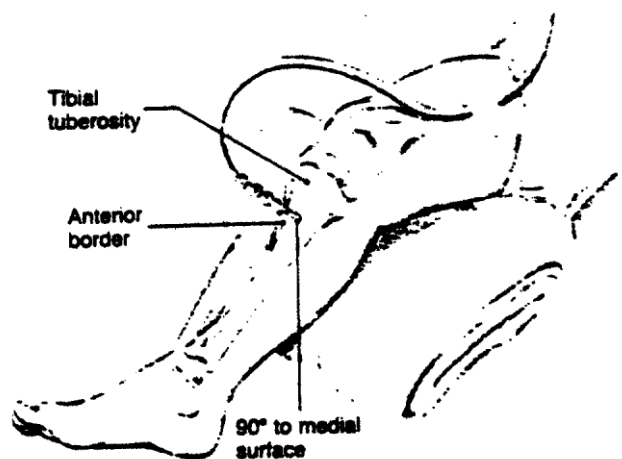
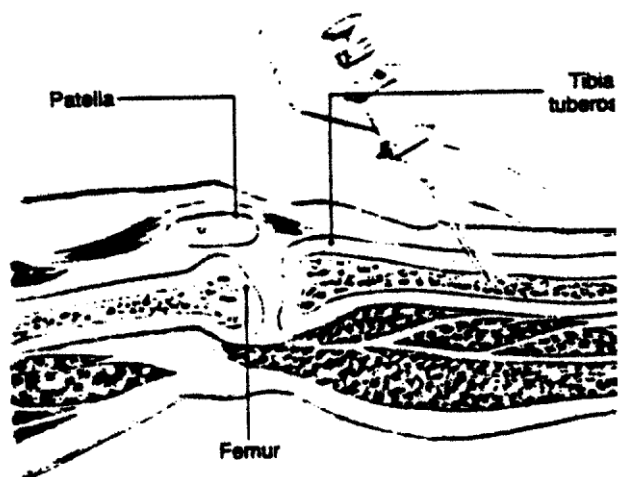
5. Using aseptic technique, direct needle perpendicular or slightly inferior into bone marrow, avoiding epiphyseal plate
6. Needle is in correct position when all of the following conditions are present (**see fig. 2.1**):
 - ✓ Decrease in resistance after through the bone cortex
 - ✓ Needle is firmly in position and stands upright without support
 - ✓ Syringe aspiration yields bone marrow
 - ✓ Free flow of fluids with no significant SQ filtration
7. Connect T-piece adapter and stopcock to needle
8. Attach stopcock to appropriate IV infusion
9. Stabilize needle on both sides with gauze 2 x 2. Secure with tape, minimizing direct tension on needle.

*Critically unstable patient types would include CPA, severe hypotension (shock), respiratory failure, and coma.

†If the proximal tibia is inaccessible or contraindicated, the distal tibia or proximal humerus may be used as an alternative.

CORRECT INTRAOSSEOUS NEEDLE PLACEMENT

Fig 2.1: Correct intraosseous needle placement



IV FLUIDS



Expansion of circulating blood volume is critical in patients with acute blood loss (e.g. ruptured abdominal aortic aneurysm, gastrointestinal hemorrhage, or hemorrhagic shock due to trauma). Volume expansion can be achieved with whole blood, crystalloid solutions (e.g. Ringer's solution or 0.9% saline), or colloid solutions (e.g. human serum albumin or 6% hetastarch).

Intravenous fluids are also used to keep IV lines open for drug administration; 5% dextrose in water (D5W) has been used most often. Since hyperglycemia in cardiac arrest patients who survive is associated with worse neurological outcomes and because sodium overload is rarely encountered with normal saline use, normal saline (or lactated Ringer's) is the preferred infusion solution during cardiac arrest, although D5W remains acceptable. Patients with hypovolemia and hypotension and those with acute MI, especially right ventricular infarction, can benefit from volume expansion.



KING AIRWAYS

ASSESSMENT:

- ✓ Airway status
- ✓ Ventilation
- ✓ Oxygenation
- ✓ Level of consciousness

INDICATIONS:

- ✓ Ensure airway patency
- ✓ Facilitate pulmonary hygiene
- ✓ Prevent aspiration
- ✓ Actively ventilate and oxygenate
- ✓ **Endotracheal intubation** cannot be performed
- ✓ Three unsuccessful attempts at endotracheal intubation. The number of attempts at endotracheal intubation should be a total of 2 for a single provider or 3, if 2 EMS providers attempt intubation

CONTRAINDICATIONS:

- ✓ Responsive patients with an intact gag reflex
- ✓ Patients with known esophageal disease
- ✓ Patients who have ingested caustic substances

PROCEDURE:

1. Perform ABCs assessment.
2. Obtain EKG for defibrillation protocol, if available.
3. Begin CPR using BLS procedures.
4. As soon as practical, place a King Airway LTS-D device.
5. Do not delay patient care, primary BLS procedures, or transport to place device.

6. If unsuccessful after 2 King Airway LTS-D device insertion attempts, return to conventional methods of airway care (i.e. bag-valve-mask, suction, oropharyngeal airway).

INSERTION PROCEDURE:

1. Choose the correct size King airway (see table 2.3: King airway sizes):

Table 2.3: King Airway Sizes

LT-D Size 2 (Green)	35-45 inches in height	Inflation: 25-35 ml
LT-D Size 2.5 (Orange)	41-51 inches in height	Inflation: 30-40 ml
LT-D Size 3 (Yellow)	4-5 feet in height	Inflation: 40-55 ml
LT-D Size 4 (Red)	5-6 feet in height	Inflation: 50-70 ml
LT-D Size 5 (Purple)	> 6 feet in height	Inflation: 60-80 ml

2. Test cuff inflation system, remove air from cuff prior to insertion.
3. Apply water-based lubricant to the beveled distal tip and posterior aspect of the tube.
4. Hold the King LTS-D at the connector with dominant hand. With non-dominant hand, open mouth and apply chin lift, unless contraindicated by C-spine precaution or patient position. Using lateral approach, insert tip into corner of the patient's mouth.
5. Advance the tip behind the base of tongue, while rotating tube back to midline so that blue orientation line faces the chin of the patient.
6. Without exerting excessive force, advance tube until base of connector is aligned with teeth or gums.
7. Inflate cuff with appropriate volume of air as indicated by the color code on the syringe.
8. Begin ventilation with 100% oxygen, while bagging patient to assess ventilation, withdraw the LTS-D until ventilation is easy and free flowing.

9. If necessary, add additional volume to cuffs to maximize seal of airway.
10. Confirm proper placement by auscultation, chest movement, oxygen saturation, and verification of CO₂.
11. All patients with an inserted King Airway LTS-D device should have their head and neck immobilized including the use of a cervical collar.
12. Document items substantiating proper airway placement as well as the method/device used to stabilize the King Airway LTS-D device.
13. Reassess the position of the King Airway LTS-D device subsequent to each significant movement of the patient.
14. Place an NG tube in the gastric port for LTS-D, sizes 3-5. All of these devices will accept an 18 French NG tube.

DOCUMENTATION:

- ✓ Documentation of use must be provided on a medical incident report
- ✓ Case by case review must be provided by physician advisor or Medical Program Director

ADDITIONAL NOTES:

- ✓ Placement of the device should never delay CPR or other necessary patient care
- ✓ These are single use devices. They should not be reused or recycled.
- ✓ The device is only for use by BLS/ALS endorsed personnel
- ✓ Before releasing the patient to another level of care (i.e. paramedic, physician), the person who inserted the device must ensure that the receiving provider is knowledgeable about the proper use and function of the device
- ✓ The King LTS-D Airway is a short-term device. It may be left in place for a maximum of 2 hours, unless otherwise instructed by the receiving physician

NEEDLE CRICOTHYROTOMY

INDICATIONS: Life-threatening upper airway obstructions where other non-invasive or invasive measures have failed to establish an airway and ventilation in an unresponsive patient. **For patients > 2 years of age.**

PROCEDURE:

1. Place patient in the supine position, taking spinal precautions.
2. Identify the cricothyroid membrane in the mid line between the thyroid and cricoid cartilages.
3. Prepare area with Betadine swab.
4. Assemble a #12 or #14 gauge, 5 cm, over-the-needle catheter to a 6-12 ml syringe or other permitted FDA approved devices, such as the Quick Trach.
5. Puncture the skin midline and directly over the cricothyroid membrane (i.e. midsagittal).
6. Direct the needle at a 45 degree angle caudally (60 degree for the Quick Trach).
7. Carefully insert the needle through the lower half of the cricothyroid membrane, aspirating as the needle is advanced.
8. Aspiration of air signifies entry into the tracheal lumen.
9. Withdraw stylet while gently advancing catheter downward into position, being careful not to perforate the posterior wall of the trachea.
10. Attach the catheter hub to an appropriate ventilating device connected with tubing to an oxygen source. The O₂ flow-meter should be set at 15 LPM (50 PSI). *NOTE: Adequate PaO₂ can be maintained for 30-45 minutes.*
11. Intermittent ventilation can be achieved by placing the thumb over the side port of the tubing, using the 1 second on and 4 seconds off rhythm.

12. Observe lung inflations and auscultate the chest for adequate ventilation.
13. Secure the apparatus to the patient's neck.

COMPLICATIONS:

- ✓ Asphyxia
- ✓ Aspiration
- ✓ Cellulitis
- ✓ Esophageal perforation
- ✓ Hematoma
- ✓ Posterior tracheal wall perforation
- ✓ Subcutaneous and/or mediastinal emphysema
- ✓ Thyroid perforation
- ✓ Inadequate ventilations leading to hypoxia & death

NEEDLE THORACOSTOMY

INDICATIONS: Suspected tension pneumothorax associated with hypoxia and or hypotension and tachycardia. This procedure should be reserved for patients in critical condition and have, in addition to abnormal vital signs, some of the following findings.

- | | |
|-----------------------------|----------------------------|
| ✓ Tachypnea | ✓ Tracheal deviation |
| ✓ Cyanosis | ✓ Subcutaneous emphysema |
| ✓ Hyperexpansion | ✓ Diminished breath sounds |
| ✓ Jugular venous distention | (usually unilateral) |

ADDITIONAL CONSIDERATIONS:

1. Suspect this condition in patients with chest trauma and/or any patient undergoing positive pressure ventilation with pre-existing lung disease (e.g. COPD)
2. Tension pneumothorax may often develop sometime after the initiation of positive pressure ventilation. Close observation and reassessment of the patient during transport is important.

PRECAUTIONS/COMPLICATIONS: May cause a pneumothorax or major vascular or cardiac injury.

PROCEDURE (observe strict aseptic precautions):

1. Identify 2nd intercostal space in the mid-clavicular line on affected sides.
2. Prepare area with topical antimicrobial.
3. Use one 12-16 gauge #3-3.5" long angiocath.
4. Make a small incision through the skin using the beveled edge of the angiocath needle to avoid skin plugs and ease the passage of the catheter.
5. Introduce the catheter in a vertical fashion just above the superior border of the lower rib.

6. Advance the angiocath just enough to pierce the pleura and then slide the plastic catheter over the needle all the way into the pleura space (advance it to the hub).
7. Completely remove the needle. Leaving the catheter in place, assess for the expression of air and secure the catheter with dressings to ensure the vertical position is maintained.
8. If only a partially positive response is achieved with the first insertion and condition persists, consider repeating the procedure and interspace lower or 2 cm. lateral to the initial insertion.
9. Confirm that the receiving hospital is notified that this procedure has been done (include in radio patch) so as to allow them time to prepare for a formal tube thoracostomy.

OXYGEN ADMINISTRATION

Table 2.4: Oxygen Administration

Device	Liters Per Minute	Percent	Indications for Use
Nasal Cannula	2-6 LPM	25-40%	✓ Usually well tolerated ✓ Flow rate higher than 6 LPM is drying to the mucous membranes and uncomfortable for the patient ✓ Cannot accurately control O₂ concentration
Non-rebreathing Mask	8-15 LPM	80-95%	✓ Preferred in the field because of the high O₂ concentration that can be delivered ✓ Multiple injuries ✓ Shock ✓ Poorly tolerated by patients who complain of feelings of suffocation
Bag Valve Mask* with Oxygen Reservoir	15 LPM	90%	✓ Severe respiratory insufficiency ✓ Cardiac arrest

*A 5 cm PEEP valve should be applied to all intubated patients unless one of the following conditions is present: asthma, hypotension from hypovolemia, suspected pneumothorax, or cardio pulmonary arrest.

RAPID SEQUENCE INTUBATION

INDICATIONS: To facilitate **endotracheal intubation** in patients not in cardiopulmonary arrest.

PROCEDURE:

1. Preoxygenate with positive ventilation and continue the passive administration of supplemental oxygen during the procedure.
2. Establish IV/IO access.
3. Ensure suction is available.
4. Prepare rescue airway as backup.
5. Apply cardiac monitor and pulse oximeter, if available.
6. Take spinal precautions, if trauma is suspected.
7. Consider cricoids pressure (Sellicks maneuver) prior to the administration of succinylcholine, until ET tube is passed through the cords or unless the maneuver appears to impede visualization of the airway.
8. Administer medications in this sequence:
 - I. Consider sedation of conscious patients with **etomidate** at 0.3 mg/kg* IV/IO.
 - II. Administer **lidocaine (Xylocaine®)** at 1 mg/kg IV/IO, up to a maximum of 100 mg to patients with a head injury.
 - III. Administer **atropine** at .02 mg/kg IV/IO to pediatric patients, age five or less, prior to succinylcholine. Administer 0.5 mg of atropine IV/IO to adult patients prior to receiving a second dose of succinylcholine.
 - IV. Administer **succinylcholine (Anectine®)** at 1.5 mg/kg IV/IO.†
 - V. A second dose of succinylcholine at 1.5 mg/kg IV/IO may be administered if required to achieve paralysis.

9. Consider administration of **vecuronium bromide (Norcuron®)** for patients in whom a return to their pre-RSILOC may result in airway dislodgement, including those for whom a rescue airway was placed.

*Consider use of an alternative sedative if sepsis is suspected and the patient is not hypotensive.

†Provided oximetry is > 90%, avoid positive pressure ventilation after succinylcholine administration and prior to initial attempt at intubation.

SPECIAL CONSIDERATIONS IN THE TREATMENT OF PATIENT RECENTLY IMMUNIZED AGAINST SMALLPOX



Small pox immunization is accomplished by inoculating the skin with a live strain of a similar virus called vaccinia. In general, it is a safe and effective means of preventing smallpox. However, this technique and the use of a live vaccine produces an active wound which contact with can transmit vaccinia. For most people, exposure to vaccinia would only be a potential minor problem, but, for patients who are immunosuppressed, have chronic skin conditions, or are pregnant, exposure to vaccinia can result in serious consequences. Therefore, simple precautions should be taken in treating patients who have been recently immunized against smallpox and still have the small healing wound associated with that process.



1. Follow universal precautions.
2. Leave already present bandages in place.
3. Avoid direct contact with the wound.
4. If rebandaging of an immunization site is required, tape two layers of dry gauze over the wound.
5. Should contact with an open immunization site occur, immediately cleanse the area with warm water and soap or with an alcohol hand rub.
6. Keep clothing that comes in contact with a vaccination site separate from other items and launder in hot water with detergent and/or bleach.
7. Direct exposure to a wound should be reported in accordance with existing guidelines regarding exposure to infectious diseases.

SPINAL IMMOBILIZATION

SPINAL MOTION RESTRICTION - LONG SPINE BOARD

Designation of Condition: Spinal Motion Restriction (SMR) is indicated for trauma patients when there is a suspicion of spinal injury based on mechanism of injury or patient complaining of pain in the area of the spinal cord.

ALL EMS PROVIDERS:

- ✓ EMS First Responders should consider SMR based on training.
- ✓ When in doubt, limit patient movement and provide in-line stabilization until arrival of higher trained personnel.

BLS AND ABOVE PROVIDERS:

- ✓ Patients with a significant mechanism of injury, or who have an altered level of consciousness, or who are complaining of mid-line C-Spine and/or vertebral column pain.
- ✓ Patients who have a significant distracting injury and may not be able to fully perceive and appreciate their pain along the vertebral column.
- ✓ Patients displaying symptoms of neurological deficits after a traumatic incident.
- ✓ Victims of penetrating trauma if:
 - There is evidence of neurological deficit at or below the level of injury
 - There is a suspicion of spinal injury based on the location of the wound

FIELD TREATMENT:

- ✓ For critical patients (blunt or penetrating) that require rapid ground transport, consider the application of *partial immobilization* (place patient onto the long spine board; hand stabilize the head and c-spine; place long spine board and patient onto the gurney; secure the long spine board and patient to gurney with gurney straps) to facilitate rapid loading and transport of the patient. Full SMR may be completed en route if time permits.

- ✓ Rigid Cervical Collars - properly sized collars shall be used in conjunction with SMR whenever practical
- ✓ Critical trauma patients shall be extricated using rapid extrication standards - PHTLS
- ✓ With a fully cooperative and stable patient, extricate the patient onto a long board using manual support in conjunction with a C-Collar. Patients who are unconscious should be extricated rapidly using appropriate equipment and personnel for the situation.

SMR May not be required if:

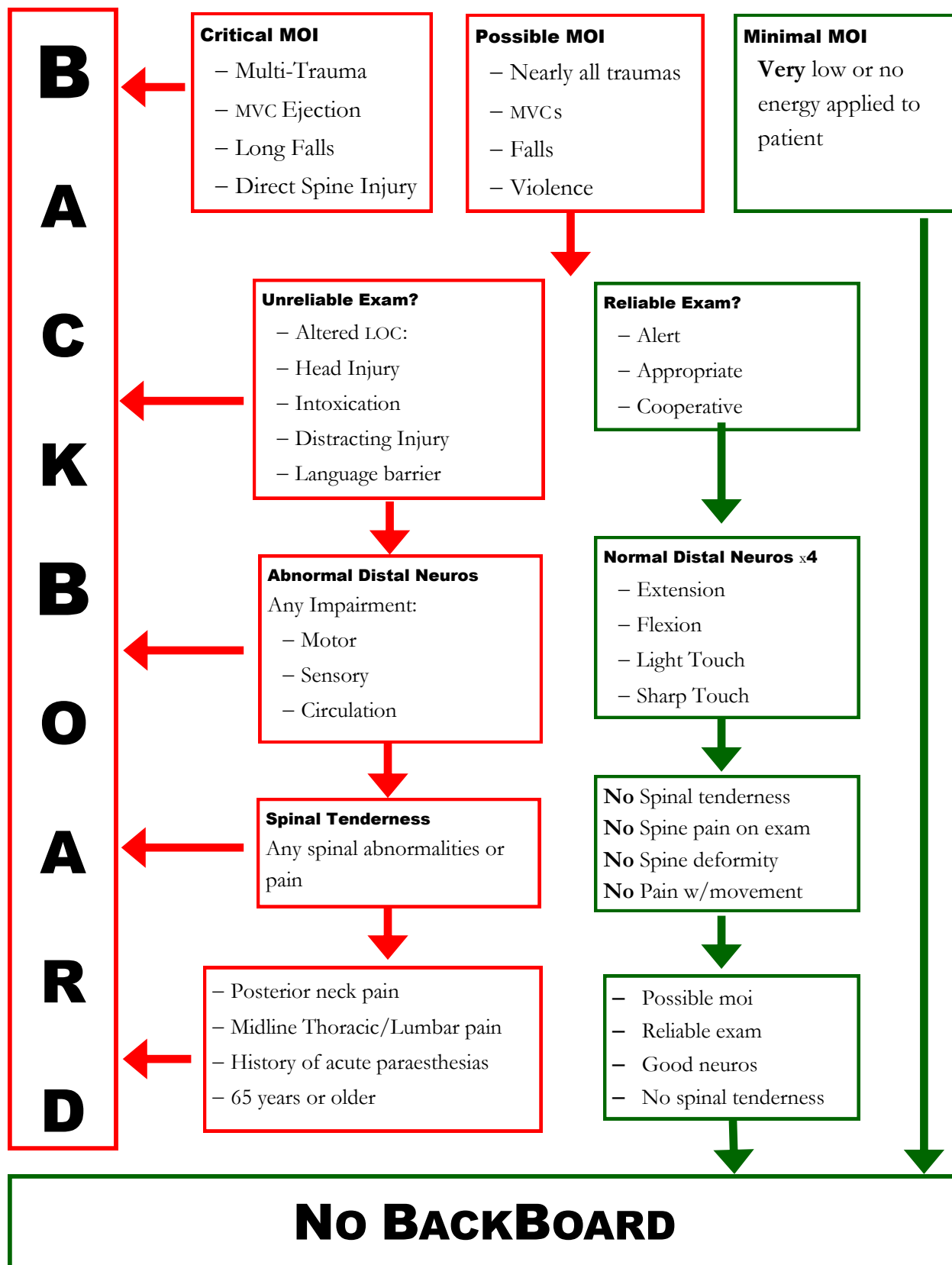
- ✓ The patient is conscious, alert, oriented, able to perceive pain, neurologically intact, and in progressive order is determined:
 - Not to be suffering from a significant distracting injury
 - Not to be intoxicated or under the influence of mind altering drugs/medications
 - To have no evidence of closed head injury
 - To have no vertebral column pain or discomfort by self-evaluation
 - To have no tenderness of vertebral column on palpation
 - Have no pain or discomfort of vertebral column with active movement (45 degrees rotation left, right, and flexion)
- ✓ The patient has penetrating trauma to the head, neck, or torso and no evidence of spinal injury
- ✓ Spinal precautions can be maintained by application of a rigid cervical collar and securing the patient firmly to the EMS stretcher, and may be most appropriate for:
 - Patients who are ambulatory at the scene
 - Patients who must be transported for a protracted time, particularly prior to inter-facility transfer
 - Patients for whom the use of a backboard is not otherwise indicated
- ✓ Whether or not a backboard is used, attention to spinal precautions among at-risk patients is paramount. These include:
 - Application of a cervical collar

- Adequate security to a stretcher
- Minimal movement/transfers
- Maintenance of inline stabilization during any necessary movement/transfers

Remember that SMR is not a benign procedure. You are assuming total control of a patient's airway if you immobilize a patient. Decubitus ulcers may result within 20 minutes in spinal cord injured patients and unconscious patients.

SEE NEXT PAGE

Any Suspicion of MOI for Spine Trauma Manual Spinal Immobilization



RECOMMENDED INDICATIONS FOR SPINAL PRECAUTIONS IN CHILDREN

PURPOSE: To provide guidelines based upon mechanisms of injury and clinical symptoms that indicate a potential for spinal injury.

GENERAL PRINCIPALS: Any pediatric patient that presents with a high-energy mechanism of injury or any clinical signs suggestive of spinal cord injury should be placed in a hard cervical collar and spinal mobilization for transport.

RECOMMENDED HIGH-ENERGY MECHANISM GUIDELINES:

- ✓ High speed motor collision
- ✓ Motor vehicle collision
- ✓ Ejected from motor vehicle
- ✓ Pedestrian/bicyclist struck by a motor vehicle
- ✓ Crash involving a motorized recreation vehicle
- ✓ Diving injury
- ✓ Fall from a height > 5 feet or more than 5 stairs
- ✓ Any other high-energy mechanism with rapid acceleration and deceleration

RECOMMENDED CLINICAL GUIDELINES ASSOCIATED WITH EVEN MINOR MECHANISM OF INJURY:

- ✓ Altered level of consciousness or are too young to describe their symptoms
- ✓ Cervical pain, tenderness, or deformity
- ✓ Neurological deficit
- ✓ Any other painful or distracting injury
- ✓ Numbness or weakness in any extremity
- ✓ Any other clinical suspicion of cervical spine injury

PRECAUTION: A normal child 'up and running around' at the scene who was subjected to a mechanism with a potential of causing spinal injury should be

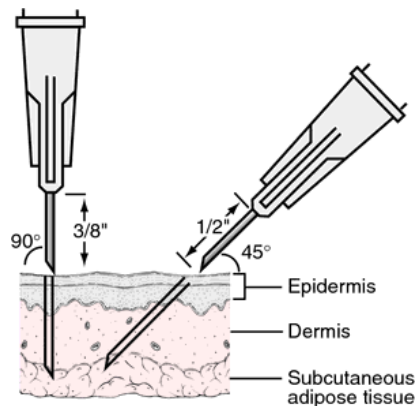
immobilized provided that the immobilization technique does not result in marked combativeness.

SUMMARY: The indications for spinal immobilization rely on a heightened level of suspicion for injury. Cervical spine clearance requires careful clinical and radiological evaluation because missed injuries can lead to catastrophic neurological consequences. The burden of clearance is up to the hospital physicians.

SQ AND IM INJECTIONS

1. Prepare the equipment.
2. Confirm the medication.
3. Draw up the medication.
4. Prepare the injection site:
 - A. SQ Injections (see fig. 2.2):
 - I. Insert needle at a 45 degree angle.
 - II. Needle should enter the subcutaneous tissue. Aspirate to ensure that a blood vessel has not been entered.
 - B. IM Injections (see fig. 2.2):
 - I. Insert needle at a 90 degree angle.
 - II. Needle should enter muscle tissue. Aspirate to ensure that a blood vessel has not been entered.

Fig 2.2: SQ/IM Injections



5. Inject medication.
6. Remove the needle and cover the puncture site.
7. Monitor the patient.

TOURNIQUET

INDICATIONS: A tourniquet should be used to control potentially fatal hemorrhagic wounds only after other means of stopping blood loss have failed.

PRECAUTIONS:

- ✓ Use BSI.
- ✓ A tourniquet applied incorrectly can increase blood loss and lead to death.
- ✓ Applying a tourniquet can cause nerve and tissue damage whether applied correctly or not. Proper patient selection is imperative.
- ✓ Damage is unlikely if the tourniquet is removed within an hour. Low risk to tissue is acceptable over death secondary to hypovolemic shock.
- ✓ A commercially made tourniquet is the only acceptable tourniquet to be used; improvised tourniquets are not as effective and may cause more harms.

TECHNIQUE:

1. Attempt to control hemorrhage using direct pressure, elevation, and indirect pressure over pressure points prior to considering the application of a tourniquet.
2. If unable to control hemorrhage, apply a tourniquet, using the procedure below. Taking into consideration the previously listed precautions.
 - I. Tourniquet application is a standing order.
 - II. Apply tourniquet proximal to the wound and not across any joints.
 - III. Tighten tourniquet until bleeding stops.
 - ✓ Applying tourniquet loosely will only increase blood loss by inhibiting venous return.
 - ✓ Cut away any clothing so that the tourniquet is clearly visible. The tourniquet should NEVER be covered by clothing or bandages.

- IV. The time and date of application should be written on the patient's skin next to the tourniquet with a permanent marker.
3. Keep tourniquet on throughout hospital transport. A correctly applied tourniquet should only be removed by the receiving hospital.

USE OF EXTERNAL PACE MAKERS

INDICATIONS: Symptomatic bradycardia not responding to **atropine**.

PROCEDURE:

1. Perform CPR, as indicated.
2. Obtain rhythm and baseline vitals.
3. Administer high flow **O₂**.
4. Administer atropine per appropriate arrhythmia protocol.
5. Attach pacing electrodes.
 - I. Select *demand operation*, if stand-alone pacemaker.
 - II. Adjust EKG gain to sense intrinsic QRS complexes.
 - III. Adult pacing rate 80-100 Pediatric pacing rate 100-110
 - IV. Set current (start low and increase until capture).
6. Activate pacer.
 - I. At capture, increase current to 2 ma above capture threshold.
 - II. EKG capture: change in QRS, wide QRS.
 - III. Mechanical capture: pulse, rise in BP, increase in LOC, improved color, temperature, etc.
7. Document with rhythm strips.
8. If patient is conscious, assess patient comfort. Consider administering 1-2 mg of **midazolam (Versed®)** IV/IO q 3 minutes, up to a maximum dose of 6 mg.
9. If patient is unconscious, assess BP and pulse.
10. If no improvement with pacer initiate drug therapy per **Bradycardia** protocol.
11. If no response to pacer or ACLS drugs, contact receiving physician.

DOCUMENTATION:

- ✓ Date, time, baseline rhythm, pacing rhythm strips
- ✓ Current required to capture
- ✓ Pacing rate and mode selected
- ✓ Patient response to pacing: electrical/mechanical
- ✓ Medications used
- ✓ Date and time pacing terminated

SECTION 3: CARDIAC PROTOCOLS

ACUTE STROKE

1. Lay patient flat, unless signs of airway compromise are present, in which case the lateral recumbent (recovery) position should be used.

Fig 3.1: Left lateral recumbent position



2. Administer nasal cannula **oxygen** to maintain an O₂ saturation > 92%.
3. Apply cardiac monitor.
4. Establish IV, preferably with 16 or 18 ga and luer lock at hub (establishment of IV should not delay transport).*
5. Obtain blood specimen by performing a **blood draw**.
6. Do not administer anything by mouth.
7. Perform **blood glucose test**. If blood glucose is < 60 mg/dl, administer 50 ml of **50% dextrose** IV/IO.
8. Protect paralyzed extremities.
9. Give the patient reassurance.
10. Perform prehospital stroke scale screen-FAST exam† (any deficits make the exam positive for a stroke).

Table 3.1 FAST Exam:

F	Face: Ask the person to smile. Does one side of the face droop?
A	Arms: Ask the person to raise both arms. Does one arm drift downward?
S	Speech: Ask the person to repeat a simple sentence (e.g. "It's sunny today."). Are the words slurred? Can the person repeat the sentence correctly?
T	Time: Last seen normal.

11. Obtain the following information
 - ✓ Family contact number
 - ✓ Medical history
 - ✓ Medications (specifically, document if the patient takes Coumadin)
12. Encourage a family member to accompany the patient to the hospital, if possible.
13. Limit scene time to ≤ 15 minutes.
14. Follow **prehospital stroke triage procedure** to determine destination (consider air transport if ground transport time exceeds 30 minutes).
15. If the patient has signs or symptoms of an acute stroke onset within the last 7 hours, contact the receiving hospital as soon as possible to request a **stroke activation**[†] (use land line if more readily available than the HEAR system). Do not wait until the routine patch.
16. Reassess the patient's neurologic exam and document any changes.

*Avoid administration of anti-hypertension medications, dextrose in non-hypoglycemic patients, and excessive IV fluids unless fluids required to support blood pressure.

[†] Use this phrase: "Based upon the time last seen normal and clinical exam findings, we recommend a stroke activation".

ASYSTOLE*/PEA

1. Perform CPR.
2. Establish advanced airway (**endotracheal intubation** or advanced supraglottic airway).
3. Establish IV/IO[†] access.
4. Administer 1 mg of **epinephrine** IV/IO q 3-5 minutes until Return of Spontaneous Circulation (ROSC) or termination of resuscitation.
5. Search for and treat possible causes (5 **H's** and 5 **T's**).

The 5 H's	The 5 T's
Hypovolemia	Tension pneumothorax
Hypoxia	Tamponade, cardiac
Hydrogen ion – acidosis	Toxins
Hypo-/hyperkalemia	Thrombosis, pulmonary
Hypothermia	Thrombosis, coronary

*Rhythm diagnosis should be documented in 2 leads.

† May be administered via the endotracheal tube if IV/IO access cannot be established. ET dose is double the IV dose.

BRADYCARDIA

1. Establish IV/IO access.
2. Monitor EKG. Apply 12-Lead EKG, if available.
3. Administer **O₂**.
4. If serious signs or symptoms* occur, administer 0.5 mg of **atropine** IV/IO[†]. Repeat q 3-5 minutes, not exceeding 0.04 mg/kg or 3 mg.
5. If atropine is ineffective, perform transcutaneous pacing.
6. Consider **dopamine** infusion starting at 5-20 mcg/kg/minute IV/IO titrated to BP, if no response to atropine or transcutaneous pacing.[‡]

*Bradycardia causing any one of the following: Hypotension, acutely altered mental status, signs of shock, ischemic chest discomfort, acute heart failure (CHF).

[†]This drug may be administered ETT if IV/IO access cannot be established. ET dose is double the IV dose.

[‡]If dopamine is unavailable, epinephrine may be substituted at a continuous infusion of 2-10 mcg/min IV/IO and titrated response.

CHEST DISCOMFORT SUSPECTED ANGINA/AMI

1. Establish IV/IO access.
2. Apply cardiac monitor. Apply 12-Lead EKG, if available.
3. Administer **O₂**.
4. Administer 160-325 mg of **aspirin** PO (2-4 chewable baby aspirin).
5. Administer 0.4 mg of **nitroglycerin** SL if BP > 100.
6. Repeat step 5 q 5 minutes x2 if BP > 100 and discomfort persists.
7. If severe pain is present, consider administering **fentanyl** at 0.5-1 mcg/kg q 10 minutes IV/IO/IM, up to a total dose of 3 mcg/kg as long as BP >100.
8. If systolic BP < 90, assess volume status. If lungs clear and/or 12 lead EKG indicates inferior wall AMI, consider trial infusion of 0.9 NS. If rales present and/or 12 lead EKG indicates anterior wall AMI, consider **dopamine** infusion.
9. If the patient has an AMI on the prehospital 12 lead, report to the receiving hospital with the following information as soon as possible (use land line if more readily available than the HEAR system). Do not wait until routine patch.
 - ✓ State that you have a Cardiac Level 1 transport
 - ✓ Patient name, if contact is through a secure cell or ground line
 - ✓ Age and gender
 - ✓ Findings on prehospital 12 lead EKG. Clearly communicate if EKG, by your interpretation and the computer program, shows AMI. Report the presence of any of the following potential mimickers:
 - ➔ LVH
 - ➔ BBB
 - ➔ Pacemaker
 - ➔ Pericarditis
 - ➔ Early repolarization

- ✓ Name of cardiologist or, if none, primary care physician
 - ✓ Clinical presentation, brief and to the point
 - ✓ Vital signs
 - ✓ Prehospital treatment
10. Update the hospital and alert them, pending arrival, using the HEAR system. The following terminology should be used to describe the category of the ACS patient:
- A. Cardia-STEMI
 - B. Cardiac-High Risk
 - C. Cardiac Post Arrest

GENERAL ASSESSMENT OF PATIENTS WITH SIGNIFICANT CARDIAC ARRHYTHMIAS

CARDIO PULMONARY RESUSCITATION: HIGH QUALITY CPR

- ✓ Push hard (2 in) and fast (greater than equal to 100 bpm), allow complete chest recoil
- ✓ Minimize interruptions in compressions
- ✓ Avoid excessive ventilation
- ✓ Rotate compressors q 2 minutes
- ✓ If quantitative waveform **capnography** < 10 mmHg, attempt to improve CPR quality

REVERSIBLE CAUSES IN CARDIAC ARREST OR ARRHYTHMIA

- | | |
|---------------------------|-------------------------|
| ✓ Hypovolemia | ✓ Tension pneumothorax |
| ✓ Hypoxia | ✓ Tamponade, cardiac |
| ✓ Hydrogen Ion (acidosis) | ✓ Toxins |
| ✓ Hypothermia | ✓ Thrombosis, pulmonary |
| ✓ Hypo/hyperkalemia | ✓ Thrombosis, coronary |
| ✓ Hypoglycemia | |

INDICATIONS OF PATIENT INSTABILITY

- ✓ Hypotension
- ✓ Acutely altered mental status
- ✓ Signs of shock
- ✓ Ischemic chest discomfort
- ✓ Acute Heart Failure (CHF)

LVAD-HEARTMATE II

1. **Contact 24 hour mechanical heart specialist: (509) 481-7996 or (509) 474-7326.** If no answer, contact Sacred Heart Medical Center Operator (509-474-3131), who will locate the call person.

2. Emergency Scenarios

Scenario	Response
LVAD Failure – Continuous Alarm (Red Heart)	LVAD may have stopped: The patient's own heart is intact and may provide minimal cardiac output while the LVAD is stopped. Initiate appropriate therapy to stabilize patient. Fully monitor patient during transport. Call Mechanical Heart Specialist (24/7) at (509) 481-7996 for instructions on changing to the patient's backup Controller.
LVAD Working – “Reduced Flow Rate” Alarm – ECG Abnormal	The HeartMate II LVAD is dependent on right ventricular function. With arrhythmia, decreased function of right ventricle will affect LVAD flows. The LVAD may be able to maintain flow high enough to keep patient from going into shock. If patient has rapid ventricular arrhythmia or ventricular fibrillation, counter shock both stable and unstable patients and administer large amounts of IV fluids.
LVAD Working – “Reduced Flow Rate” Alarm – ECG Normal	Suspected internal bleeding (hypovolemia). If patient is symptomatic, initiate appropriate therapy to stabilize patient including volume replacement.

3. Large bore peripheral venous access should be established on patient.
4. Patient may not have a palpable pulse or measurable blood pressure even when the pump is providing adequate circulation.
5. Perform routine CODE procedure, including cardiac compressions, if indicated.
6. Patient's Controller (small box attached to percutaneous driveline) will display alarm lights. Patient (or companion) will bring extra batteries before transporting. Do not disconnect controller from patient unless instructed by mechanical heart specialist.

LVAD-HEARTWARE

1. **Contact 24 hour Mechanical Heart Specialist: (509) 481-7996 or (509) 474-7266.** If no answer, contact Sacred Heart Medical Center Operator (509-474-3131), who will locate the call person.

2. Emergency Scenarios

Scenario	Response
LVAD Failure – Continuous Rapid High Low Tone (Flashing red light)	LVAD may have stopped: The patient's own heart is intact and may provide minimal cardiac output while the LVAD is stopped. Initiate appropriate therapy to stabilize patient. Fully monitor patient during transport. Call 24 hour Mechanical Heart Specialist at (509) 481-7996 for instructions on changing to the patient's backup Controller.
LVAD Working - Low Flow/Suction Alarm-3 Beep scale (flashing yellow light)	The HeartWare LVAD is dependent on right ventricular function. With arrhythmia, decreased function of right ventricle will affect LVAD flows. The LVAD may be able to maintain flow high enough to keep patient from going into shock. If patient has rapid ventricular arrhythmia or ventricular fibrillation, counter shock both stable and unstable patients and give large amounts of IV fluids..
LVAD Working Low Flow Alarm-3 Beep Scale (flashing yellow light)	ECG Normal. Suspected internal bleeding (hypovolemia). If patient is symptomatic, initiate appropriate therapy to stabilize patient including volume replacement.
LVAD Working Low Flow Alarm-3 Beep Scale (flashing yellow light)	ECG Normal. High watts can be a sign of thrombus in the pump. Controller fault indicates a Controller malfunction. Electrical fault can be caused by a break in the wiring.

3. Large bore peripheral venous access should be established on patient.
4. Patient may not have a **palpable pulse or measurable blood pressure** even when the pump is providing adequate circulation.
5. Perform routine CODE procedure, if indicated, including cardiac compressions.
6. Patient's Controller (small box attached to percutaneous driveline) will display alarm lights and tones. Patient (or companion) will bring extra batteries before transporting. Do not disconnect controller from patient unless instructed by Mechanical Heart Specialist.

LVAD-VENTRASSIST

1. **Contact 24 hour mechanical heart specialist: (509) 481-7996 or (509) 474-7326.** If no answer, contact Sacred Heart Medical Center Operator (509-474-3131), who will locate the call person.

2. Emergency Scenarios

Scenario	Response
LVAD Failure – Steady Tone (Blank screen on flashing red light)	LVAD may have stopped: The patient's own heart is intact and may provide minimal cardiac output while the LVAD is stopped. Initiate appropriate therapy to stabilize patient. Fully monitor patient during transport. Call Mechanical Heart Specialist (24/7) at (509) 481-7996 for instructions on changing to the patient's backup Controller.
LVAD Working – Low Flow Alarm – Persistent Beeping (Flashing orange light) – ECG Abnormal	The VentrAssist LVAD is dependent on right ventricular function. With arrhythmia, decreased function of right ventricle will affect LVAD flows. The LVAD may be able to maintain flow high enough to keep patient from going into shock. If patient has rapid ventricular arrhythmia or ventricular fibrillation, counter shock both stable and unstable patients and administer large amounts of IV fluids.
LVAD Working – Low Flow Alarm – Persistent Beeping (Flashing orange light) – ECG Normal	Suspected internal bleeding (hypovolemia). If patient is symptomatic, initiate appropriate therapy to stabilize patient including volume replacement.

3. Large bore peripheral venous access should be established on patient.
4. Patient may not have a palpable pulse or measurable blood pressure even when the pump is providing adequate circulation.
5. Perform routine CODE procedure, including cardiac compressions, if indicated.
6. Patient's Controller (small box attached to percutaneous driveline) will display alarm lights. Patient (or companion) will bring extra batteries before transporting. Do not disconnect controller from patient unless instructed by mechanical heart specialist.

POST RESUSCITATION

History

- ✓ Respiratory arrest
- ✓ Cardiac arrest

Signs/Symptoms

- ✓ Return of pulse

Differential

- ✓ Continue to address specific differentials associated with the original dysrhythmia

Start 10 Minute Timer

Repeat Primary Assessment

Optimize Ventilation and Oxygenation

- ✓ Maintain SpO2 = 94-96%
- ✓ Advanced airway, if indicated
- ✓ Resp Rate 8-10/minute
- ✓ **DO NOT** hyperventilate
- ✓ ETCO2 monitoring
- ✓ Consider second IV line

Monitor vital signs/12 - Lead

Normal Saline Bolus 1-2 L IV/IO,
if lungs clear

If rales, dopamine 5 mcg/kg/min
IV/IO titrate to max dose of 20
mcg/kg/min Target systolic BP of
90

Yes

Hypotension
Systolic BP < 90

NO

STEMI/
Suspicion of MI

YES

Chest Pain and
STEMI Protocol
STEMI EMS Triage
and
Destination Plan

NO

Post ROSC Arrhythmia

NO

Yes

Follow rhythm appropriate
protocol

Consider sedation
Use only with definitive airway in place

Consider midazolam, 1-2 mg q 3 min.
IV/IM/IO. Up to a max dose of 6 mg.

Notify Destination or
Contact Medical Control
Identify patient as
"Cardiac Post Arrest"

POST CARDIAC ARREST CARE

1. Establish IV/IO access.
2. Optimize ventilation and **oxygen**.
 - ✓ Maintain target oxygen saturation at 94-96%
 - ✓ Consider Advanced airway and waveform **capnography**
 - ✓ Do not hyperventilate. Start at 10-12 bpm and titrate PETCO₂ to 35-40 mm hg
3. If systolic BP < 90, assess volume status. If lungs clear, consider trial infusion of 0.9 NS. If crackles present, consider **dopamine** infusion at 5-10 mcg/kg/minute.*
4. Consider administering **sodium bicarbonate (NaHCO₃)** at 1 meq/kg IV/IO for prolonged resuscitation with effective ventilation or Return of Spontaneous Circulation (ROSC) after long arrest interval.
5. Search for and treat reversible causes (**5H's, 5 T's**).

✓ Hypovolemia	✓ Tension pneumothorax
✓ Hypoxia	✓ Tamponade, cardiac
✓ Hydrogen Ion (acidosis)	✓ Toxins
✓ Hypothermia	✓ Thrombosis pulmonary
✓ Hypo/hyper kalemia	✓ Thrombosis coronary
6. Report to the receiving hospital with the following information as soon as possible (use land line if more readily available than the HEAR system). Do not wait until routine patch.
 - ✓ State that you have a cardiac arrest - ROSC
 - ✓ Patient name, if contact through a secure cell or ground line
 - ✓ Age and gender
 - ✓ Findings on prehospital 12 lead EKG. Clearly communicate if EKG, by your interpretation and the computer program, shows AMI. Report the presence of any of the following potential mimickers
 - ➔ LVH

- BBB
 - Pacemaker
 - Pericarditis
 - Early repolarization
 - ✓ Name of cardiologist or, if none, primary care physician
 - ✓ Clinical presentation, brief and to the point
 - ✓ Vital signs
 - ✓ Prehospital treatment
7. Update the hospital and alert them, pending arrival, using the HEAR system. The following terminology should be used to describe the category of the ACS patient:
- A. Cardia-STEMI
 - B. Cardiac-High Risk
 - C. Cardiac Post Arrest

*If dopamine is unavailable, epinephrine may be substituted at a continuous infusion of 2-10 mcg/min IV/IO.

PULMONARY EDEMA*

1. Sit patient up, if possible.
2. Apply cardiac monitor.
3. Establish IV/IO access.
4. Administer high flow **O₂**.
5. If respiratory distress is present, consider **CPAP**.
6. If respiratory distress increases and/or the patient's LOC decreases, consider **endotracheal intubation** and PEEP valve.
7. If BP > 100 systolic, administer 0.4 mg of **nitroglycerin** SL and consider repeating x2, provided systolic BP remains > 100.
8. If patient condition strongly suggests this diagnosis, consider **Furosemide (Lasix®)** at 0.5-1 mg/kg[†] IV/IO.
9. If BP < 100 mmHg and any symptoms or signs of shock are present, administer **dopamine** at 5-10 mcg/kg/minute IV/IO.

*Past history and current medications can give vital clues as to whether pulmonary edema or **COPD** is the primary cause of the patient's symptoms. Lasix® should be administered only to patients for whom the diagnosis of pulmonary edema is extremely likely. This would include patients with a history of CHF and/or those who are diaphoretic, tachypneic, tachycardic, and hypertensive or who possibly have pink frothy sputum. Patients with a fever and a history of emphysema or COPD may have pulmonary edema but if the diagnosis is in doubt, Lasix® should be withheld.

†For patients already taking Lasix®, initial administration of double their daily dose may be an appropriate guideline.

STABLE NARROW-COMPLEX TACHYCARDIA (HR>150)

1. Establish IV/IO access.
2. Administer **O₂**.
3. Attempt to establish a specific diagnosis through a 12 lead EKG and patient history.
4. If rhythm appears regular:
 - I. Perform Vagal maneuvers.*
5. If dysrhythmia persists:
 - I. Place the patient in mild reverse Trendelenburg position.
 - II. Administer 6 mg of **adenosine (Adenocard®)** via rapid IV bolus, followed by 20 ml NS. Elevate the extremity.†
 - III. A second dose of 12 mg may be given after 1-2 minutes if dysrhythmia persists.
6. Contact medical control to consider the administration of diltiazem for rate control if one of the following is present:
 - I. Rhythm appears irregular and atrial fibrillation with a rapid ventricular response is suspected.
 - II. Atrial flutter (which may be regular) with a rapid ventricular response is suspected.
7. Administer 15-20 mg (0.25 mg/kg) of **diltiazem** IV over 2 minutes. May give another IV dose in 15 minutes at 20-25 mg (0.35 mg/kg over 2 min).
8. A maintenance infusion should be established for longer transports at 5-15 mg/hr titrated to physiologically appropriate heart rate.

*See **Carotid Sinus Massage Procedure**.

†Use antecubital IV, if possible, to administer adenosine (Adenocard®).

STABLE WIDE-COMPLEX TACHYCARDIA (HR>150)

1. Establish IV/IO access.
2. Administer **O₂**.
3. Apply cardiac monitor
4. Attempt to establish a specific diagnosis through a 12 lead EKG and clinical information.
5. If the rhythm appears to be a regular and monomorphic wide-complex tachycardia, consider 6 mg of **adenosine (Adenocard®)** rapid IV bolus. Administer a second dose of 12 mg of Adenocard® rapid bolus after 2 minutes, if tachycardia persists.*
6. If tachycardia persists, consult with medical control for possible administration of 150 mg of **amiodarone** over 10 minutes.†‡
7. If patient becomes unstable§ consider sedation and synchronized cardioversion beginning at 100j for wide regular complex tachycardia. Use defibrillation dose (**NOT** synchronized) for wide irregular complex tachycardia.

*Adenosine should not be used for irregular stable wide-complex tachycardia.

†The maximum dose of Amiodarone IV is 2.2 gm over 24 hours.

‡Lidocaine may be substituted if the patient is hypersensitive to Amiodarone or a drug overdose is suspected.

§Tachycardia causing one or more of the following: hypotension, acutely altered mental status, signs of shock, ischemic chest discomfort, CHF.

THORATEC VENTRICULAR ASSIST DEVICES

1. **Contact 24 hour mechanical heart specialist: (509) 481-7996 or (509) 474-7326.** If no answer, contact Sacred Heart Medical Center Operator (509-474-3131), who will locate the call person.

2. Emergency Scenarios

Scenario	Response
VAD Failure (VAD has stopped pumping)	Hand pumping should be started if the Thoratec Driver* fails and backup Thoratec Driver is unavailable. If patient on Bi-VADs, hand pump both VADs. Hand pump at rate of 60-90 strokes per minute or compress hand pump as soon as bladder within Thoratec VAD refills completely (VADs are external, can be seen on abdomen). VAD blood flow is approximately 60 ml times hand pump rate. Fully monitor patient during transport.
VAD Working – Blood Flows Low – ECG Abnormal (Only Applies if patient has single VAD not Bi-VADs)	A patient with a single VAD is dependent on ventricular function of the side not mechanically assisted. With arrhythmia, decreased function of opposite ventricle will affect VAD flows. The VAD may be able to maintain flow high enough to keep patient from going into shock. Blood flow is read on Thoratec Driver Display. If patient is symptomatic, initiate appropriate therapy to correct arrhythmia and optimize heart function. -LVAD Patient: If blood flow falls below 2 liters per minute, increase flows by giving large amounts of IV volume and correct arrhythmia. -RVAD Patient: Do not administer large amounts of IV volume; correct arrhythmia.
LVAD Working – “Reduced Flow Rate” Alarm – ECG Normal	Suspected internal bleeding (hypovolemia). If patient is symptomatic, initiate appropriate therapy to stabilize patient including volume replacement.

3. If patient has an LVAD (single or in Bi-VADs) and LVAD is working properly, it is providing patient's cardiac output and is not in time with patient's real heart (**Patient's EKG rate will not equal pulse rate.**)

Instead, pulse should be at rate of the Thoratec LVAD or Hand Pump).

4. Large bore peripheral venous access should be established on patient.
5. Perform routine CODE procedure, if indicated, including cardiac compressions.
6. Transport patient with companion and bring equipment:
 - ✓ Hand pumps
 - ✓ Extra batteries
 - ✓ Primary and backup Thoratec Drivers*
7. Patient or companion to hand pump VAD(s), if driver fails to function.
8. Patient should be transported to **Sacred Heart Medical Center**, if possible.
9. Hand Pumping:
 - I. Hand pumping is only to be performed if both primary and backup Thoratec Drivers fail to operate or are unavailable.
 - II. Disconnect driveline from Driver and press that end of driveline into Hand Pump bulb.
 - III. If Bi-VADs and only one VAD fails to pump, disconnect both driveline and hand pump both VADs. This ensures roughly same flow to avoid **pulmonary edema**.
 - IV. Compress bulbs at approximately same rate that the patient was running, if in doubt, 60 to 90 compressions per minute.
 - V. Check radial pulse, it should correspond to rate of bulb compressions.

*The Thoratec Driver supplies air pressure and vacuum to pump the VAD(s). It can be powered by 2 batteries located within case. A separate battery charger is kept at patient's residence. The Thoratec Driver can also be powered by an AC adapter. Ensure 2 batteries installed and unplug AC adapter cable from Thoratec Driver prior to transport. Display shows L: (LVAD) Rate (bpm), and Flow (L/min) and R: (RVAD) Rate (bpm), and Flow (L/min)

UNSTABLE NARROW-COMPLEX TACHYCARDIA

1. Establish IV/IO access.
2. Administer **O₂**.
3. Confirm rapid heart rate as cause of signs and symptoms. Related signs and symptoms occur at many rates, seldom < 150 bpm.
4. Prepare for immediate cardioversion.
5. Consider sedation by administration of **etomidate** at 0.1 mg/kg IV/IO.
6. Perform synchronized cardioversion at 100 j, 200 j, 300 j, 360 j, monophasic dose (or manufacturer recommended biphasic dose).
7. Transport patient.

*Use antecubital IV, if possible, to administer adenocard.

UNSTABLE* WIDE-COMPLEX TACHYCARDIA (HR>150)

1. Establish IV/IO access.
2. Administer **O₂**.
3. Consider sedation by administration of **etomidate** at 0.1 mg/kg IV/IO
4. Perform synchronized cardioversion at 100 j, 200 j, 300 j, 360 j monophasic dose (or manufacturer recommended biphasic dose).
5. Consider administering 150 mg of **amiodarone** IV/IO over 10 minutes, as needed.^{†‡}
6. Perform synchronized cardioversion at 360 j, monophasic dose (or manufacturer recommended biphasic dose).
7. Transport patient.

*Persistent Tachyarrhythmia causing: Hypotension, acutely altered mental status, signs of shock, ischemic chest discomfort, or acute heart failure (CHF).

[†]The maximum IV/IO dose in 24 hours is 2.2 gm.

[‡]Lidocaine may be substituted if the patient is hypersensitive to amiodarone

VENTRICULAR ASSIST DEVICE(S)

Patient has a continuous flow Ventricular Assist Device(s): Single LVAD. The manufacturers of these devices include the Thoratec HeartMate II VAS and HeartWare HVAD.

1. **Contact 24 hour mechanical heart specialist: (509) 481-7996 or (509) 474-7326.** If no answer, contact Sacred Heart Medical Center Operator (509-474-3131), who will locate the call person.

2. Emergency Scenarios

Scenario	Response
VAD Failure	VAD has stopped pumping: Indicated by a high-pitched tone with a red alarm-either a red heart or triangle on the controller attached to percutaneous line from the abdomen (the driveline). Also, auscultation of the device with stethoscope a “hum” or the VAD is not heard indicating the device has stopped.
VAD Working – Blood Flows Low- ECG Abnormal	A patient with a single VAD is dependent on ventricular function of the side not mechanically assisted. With arrhythmia, decreased function of opposite ventricle will affect VAD flows. The VAD may be able to maintain flow high enough to keep patient from going into shock. If patient is symptomatic, initiate appropriate therapy to correct arrhythmia and optimize heart function.
VAD(s) Working – Blood Flows Low-ECG Normal	Suspected internal bleeding (hypovolemia). If patient is symptomatic, initiate appropriate therapy to stabilize patient including volume replacement.

3. **Heart Monitor:** If patient has an LVAD that is working properly, it is providing patient’s cardiac output.
4. **Vital Signs:** Due to the continuous flow on the LVAD devices, blood pressure with a stethoscope or automated cuff may not be accurate. Blood pressure is best measured by Doppler. Clinical signs and symptoms of hypotension should be considered. A normal blood pressure for a LVAD patient is 70-100mmHg by Doppler. A traditional blood pressure measurement by automated cuff may give a value similar to a normal blood pressure for a LVAD patient.

5. **Large bore** peripheral venous access should be started on patient.
6. Perform routine CODE procedure, if indicated. Do not initiate cardiac compressions if the device is still running. Consult the mechanical heart specialist on-call prior to initiating chest compressions.
7. Transport companion with patient and bring equipment (i.e. emergency bag, extra batteries, and backup controller).
8. Patient should be transported to Sacred Heart Medical Center, if possible.

VENTRICULAR FIBRILLATION/PULSELESS VENTRICULAR TACHYCARDIA

1. Consider precordial thump, if witnessed VF/Pulseless VT while being monitored.
2. If effective CPR is in progress at the time of EMS arrival, immediately **defibrillate** the patient. If ineffective or no CPR has been done, perform 2 minutes of CPR prior to defibrillation.
3. Apply one shock.
 - A. Manual biphasic: Manufacturer recommended joule setting, if unknown, use maximum available
 - B. Monophasic: 360 j
4. Perform CPR for 2 minutes.
5. Establish IV/IO access, administer NS at TKO rate.
6. Apply one shock.
7. Perform CPR for 2 minutes.
8. Establish advanced airway (ETT or advanced supraglottic airway) without interruption of chest compressions.
9. Administer 1 mg of **epinephrine** IVP/IO and repeat q 3-5 minutes.*
10. Perform CPR for 2 minutes.
11. Apply one shock.
12. Perform CPR for 2 minutes.
13. During CPR, consider **amiodarone** at 300 mg IVP/IO.†
14. Apply one shock.
15. Perform CPR for 2 minutes.
16. During CPR, consider administering 150 mg of amiodarone IVP/IO.
17. Apply one shock.

18. Perform CPR for 2 minutes.
19. Consider administering 1-2 gm of **magnesium sulfate** IV/IO for Torsades de Pointes.
20. Apply one shock.
21. Continue cycles of CPR and defibrillation with appropriate interval administration of epinephrine until ROSC or termination.

*This drug may be administered via the endotracheal tube if IV/IO access cannot be established. ET dose is double the IV dose.

†Lidocaine may be substituted if the patient is hypersensitive to amiodarone.

SECTION 4: MEDICAL PROTOCOLS

ACUTE EPISTAXIS (NON-TRAUMA)

1. Maintain airway and oxygenation.
2. Have the patient blow their nose free of clots.
3. Administer 2-3 sprays of a vasoconstrictor into each bleeding nostril.
4. Apply pressure by pinching the nostrils together for up to 15 minutes to help control bleeding.
5. If significant blood loss apparent and/or signs of shock, administer IV of NS at a rate that will maintain adequate blood pressure.

ALLERGIC REACTIONS AND ANAPHYLAXIS

MILD: Red and itchy skin; hives; if sting present, localized swelling at sting site; and vital signs within normal limits.

1. Administer **O₂**.
2. If present, scrape stinger out. Stabilize involved extremity and apply ice.
3. Apply venous **tourniquet** on involved extremity above injection or sting site, if present.
4. Apply cardiac monitor and establish IV/IO.
5. Administer 25-50 mg of **diphenhydramine (Benadryl®)**, IV/IO.*

MODERATE : Red and itchy skin; hives; swelling of face, lips, tongue, or pharynx; mild to moderate SOB; stridor/wheezing; BP > 70

1. Follow steps 1-4 for mild anaphylaxis
2. Administer **epinephrine** at 1:1 000, 0.01 mg/kg IM,[†] up to a maximum dose of 0.3 mg. Repeat q 5 minutes, as needed.
3. Administer 25-50mg of Benadryl®, IV/IO.*

SEVERE (ANAPHYLAXIS): Red and itchy skin; hives; severe swelling of face, lips, tongue, or pharynx; possible severe SOB; stridor/wheezing; BP < 70

1. Administer high flow O₂. Consider ET intubation.
2. Scrape stinger out, if present. Stabilize involved extremity and apply ice.
3. Apply venous tourniquet above injection or sting site, if on an extremity.
4. Apply cardiac monitor.
5. Administer IV of NS, and infuse rapidly if BP < 90.
6. Slowly administer epinephrine at 1:10 000, 0.01 mg/kg IV/IO^{†‡}, up to a maximum dose of 0.3 mg. Repeat q 5 minutes, as needed.

7. Administer 50 mg of Benadryl®, IV/IO.*
8. If unable to establish IV, administer epinephrine at 1:1 000, 0.01 mg/kg IM/IO up to 0.3 mg. Repeat q 5 minutes, as needed.
9. If severe SOB and wheezing, consider administering **albuterol (Ventolin®)** treatment with small volume nebulizer.

*May administer Benadryl IM, if unable to establish an IV.

†Usual adult dose is 0.3 mg.

#This drug may be administered via the endotracheal tube if IV access cannot be established. ET dose is double the IV dose.

ADULT SEIZURES

1. Protect patient and patient's airway from harm.
2. Establish IV/IO access.
3. Administer high flow **O₂**.
4. Perform **blood glucose test**. If blood glucose < 60, obtain blood sample and administer 50 ml of **50% dextrose**, IV/IO.
5. If blood glucose < 60 and unable to establish IV, administer 1 mg of **glucagon**, IM or SQ.
6. If seizure activity persists for more than 2 minutes or patient has recurrent seizures, administer 1-2 mg of **midazolam (Versed®)**; IV/IM/IO* q 3 minutes up to a maximum dose of 6 mg.†

*May be administered intranasal via mucosal atomization device (MAD) at a dose of 5 mg.

†If midazolam (Versed®) is not available, lorazepam may be substituted at appropriate dosages.

COMA OF UNKNOWN ORIGIN

1. Administer high flow **O₂**. Assist ventilation, as needed. Consider ET intubation.
2. Take spinal precautions.
3. Apply cardiac monitor.
4. Establish IV/IO access.
5. Perform **blood glucose test**. If blood glucose < 60, obtain blood sample and administer 50 ml of **50% dextrose**, IV/IO.
6. Perform secondary assessment, look for signs of trauma.
7. Administer 0.4 mg of **naloxone (Narcan®)**, MAD*/IV/IM/IO.
8. If no response to initial dose, administer 1.6 mg of Narcan®.[†]

*Narcan may be administered intranasally via Mucosal Atomization Device (MAD) at a dose of 2 mg for adults and .1 mg/kg up to a total of 2 mg for children.

[†]Up to 10 mg may be required for Darvon, Talwin, Stadol, Nubain, Suboxone, and Fentanyl (synthetic narcotics).

EMERGENCY DISCONNECT OF HOME HEMODIALYSIS

1. Turn blood pump off (push power button or turn knob above blood pump counter-clockwise).
2. Close all clamps on patient's bloodlines, needles, or catheters. In general, this will involve 4 clamps, whether the patient is using a fistula or has an indwelling central venous catheter.
3. Leave needles in (if needle has dislodged, apply direct pressure over bleeding site using gauze). Do not apply tourniquet to site unless it is absolutely necessary.
4. Disconnect patient bloodline from patient needle or catheter site.
5. Additional precautions:
 - ✓ Avoid IV access in the patient's fistula or graft arm, if possible
 - ✓ Avoid taking blood pressure in patient's fistula or graft arm, if possible

EXCITED DELIRIUM: THE AGITATED UNCONTROLLED PATIENT



This protocol deals with one of the most challenging clinical situations you may face among your EMS responses. This protocol identifies goals of evaluation and treatment, but it may only be implemented in an environment with a reasonable degree of safety for the EMS providers. Furthermore, the ability to achieve specific aspects of this protocol will be dependent on the severity of the patient's condition and their willingness to allow medical care.



1. Administer high flow **O₂** or most effective means of administering O₂.
2. Apply cardiac Monitor and oximeter.
3. Administer large bore IV of NS at 500 ml/hr unless symptoms of CHF exist.
4. Perform **blood glucose test**. If blood glucose < 60, obtain blood sample and administer 50 ml of **50% dextrose**, IV/IO.
5. If patient body temperature exceeds 102° F, move patient to cooler environment, and remove clothing. Cool aggressively with wet sheets, cool packs, and/or evaporative airflow. Avoid ice packs and cold water immersion. Lower body temperature to 102° F (39°C).
6. For severe agitation, administer 2.5 mg of **midazolam (Versed®)**, IV/IO/IM q 3-5 minutes, up to a maximum dose of 10 mg.*
7. Restrain the patient only as necessary to safely allow for the patient's assessment and necessary care.
8. When restraints are necessary, please follow all the precautions identified in the **Restraints for Aggressive or Violent Patients** policy, paying particular attention to providing for an adequate airway and ventilation.
9. Apply a protective face mask or hood to the patient, if necessary, to reduce the potential transmission of disease via saliva.

*May be administered intranasally via Mucosal Atomization Device (MAD) at a dose of 5 mg.

HYPOGLYCEMIA

As suggested by lethargy or coma in a known diabetic.

1. Establish IV/IO access
2. Apply cardiac monitor
3. Administer **O₂**.
4. Perform **blood glucose test**. If blood glucose is < 60 mg/dl and patient is conscious and responsive, consider oral glucose intervention.
5. If blood glucose is < 60 mg/dl and patient is unconscious or unable to protect their airway, obtain blood sample and administer 50 ml of **50% dextrose** IV/IO.
6. If blood glucose is < 60 mg/dl and unable to establish IV, administer 1 mg of **glucagon**, IM or SQ.
7. If unable to establish IV and patient's blood glucose is < 35 mg/dl or the patient fails to respond 10 minutes after glucagon administration, consider initiating IO access for administration of glucose.
8. If the patient is wearing an insulin pump, turn the device off or remove the subcutaneous needle using *Sharps Precautions*.
9. Perform secondary assessment, look for signs of trauma. If no response to above measures, follow **Coma of Unknown Origin protocol**.

MENTAL HEALTH EMERGENCIES

BASIC TENANTS FOR EMS PERSONNEL

1. Consider possible medical causes of mental health symptoms:
 - ✓ Head injury
 - ✓ Severe infection
 - ✓ Drugs
 - ✓ **Hypothermia**
 - ✓ Poisoning
 - ✓ Hypoxia
 - ✓ **Hypoglycemia**
2. Prevent health threatening circumstances.
3. Timing is critical. Working efficiently reduces the progression of a disorder and will free you sooner for other emergencies.
4. Stay within the limits of your competence.
5. Seek consultation and aid from other professionals. The more information you can gather, the better the quality of treatment that can be delivered.
6. Gain and maintain control of emergency circumstances until control has been taken over by other professionals.
7. Contact **Community Mental Health** at **(509) 838-4651** if patient refuses transport and is an apparent danger to self or others.
8. If restraint required, recruit support from law enforcement (see **Restraints for Aggressive Patients** policy).

POISONING/OVERDOSE

1. If patient is comatose or in respiratory distress, administer high flow **O₂** and 0.4 mg of **naloxone (Narcan®)**, MAD*/IV/IM/IO. If the initial dose is unsuccessful, administer 1.6 mg 2 minutes later.†‡
2. If no immediate response, consider ET intubation.
3. Apply cardiac monitor.
4. Establish IV/IO access.
5. Perform assessment of specific overdose:
 - ✓ Product and route
 - ✓ Time of incident
 - ✓ Amount taken
 - ✓ History of medications
6. Consider contacting Poison Information Center at 1-800-222-1222
7. Contact receiving physician with assessment information and Poison Information Center recommendations to receive orders.

*Narcan may be administered via MAD at 2 mg for adults or 0.1 mg/kg for pediatrics, up to a max dose of 2 mg.

†Use higher doses in known Darvon (Propoxyphene), Stadol, Nubain, Suboxone, and Fentanyl overdose, up to 10 mg.

‡If administered via the ET tube, administer double the intravenous dose.

RENAL FAILURE AND DIALYSIS PATIENTS

1. Establish IV/IO access.*
2. Apply cardiac monitor.
3. Administer **O₂**.
4. Measure the blood pressure in the dialysis patient, use arm without the fistula.
5. If hypotension is present and lungs are clear, administer 500 ml of NS IV. Repeat once, if necessary.
6. If the patient has symptomatic **bradycardia**, administer 0.5 mg of **atropine**, IV/IO.
7. If patient has hypotension and bradycardia associated with EKG evidence of hyperkalemia[†], the following treatment is indicated:
 - I. Slowly administer 20 ml of 10% **calcium gluconate** IV for 1-2 minutes.[‡]
 - II. Slowly administer 1 mEq/kg of **sodium bicarbonate** IV.
 - III. Administer 5 mg of **albuterol (Ventolin®)** in 6 ml NS, using small volume nebulizer via SVN.
8. Using the HEAR system, alert the hospital to the potential need for emergency dialysis.

*The fistula may be accessed if unable to obtain a peripheral IV and the patient is unstable.

†EKG findings associated with hyperkalemia include tall peaked T waves, a prolonged QRS complex, and sometimes the disappearance of P and/or T waves. Complete heart block or asystole may occur.

‡If calcium gluconate is not available, calcium chloride may be substituted at a lower volume, 5-10 ml of a 10% solution (0.5-1 gm) administered slowly over 1-2 minutes.

SEVERE SEPSIS

DETECTION (All three criteria are required)

1. Suspected or known infection
2. Two or more of the following:
 - ✓ Temperature $>38^{\circ}\text{C}$ (100.4°F) or $<36^{\circ}\text{C}$ (96.8)
 - ✓ Tachycardia with $\text{HR}>90$ bpm
 - ✓ Tachypnea with $\text{RR}>20$ (or $\text{MV}<10\text{L}$ or $\text{PaCO}_2<32$)
3. Evidence of Hypoperfusion as manifested by one of the following:
 - ✓ Systolic BP < 90 mm Hg
 - ✓ Mean Arterial Pressure (MAP) < 65 mm Hg
 - ✓ Altered mental status
 - ✓ $\text{PaCO}_2<25$

DETECTION

1. Administer oxygen to maintain O_2 saturation above 96%.
2. Initiate ETCO_2 monitoring if available.
3. Establish two large bore IVs. (Consider IO access if necessary)
4. Administer 10 cc/kg IV bolus of NS in 500 cc Increments for normotensive patients and 20 cc/kg IV for hypotensive patients ($\text{SBP}<90$ or $\text{MAP}<65$)
5. Reassess BP and breath sounds after each bolus.
6. If SBP remains < 90 mm Hg or $\text{MAP} < 65$ mm Hg after 2000 cc of NS initiate a **dopamine** infusion at 10-20 mcg/kg/min. titrated to maintain $\text{SBP} >90$ mm Hg or $\text{MAP} > 65$ mm Hg.

SEPSIS ALERT

Notify the receiving hospital of an incoming “Severe Sepsis” patient.

*If **endotracheal intubation** and RSI are required, consider using an alternative to **etomidate** to sedate the patient.

TOXIC SMOKE INHALATION

1. Ensure your own safety before entering a potentially dangerous environment.
2. Remove the patient from exposure.
3. Administer high flow **O₂**.
4. Establish IV/IO access.
5. Administer IV/IO fluids, as necessary to maintain systolic BP of 100 mmHg.
6. Apply cardiac monitor.
7. Perform assessment of upper airway. To help determine the need for early **endotracheal intubation** look for stridor, severe facial burns, and soot in the airway.
8. If wheezing is present, administer **albuterol (Ventolin®)** and **ipratropium bromide (Atrovent®)** via SVN. May repeat Ventolin® if wheezing persists.
9. Repeat treatments with Ventolin® only, using small volume nebulizer. May be continued if symptoms persist
10. Assess clinical severity of suspected carbon monoxide, cyanide or combined exposure.
11. Consider administration of **hydroxocobalamin**, if the situation involves a confined space with combustion of possible cyanide gas producing substrates (see table 4.1), including :
 - ✓ Wool
 - ✓ Synthetic fibers
 - ✓ Plastics
 - ✓ Various building materials
 - ✓ Dumpster fire
 - ✓ Vehicle fire.

Note: A typical internal combustion engine exhaust does not produce cyanide gas.

Table 4.1:

SITUATIONS	SYMPTOMS	SIGNS
✓ Confined space	✓ Headache	✓ Altered mental status
✓ Burning synthetics	✓ Confusion	✓ Seizures or coma
✓ Burning wool	✓ Dyspnea	✓ Dilated pupils
✓ Dumpster fires	✓ Chest tightness	✓ Hyperventilation (early)
✓ Vehicle fires	✓ Nausea	✓ Hypoventilation (late)
		✓ Hypertension (early)
		✓ Hypotension (late)
		✓ Vomiting

12. If patient is in Cardiopulmonary arrest (CPA), administer hydroxocobalamin.
13. Prior to hydroxocobalamin, measure carbon monoxide level, if equipment is available, and obtain blood sample for subsequent cyanide assay.
14. If possible, document the nature of the inhaled smoke, the duration of the exposure, whether or not the patient was in an enclosed environment, and whether the patient sustained a loss of consciousness.
15. In adult cases of definite isolated CO poisoning contact medical control for consideration of transport to the nearest hospital based hyperbaric facility.

TREATMENT OF PATIENTS EXPOSED TO NERVE AGENTS GB, VX, AND ORGANOPHOSPHOROUS PESTICIDES

1. **The Hazardous Materials Response** policy should be applied to all responses involving these agents.
2. The following treatment should be considered only when the patient manifests typical symptoms of exposure to these agents and the scene is suggestive of exposure.
3. Mass Casualty Incident: Early recognition that field patient treatment needs will exceed immediately available supplies should prompt an immediate call to the CCC to initiate the release of Chempacks.
4. Symptoms: **Table 4.2**

D	Defecation	M	Muscle weakness and paralysis
U	Urination	T	Tachycardia
M	Miosis	W	Weakness
B	Bronchorrhea	TH	Hypertension
E	Excitation	F	Fasciculations
L	Lacrimation		
S	Salivation or seizures		

TREATMENT USING THE MARK 1 KIT:

1. Mild to moderate symptoms:
 - I. Establish a patent airway and adequate ventilation.
 - II. Administer 1 MARK 1 dose of **atropine** followed by one dose of **pralidoxime chloride** (2-PAM)*
 - III. Supplement by administering **O₂**.
 - IV. If symptoms persist after 5-10 minutes, repeat injections.
 - V. If symptoms persist in additional 10 minutes, repeat injections a third time.

2. Severe symptoms (respiratory compromise, seizure, or coma):
 - I. Administer auto injector kit, atropine and 2-PAM x3 in rapid succession.
 - II. If symptoms persist after third set of injections then **DO NOT** administer any more antidotes.
 - III. Slowly administer 1-2 mg of **lorazepam (Ativan®)** IV/IO/IM. May be repeated in 3-5 minutes, up to a total dose of 4 mg[†]

TREATMENT USING PEDS ATROPEN FOR ADULTS OR CHILDREN:

1. Atropine
 - A. Infant (0-3 years, < 13 kg): 0.05-0.1 mg/kg IM/IV or 0.2-1 mg Peds Atropen or MDV[‡]
 - B. Child (3-10 years, 13-35 kg): 1-4 mg IM/IV Peds Atropen, MDV or MARK1[‡]
 - C. Adolescent to adult: 2-6 mg IM/ IV MDV or MARK1
 - D. Elderly/frail: 1-4 mg IM/IV Peds Atropen, MDV or MARK 1[‡]
2. Pralidoxime (2-PAM)
 - A. Infant (0-3 years, < 13 kg): 25-50 MG/KG IM/IV or 150-600 mg MDV[‡]
 - B. Child (3-10 years, 13-35 kg): Administer 25-50 mg/kg IM/IV (or 300-1200 mg MDV or in MARK 1[‡]
 - C. Adolescent to adult (> 10 years, >35 kg):
 - a. Mild to moderate symptoms: Administer 1-3 doses IM sequentially from the MARK 1 Kit (or 600-1800 mg IM/IV from MDV)
 - b. Severe symptoms: Administer 3 doses IM from the MARK 1 Kits (or 1800 mg IM/IV from MDV)
 - D. Elderly/frail: 10-25 mg/kg IM/IV MDV or 2 PAM in MARK 1[‡]

TREATMENT OF SEIZURES WITH CHEMPACK SUPPLIED VALIUM

- A. Infant (0-3 years, < 13 kg): 0.2-0.5 mg/kg IM/IV or (1.25 mg-5 mg) MDV
- B. Child (3-10 years, 13-35 kg): 0.2-0.5 mg/kg IM/IV or (2.5 mg-10 mg) MDV or autoinjector
- C. Adolescent to adult: 5-10 mg IM/IV MDV or autoinjector
- D. Elderly/frail: 1.25-10 mg IM/IV MDV or autoinjector

*Warning: Morphine, theophylline, aminophylline, or succinylcholine should be used with caution for patients treated with 2-PAM.

†If patient's needs exceed immediately available supplies of lorazepam, diazepam may be substituted, 10 mg IM or autoinjector.

‡If MDV not available, IV route not established and/or precise dosing impossible, consider administration of MARK1.

SECTION 5: PEDIATRIC AND OB/GYN PROTOCOLS

GENERAL OB/GYN CONSIDERATIONS

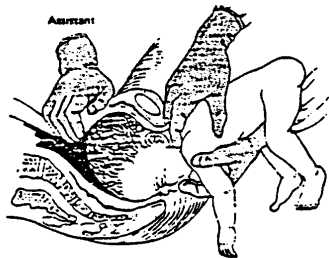
- ✓ Most deliveries proceed without complications.
- ✓ Most routine and uncomplicated pregnancies in labor may be transported with a minimum of ALS intervention.
- ✓ Transport most pregnant females in position of comfort.
- ✓ If possible, transport unconscious or traumatized third-trimester pregnant females in left lateral decubitus while protecting spine.
- ✓ Treat hypotension in the pregnant female aggressively.

COMPLICATIONS OF DELIVERY

BREECH DELIVERY:

1. Administer high flow **O₂**.
2. If breech obvious, transport patient ASAP.
3. Place mother in the supine or Trendelenburg position.
4. If delivery occurs during transport:
 - I. Allow mother to push. Gently extract baby. Do not pull.
 - II. Support delivered body and extremities on your hand and arm.
 - III. If head not delivered, place gloved hand in vagina to form a "V" around baby's mouth and nose, should it begin to breathe.
 - IV. Perform the Mauriceau maneuver to deliver the head (see Figure 5.1):
 - ✓ Fingers of left hand inserted into infant's mouth or over mandible
 - ✓ Fingers of right hand curved over infant's shoulders
 - ✓ Assistant exerts suprapubic pressure on head

Fig. 5.1: Mauriceau



PROLAPSED CORD:

1. Administer high flow **O₂**.
2. Place mother in knee-chest position or extreme Trendelenburg.
3. Insert gloved hand into vagina, and gently lift head/body off of the cord.
4. Observe cord for pulsations, and continue until relieved by hospital staff.

CORD WRAPPED AROUND NECK:

1. Gently attempt to loosen cord.
2. With 2 fingers behind the baby's neck, try to slip the cord forward over the baby's upper (anterior) shoulder and head. If unsuccessful, attempt to slip under lower shoulder and over head.
3. If unsuccessful, clamp cord with 2 clamps, cut between clamps and carefully unwrap cord from around the neck.
4. Assist delivery.

PLACENTA PREVIA/ABRUPTIC PLACENTA:

1. Administer high flow O₂.
2. Apply cardiac monitor.
3. Administer IV of NS. If hypovolemic, perform trial of volume infusion and apply Military Anti-Shock Trousers (MAST), legs only, as needed.
4. Contact receiving hospital via the HEAR system en route.

POSTPARTUM HEMORRHAGE:

Early: Usually due to uterine atony or tears of the cervix

Late (7-10 days): Retained placental parts

1. Administer high flow O₂.
2. Apply cardiac monitor.
3. Administer large bore IV of NS.
4. If hypovolemic:
 - I. Perform trial of volume infusion.
 - II. Apply MAST (legs only) as needed.
 - III. Perform external uterine massage (elevate and firm pressure).

EMERGENCY DELIVERY

1. Administer high flow **O₂**.
2. Place the mother in the supine position.
3. Administer large bore IV of 0.9 NS (time permitting).
4. Apply gentle counter pressure to baby's head as it delivers.
5. Suction the baby's mouth and nose with bulb syringe as soon as the head delivers.
6. Assist delivery of the shoulders and rest of the body.
7. After delivery, clamp cord, using 2 clamps 6 inches from baby's body. Cut cord between clamps.
8. Dry baby off and keep baby warm.
9. Clear the baby's airway.
10. Let placenta deliver normally. Do not pull on cord.
11. Place delivered placenta in plastic bag for transport.
12. Massage uterus firmly.
13. Examine perineum for tears. Apply direct pressure with gauze to any bleeding tears. Do not pack vagina.
14. Estimate blood loss. Treat for hypovolemia, as needed.

MEDICATIONS FOR NEONATAL RESUSCITATION

EPINEPHRINE

CONCENTRATION:	1:10 000	INFANT WEIGHT	TOTAL DOSE (ML)
PREPARATION:	1 ml	1 kg	0.1-0.3 ml
DOSAGE/ROUTE:	IV/ET/IO 0.1-0.3 ml/kg	2 kg	0.2-0.6 ml
RATE/PRECAUTIONS:	Administer rapidly	3 kg	0.3-0.9 ml
		4 kg	0.4-1.2 ml

VOLUME EXPANSION

CONCENTRATION:	Normal saline	INFANT WEIGHT	TOTAL DOSE (ML)
PREPARATION:	40 ml	1 kg	10 ml
DOSAGE/ROUTE:	IV or IO 20 ml/kg	2 kg	20 ml
RATE/PRECAUTIONS:	Administer over 5-10 minutes	3 kg	30 ml
		4 kg	40 ml

SODIUM BICARBONATE (NAHCO₃)

CONCENTRATION:	0.5 mEq/ml	INFANT WEIGHT	TOTAL DOSE (ML)
PREPARATION:	20 ml or two 10 ml prefilled syringes	1 kg	2 mEq 4 ml
		2 kg	4 mEq 8 ml
DOSAGE/ROUTE:	IV or IO 2 mEq/kg	3 kg	6 mEq 12 ml
RATE/PRECAUTIONS:	Administer slowly over at least 2 minutes, only if infant being effectively ventilated.	4 kg	8 mEq 16 ml

NALOXONE (NARCAN®)

CONCENTRATION:	0.4 mg/ml	INFANT WEIGHT	TOTAL DOSE (ML)
PREPARATION:	1 ml		
DOSAGE/ROUTE:	IV/ET/IO/IN	1 kg	0.25 ml
	0.25 ml/kg	2 kg	0.5 ml
RATE/PRECAUTIONS:	Administer rapidly	3 kg	0.75 ml
		4 kg	1 ml

DOPAMINE

CONCENTRATION:	$[6 \times \text{Weight (kg)} \times \text{Desired dose (mcg/kg/min)}]$	INFANT WEIGHT	TOTAL DOSE (ML)
	Desired fluid (ml/hr)	1 kg	5-20 mcg/min
	=	2 kg	10-40 mcg/min
	Mg of dopamine per 100 ml solution	3 kg	15-60 mcg/min
		4 kg	20-80 mcg/min
DOSAGE/ROUTE:	IV or IO drip		
	Begin at 5 mcg/kg/min.		
	May increase to 20 mcg/kg/min if necessary.		

NEONATAL RESUSCITATION

INITIAL MEASURES:

1. Position baby with neck slightly extended and head lower than body. Suction mouth and then nose.
2. Perform tracheal suctioning, if thick meconium is present in amniotic fluid and if possible.
3. Clamp umbilical cord at least 4-6 inches from umbilicus.
4. Quickly dry amniotic fluid from head and body. Remove wet linen from contact with baby. Keep baby's body covered.

EVALUATE RESPIRATIONS, HR, AND COLOR

1. If spontaneous breathing, HR > 100, and pink; keep infant warm, and observe.
2. If spontaneous breathing, HR > 100, and cyanotic; administer 80-100% **O₂**.
3. If spontaneous breathing, HR < 100; support ventilations with **bag valve mask**.
4. If apneic; slap foot, flick or rub back, and reevaluate respirations. If apnea persists, ventilate with bag valve mask.
5. Perform **APGAR score** on patient.

BAG VALVE VENTILATION:

1. Position infant with head slightly extended (slight Trendelenburg).
2. Check seal by giving 2-3 ventilations at appropriate pressure, and observe for chest movement.
3. If chest rise is good and easy, ventilate for 30 seconds at 40-60/minute. Recheck heart rate.
4. If no chest rise; check for adequate seal, reposition head, check for secretions, and attempt to ventilate with mouth slightly open.

5. If still no chest rise, increase ventilation pressure.

REEVALUATE HEARTRATE:

1. If HR < 60, continue ventilations at 40-60/minute and perform chest compressions at 120/minute. Reassess after 30 seconds.
2. If HR 60 -100 but not increasing, continue ventilations and perform compressions if HR < 80.
3. If HR 60 -100 and increasing, continue ventilations.
4. If HR > 100 and spontaneous respiration present; discontinue ventilation, provide tactile stimulation, and monitor patient.

ENDOTRACHEAL INTUBATION:

1. **Endotracheal intubation** should be considered for apneic neonates not responding to 2 30 second periods of bag valve mask ventilation.
2. Examine epiglottis and trachea. Insert ET tube.
3. Check tube placement by listening to lateral chest and abdomen.
4. If tube correctly placed, note "cm" mark at lip and secure tube to face.

NEONATAL MEDICATIONS: ET administration or IO infusion may be used if unable to establish IV. However, neither **dopamine** nor **sodium bicarbonate (NaHCO₃)** should be administered ET.

1. If HR 0 or < 80/minute after 30 seconds of positive pressure, ventilation, and chest compressions; administer **epinephrine**. Repeat q 5 minutes, as needed.
2. If HR remains < 100 and there is evidence of acute bleeding with signs of hypovolemia, administer trial of volume infusion at 10 ml/kg NS, IV/IO .
3. If evidence of continuing shock is present, contact receiving physician for possible administration of NaHCO₃ or dopamine.
4. If respiratory depression and history of narcotics in mother is present within past 4 hours, administer **naloxone (Narcan[®])**.

PRE-ECLAMPSIA

MILD PRE-ECLAMPSIA: Moderate hypertension, edema, weight gain.

MODERATE TO SEVERE PRE-ECLAMPSIA:

Any one of the following:

- ✓ Hypertension >160
systolic or
>110 diastolic
- ✓ Epigastric pain
- ✓ Dyspnea
- ✓ Headache
- ✓ Cyanosis
- ✓ Cerebral Disturbances
- ✓ Visual disturbances

ECLAMPSIA (TOXEMIA):

Any one of the above or:

- ✓ Seizure
 - ✓ Postictal
1. Administer high flow **O₂**.
 2. Establish IV/IO access.
 3. Apply cardiac monitor.
 4. If patient seizing, administer 1-2 mg of **midazolam (Versed®)** IV/IM/IO*
q 3 minutes, up to a maximum dose of 6 mg.†
 5. Administer 4 gm of **magnesium sulfate** diluted with 20 ml of NS IV/IO
or 4 gm IM not diluted.

*May be administered intranasally via mucosal atomization device (MAD) at a dose of 5 mg.

†If Versed® is not available, lorazepam may be substituted at appropriate dosages.

SEXUAL ASSAULT

1. Perform secondary survey, as indicated.
2. Treat associated injuries.
3. Advise patient not to bathe, douche, etc. If clothing already changed, collect clothing worn during assault for transport to hospital in paper bag. Maintain chain of evidence.
4. Give patient emotional support and reassurance. Do not press inquiries if patient is unwilling or embarrassed to answer questions.

SPONTANEOUS ABORTION

1. Obtain date of last menstrual period.
2. If hypotensive:
 - I. Administer high flow **O₂**.
 - II. Apply cardiac monitor.
 - III. Administer large bore IV of NS.
3. Apply loose perineal pad. Collect any tissue passed and bring to hospital.

GENERAL PEDIATRIC CONSIDERATIONS



- ✓ Most pediatric **medical** emergencies are respiratory.
- ✓ Most pediatric respiratory emergencies can be managed with **O₂**, suction, proper patient positioning, and occasionally with positive pressure ventilation with bag and mask.
- ✓ Pediatric medical and traumatic emergencies may also involve shock.*
Check heart rate, LOC, capillary refill, and BP (if obtainable), if not, check for pulse at wrist or groin).
- ✓ Medications and fluids can be administered by intraosseous infusion (IO) when an IV cannot be established (**see Intraosseous Infusions in Children**). In general, attempts at IV cannulation should be limited to 90 seconds or 2 attempts.
- ✓ Use color coded resuscitation tape, if available, for critically ill or injured pediatric patients (less than 34 kg or 75 lbs) requiring medications or procedures.
- ✓ For general purposes: Infants are defined as less than one year of age and children are defined as from age one to twelve or until they have reached adult size.

CHILD ABUSE



1. The following is a list of findings suspicious of child abuse:
 - ✓ Explanations of mechanisms of injury conflicting with actual injury
 - ✓ Cigarette burns; belt marks; multiple bruises of varied age
 - ✓ History of repeated injuries
 - ✓ Blame placed upon others
 - ✓ Procrastination by caretaker in seeking aid
 - ✓ Sexual abuse may be present without signs of apparent physical abuse
2. Treat injuries according to appropriate trauma protocol.
3. Carefully document caretaker's description of events.
4. Observe carefully and note the:
 - ✓ Environment
 - ✓ Reaction of all adults
 - ✓ Patient's clothing, stains, conditions (bring clothing in with patient)
5. Give the child support and reassurance. Be non-judgmental and supportive to family concerns.
6. Encourage caretaker to allow transport of child to hospital for medical evaluation and/or treatment. If they do not agree, contact **Law Enforcement** or **Child Protective Services** at **(509) 363-3333**.

PEDIATRIC AIRWAY OBSTRUCTION



INFANT (LESS THAN 1 YEAR OF AGE):

1. Confirm severe airway obstruction. Check for the sudden onset of severe breathing difficulty, ineffective or silent cough, and/or a weak or silent cry.
2. Perform up to 5 back slaps and up to 5 chest thrusts.
3. Repeat step 2 until effective or victim becomes unresponsive.
4. If victim is unresponsive with no breathing or no normal breathing (i.e. agonal gasps), begin performing CPR (no pulse check).
5. Before you deliver breaths, look into mouth. If you see a foreign body that can be easily removed, remove it.
6. If unable to ventilate patient, attempt to remove obstruction with laryngoscope and McGill forceps.

CHILD (1 YEAR TO ADOLESCENT (PUBERTY)):

1. Ask "Are you choking?"
2. Perform abdominal thrusts/Heimlich maneuver.
3. Repeat abdominal thrusts until effective or victim becomes unresponsive.
4. If victim is unresponsive with no breathing or no normal breathing (i.e. agonal gasps), begin performing CPR (no pulse check).
5. Before you deliver breaths, look into mouth. If you see a foreign body that can be easily removed, remove it.
6. If unable to ventilate patient, attempt to remove obstruction with laryngoscope and McGill forceps.
7. If obstruction persists, consider **needle cricothyrotomy** (for patients > 2 years of age).

PEDIATRIC ALLERGIC REACTIONS AND ANAPHYLAXIS



MILD ALLERGY: Red and itchy skin; hives; if sting present, localized swelling at sting site; and vital signs within normal limits.

1. Administer **O₂** at 8-15 LPM by mask or blow-by.
2. If present, scrape stinger out. Stabilize involved extremity and apply ice.
3. Apply venous **tourniquet** above injection or sting site, if on an extremity.
4. Apply cardiac monitor.
5. Establish IV/IO access.
6. Administer **diphenhydramine (Benadryl®)** at 1 mg/kg IV/IO/IM, up to a maximum dose of 50 mg.

MODERATE ALLERGY: Red and itchy skin; hives; swelling of face, lips, tongue, or pharynx; mild to moderate SOB; wheezing; BP > 80.

1. Follow steps 1-4 for mild allergy.
2. Administer **epinephrine** at 1:1 000, 0.01 mg/kg IM,[†] up to a maximum dose of 0.3 mg. Repeat q 5 minutes, as needed.
3. Administer Benadryl® at 1 mg/kg IV/IO/IM, up to a maximum dose of 50 mg.

ANAPHYLAXIS: Red and itchy skin; hives; severe swelling of face, lips, tongue, or pharynx; possible severe SOB; BP < 70.

1. Follow steps 1-4 for mild allergy.
2. Establish IV/IO access.
3. Administer NS fluid challenge at 20 ml/kg as rapidly as possible. Repeat once to achieve minimum BP for age and clinical improvement (capillary refill < 2 seconds, stronger pulses, warmer extremities, improving LOC). Contact receiving physician to consider additional fluid administration.

4. Slowly administer epinephrine at 1:10 000, 0.01 mg/kg IV/IO,* up to a maximum dose of 0.3 mg. Repeat q 5 minutes, as needed.
5. Administer Benadryl® at 1 mg/kg IV/IO up to a maximum dose of 50 mg.
6. If unable to establish IV/IO, administer epinephrine at 1:1 000, .01 mg/kg IM up to 0.3 mg. Repeat q 5 minutes, as needed.
7. If severe SOB and wheezing, administer **albuterol (Ventolin®)** at 2.5 mg in 3 ml NS (3 ml premix) via small volume nebulizer.

*This drug may be administered via the endotracheal tube, if an IV cannot be established. The ET dose is Epinephrine 1:1 000, 0.1 mg/kg diluted to a total of 3 ml in NS q 3-5 minutes.

PEDIATRIC ASYSTOLE/PULSELESS ELECTRICAL ACTIVITY



1. Perform CPR for 2 minutes.
2. Administer **O₂** with **Bag Valve Mask** and consider establishing advanced airway (ETT or advanced supraglottic airway).
3. Apply monitor/defibrillator.
4. Establish IV/IO access.
5. Administer **epinephrine** at 1:10 000, 0.01 mg/kg IV/IO or 1:1 000, 0.1 mg/kg ET diluted in 3 ml NS. Repeat q 3-5 minutes.
6. Perform rhythm assessment.
7. Perform CPR for 2 minutes.
8. Identify and treat possible causes:
 - ✓ Hypovolemia
 - ✓ Hypoxia
 - ✓ Hydrogen Ion (acidosis)
 - ✓ **Hypoglycemia**
 - ✓ Hypo/hyper kalemia
 - ✓ Tension pneumothorax
 - ✓ Tamponade, cardiac
 - ✓ Toxins
 - ✓ Thrombosis pulmonary
9. Continue CPR, rhythm assessment, and epinephrine sequence until ROSC or termination.
10. Transport patient ASAP.

PEDIATRIC BRADYCARDIA



1. Maintain patent airway and assist breathing as necessary, administer **O₂**.
2. Apply cardiac monitor. Perform rhythm assessment, and monitor blood pressure and oximetry.
3. Establish IV/IO access.
4. Apply 12 Lead EKG.

IF CARDIOPULMONARY COMPROMISE EXISTS*:

1. Administer O₂ at 100%, perform advanced airway management.
2. Perform CPR, if despite oxygenation and ventilation the patient's HR < 60/minute with poor perfusion.
3. Administer fluid bolus at 20 ml/kg IV/IO. May repeat up to 60 ml/kg for signs of shock.
4. Administer **epinephrine** at 1:10 000, 0.01 mg/kg IV/IO or 1:1 000, 0.1 mg/kg ET diluted in 3 ml NS q 3-5 minutes.
5. If increased vagal tone or primary AV block, consider **atropine** at 0.02 mg/kg IV/IO (minimum dose of 0.1mg, maximum single dose of 0.5 mg). This drug may be administered via ETT at twice the IV/IO dose.
6. Consider transcutaneous pacing.
7. Identify and treat possible causes:

✓ Hypovolemia	✓ Hypothermia
✓ Hypoxia	✓ Tension pneumothorax
✓ Hydrogen Ion (acidosis)	✓ Tamponade, cardiac
✓ Hypoglycemia	✓ Toxins
✓ Hypo/hyperkalemia	✓ Thrombosis pulmonary
8. Transport patient ASAP.

*May include significant respiratory difficulty or one or more of the following signs of shock: altered LOC, capillary refill > 2 seconds, rapid pulse, diminished distal pulses, cool extremities, and hypotension.

PEDIATRIC COMA/ALTERED LEVEL OF CONSCIOUSNESS



1. Establish and secure patient's airway. Consider obstructed airway and/or inadequate ventilation as a cause of ALOC.
2. Take spinal precautions.
3. Administer **O₂** at 8-15 LPM by mask or blow-by.
4. Assist ventilation, as needed, at age appropriate respiratory rate. Consider orotracheal intubation, if unable to maintain airway.
5. Consider causes of coma, AEIOU-TIPS. (See Table 5.1)

Table 5.1 AEIOU – Tips

A	Alcohol, Acidosis	T	Trauma
E	Epilepsy	I	Insulin
I	Infection	P	Psychosis
O	Overdose/Poisoning	S	Stroke
U	Uremia		

6. Transport patient ASAP.
7. Establish IV/IO Access.
8. Administer NS at TKO rate.
9. If signs of shock present, administer 20 ml/kg NS fluid challenge as rapidly as possible. Repeat once to achieve minimum BP for age and clinical improvement (capillary refill < 2 seconds, stronger pulses, warmer extremities, improving LOC).
10. Perform a **blood glucose test**. If capillary blood glucose level is < 60, obtain blood sample and administer **50% dextrose** at 1 ml/kg IV/IO push. If patient < 1 year, dilute 1:1 with NS.

11. If blood glucose level is < 60 and you are unable to establish IV/IO access, administer **glucagon** at 0.05 mg/kg IM, up to a maximum dose of 1 mg.
12. Administer **naloxone (Narcan®)** at 0.1 mg/kg MAD/IV/IO/IM,* up to a maximum dose of 2 mg.

*This drug may be administered via the endotracheal tube, if an IV cannot be established. The ET dose is double the IV dose.

PEDIATRIC FEVER



If oral or rectal temperature is greater than 38° C (100° F):

1. Remove clothing from patient.
2. If no problem other than fever identifiable, no therapy is required at the scene. If child appears toxic, do not delay transport.
3. For fever associated with seizure:
 - I. Administer high flow **O₂** at 8-15 LPM by mask or blow-by.
 - II. If patient is in status epilepticus, treat according to **Pediatric Seizures** protocol.

PEDIATRIC HYPOGLYCEMIA



As suggested by lethargy or coma in a known diabetic.

1. Administer **O₂** at 8-15 LPM by mask or blow-by.
2. Apply Cardiac monitor.
3. Establish IV/IO access.
4. Perform **blood glucose test**. If capillary blood glucose level is < 60 mg/dl, obtain blood sample and administer **50% dextrose** at 1 ml/kg IVP/IO. If patient < 1 year, dilute 1:1 with NS.
5. If blood glucose level is < 60 mg/dl and you are unable to establish IV access, administer **glucagon** at 0.05 mg/kg IM/SQ, up to a maximum dose of 1 mg.
6. If the patient's blood glucose level is < 35 mg/dl and the patient fails to respond for 10 minutes after glucagon administration, consider establishing IO access for 50% dextrose administration.
7. Perform secondary assessment; look for signs of trauma.
8. If no response to above measures, follow **Pediatric Coma** protocol.

PEDIATRIC POST RESUSCITATION CARE



1. Optimize ventilation and administer **O₂**.
2. Maintain SpO₂ saturation at $\geq$ to 94%. Wean patient, if saturation is 100%.
3. Establish IV/IO access, if not already done.
4. Consider establishing advanced airway (ETT or supraglottic advanced airway) and waveform **capnography**.
5. Assess for and treat persistent shock*. Administer fluid bolus at 20 ml/kg IV/IO. May repeat up to 60 ml/kg as required.
6. Consider need for **dopamine** at 2-20 mcg/kg/minute for fluid refractory shock.†
7. Search for and treat reversible causes.

✓ Hypovolemia	✓ Tamponade, cardiac
✓ Hypoxia	✓ Toxins
✓ Hydrogen Ion (acidosis)	✓ Thrombosis pulmonary
✓ Hypoglycemia	✓ Thrombosis Coronary
✓ Hypo/hyperkalemia	✓ Trauma
✓ Tension pneumothorax	
8. Transport patient ASAP.

*May include significant respiratory difficulty or one or more of the following signs of shock: altered LOC, capillary refill > 2 seconds, rapid pulse, diminished distal pulses, cool extremities, and hypotension.

†If dopamine is unavailable, epinephrine may be substituted at a continuous infusion of 0.1-1 mcg/kg/min.

PEDIATRIC PULSELESS VENTRICULAR TACHYCARDIA OR VFIB



1. Perform CPR for 2 minutes. Administer **O₂** with **Bag Valve Mask** and consider establishing advanced airway (ETT or advanced supraglottic airway). Apply monitor/defibrillator.
2. Apply one shock at 2 j/kg.
3. Perform CPR for 2 minutes. Establish IV/IO access.
4. Administer NS at TKO rate.
5. Apply one shock at 4 j/kg.
6. Perform CPR for 2 minutes.
7. Administer **epinephrine** at 1:10 000, 0.01 mg/kg IV/IO or ET at 1:1 000 solution, 0.1 mg/kg diluted in 3 ml of NS. Repeat epinephrine q 3-5 min.
8. Apply one shock at 4 j/kg.
9. Perform CPR for 2 minutes. Search for and treat reversible causes. During CPR, administer **amiodarone** at 5 mg/kg IV/IO, may repeat 2 times q 3-5 minutes.
10. Apply one shock at 4 j/kg.
11. Perform CPR.
12. Transport ASAP continuing, CPR, defibrillation, and medication sequence.

PEDIATRIC RESPIRATORY ARREST



1. Establish and secure patient's airway.*
2. Apply **bag valve mask** and ventilate with 100% **O₂**,
3. Perform orotracheal intubation.
4. Assist ventilation, as needed, using adequate volume/pressure to make chest rise and breath sounds audible.
5. Monitor pulse oximetry, if available. Administer titrate O₂ and ventilate to maintain O₂ stats at $\geq 90\%$.
6. Establish IV/IO Access.
7. Administer NS at TKO rate.
8. Perform **blood glucose test**. If capillary blood glucose level is < 60 , obtain blood sample and administer **50% dextrose** at 1 ml/kg IV/IO push. If patient < 1 year, dilute 1:1 with NS.
9. Administer **naloxone (Narcan®)** at 0.1 mg/kg IV/IO/IM[†], up to a maximum dose of 2 mg.

*If airway positioning alone returns spontaneous respirations, oxygenate at high flow rate, and assist ventilations, as necessary. If spontaneous respirations do not return, ventilate with bag valve mask, and perform endotracheal intubation in a controlled manner. If airway is obstructed, follow **Airway Obstruction** protocol.

[†]This drug may be administered via the endotracheal tube if IV access cannot be established. The ET dose is double the IV dose. Narcan® may be administered via a Mucosal Atomization Device (MAD) at a dose of 0.1 mg/kg up to a total of 2 mg.

PEDIATRIC RESPIRATORY DISTRESS WITH STRIDOR



Stridor is a harsh inspiratory sound indicating upper airway obstruction.

MILD OR MODERATE DISTRESS: Tachypneic, slight accessory muscle use, minimal retractions, and pink.

1. Observe respirations and perform auscultation on lungs.
2. Allow patient to assume position of maximum comfort, with parent, if necessary.
3. Administer **O₂** at 8-15 LPM by mask or blow-by.
4. Monitor pulse oximetry, if available. Administer titrate O₂ and ventilate to maintain O₂ stats at $\geq 90\%$.
5. Transport patient ASAP.

SEVERE DISTRESS: Tachypneic, accessory muscle use, and retractions.

1. Follow steps 1-4 for moderate distress.
2. Administer a single dose of **racemic epinephrine** via small volume nebulizer.
 - A. PT > 2YR: 0.5 ml (2.25%) in 3 ml NS.
 - B. PT < 2 YR: 0.25 ml (2.25%) in 3 ml NS.

PEDIATRIC RESPIRATORY DISTRESS WITH WHEEZING



MILD DISTRESS: Alert, pink, comfortable, able to speak easily.

1. Observe respirations and perform auscultation on lungs.
2. Administer **O₂** at 8-15 LPM by mask or blow-by.
3. Transport patient ASAP.

MODERATE DISTRESS: Tachypneic, slight accessory muscle use, and minimal retractions.

1. Observe respirations and perform auscultation on lungs.
2. Allow patient to assume position of comfort, with parent if necessary.
3. Administer O₂ at 8-15 LPM by mask or blow-by.
4. Monitor pulse oximetry, if available. Administer titrate O₂ and ventilate to maintain SPO₂ at ≥ 90% .
5. Apply cardiac monitor.
6. Administer **albuterol (Ventolin®)** at 2.5 mg in 3 ml NS (3 ml premix) via SVN.
7. Consider administration of **ipratropium bromide (Atrovent®)**.*
8. Transport patient ASAP.

SEVERE DISTRESS: Tachypneic, accessory muscle use, retractions, difficulty speaking, cyanosis.

1. Follow steps 1-7 for moderate distress.
2. Repeat Ventolin® administration q 15 minutes until improvement.
3. Establish IV/IO access. Consider administration of NS at TKO rate.

*If ipratropium bromide is also supplied in a premix unit dose with Albuterol (Combivent, Duoneb).

PEDIATRIC SEIZURES



1. Establish and secure patient's airway.
2. Apply **bag valve mask** and ventilate with 100% **O₂**. Consider orotracheal intubation. Observe for airway obstruction.
3. Protect patient to prevent further injury.
4. Transport patient ASAP.
5. Establish IV/IO access.
6. Administer NS at TKO rate.
7. Perform a **blood glucose test**. If capillary blood glucose level is < 60, obtain blood sample and administer **50% dextrose** at 1 ml/kg IVP/IO. If patient < 1 year, dilute 1:1 with NS.
8. If seizure activity persists for more than 2 minutes or patient has recurring seizures, administer **midazolam (Versed®)** at 0.05-0.1 mg/kg IV/IM/IO q 3 minutes until seizures are under control or up to a maximum dose of 2 mg (can also be administered via MAD at 0.2 mg/kg up to a maximum dose of 2 mg). If Versed® is unavailable administer **lorazepam (Ativan®)** at 0.1 mg/kg IV/IM/IO q 3 minutes until seizures are under control or up to a maximum dose of 2 mg.

PEDIATRIC SHOCK*



1. Establish and secure patient's airway. Orotracheal intubation may be appropriate and necessary.
2. Administer **O₂** at 8-15 LPM by mask or ET tube. Assist ventilation, as needed, Monitor pulse oximetry, if possible.
3. Apply cardiac monitor.
4. Transport patient ASAP.
5. Establish IV/IO access.
6. Administer NS fluid challenge at 20 ml/kg as rapidly as possible. Repeat once to achieve minimum BP for age and clinical improvement (capillary refill < 2 seconds, stronger pulses, warmer extremities, improving LOC). If signs of shock persist contact receiving physician to consider additional fluid administration.

*Shock is defined by a combination of the following: altered LOC, capillary refill > 2 seconds, rapid pulse, diminished distal pulses, cool extremities, and hypotension.

PEDIATRIC TRAUMA



1. Establish and secure a patent airway while maintaining in-line axial support.
2. Administer high flow **O₂**. Assist ventilation, as needed.
3. Take spinal precautions.
4. Transport patient ASAP.
5. Establish IV/IO access.
6. If signs of shock present*, administer NS fluid challenge at 20 ml/kg as rapidly as possible. Repeat once to achieve minimum BP for age and clinical improvement (capillary refill < 2 seconds, stronger pulses, warmer extremities, improving LOC). If signs of shock persist, contact receiving physician to consider additional fluid administration.
7. If signs of head injury are present† follow this procedure:
 - I. Elevate head 15°, if patient has no signs of shock. Observe spinal precautions.
 - II. Consider intubation using **succinylcholine (Anectine®)**, if necessary, to provide optimal ventilation.
 - III. Hyperventilate via ET tube at one and a half times the normal respiratory rate for age.

*Shock is defined by a combination of the following: altered LOC, capillary refill > 2 seconds, rapid pulse, diminished distal pulses, cool extremities, and hypotension.

†Signs of increased intracranial pressure include: dilated pupils, focal neurological signs, decreased LOC, posturing, and/or GCS level < 8.

STABLE NARROW-COMPLEX PEDIATRIC TACHYCARDIA*



1. Maintain patent airway. Assist breathing as necessary, administer **O₂**.
2. Apply monitor. Perform rhythm assessment, apply 12 lead EKG, and monitor blood pressure and oximetry.
3. Establish IV/IO access.
4. Consider Vagal Maneuvers.[†]
5. Administer **adenosine (Adenocard®)** at 0.1 mg/kg. Repeat PRN one time at 0.2 mg/kg.
6. If patient becomes unstable, perform cardioversion at 0.5-1 j/kg. If not effective, increase to 2 j/kg. Sedate prior to cardioversion, if needed, with **etomidate** at 0.1 mg/kg, **DO NOT** delay cardioversion.
7. Identify and treat possible causes.

✓ Hypovolemia	✓ Tension pneumothorax
✓ Hypoxemia	✓ Tamponade
✓ Hyperthermia	✓ Toxins/Poisons/Drugs
✓ Hypo/hyperkalemia & Metabolic disorders	✓ Thromboembolism
	✓ Pain
8. Transport patient ASAP.

*Infants rate usually > 220/minute; children rate usually > 180/minute

†Applying ice or cold water to the face may be particularly effective in infants and children.

STABLE WIDE-COMPLEX PEDIATRIC TACHYCARDIA*



1. Maintain patent airway. Assist breathing as necessary, administer **O₂**.
2. Apply monitor. Perform rhythm assessment, apply 12 lead EKG, and monitor blood pressure and oximetry.
3. Establish IV/IO access.
4. If rhythm is absolutely regular and QRS is monomorphic, contact Medical Control to consider administering **adenosine (Adenocard®)** at 0.1 mg/kg up to a maximum dose of 6 mg. May repeat in 2 minutes at 0.2 mg/kg up to a maximum dose of 12 mg.
5. Administer **amiodarone** at 5 mg/kg over 20-60 minutes. May repeat up to 15 mg/kg. Maximum single dose of 300 mg.[†]
6. If patient becomes unstable, perform cardioversion at 0.5-1 j/kg. If not effective, increase to 2 j/kg. Sedate prior to cardioversion, if needed, with **etomidate** at 0.1 mg/kg. **DO NOT** delay cardioversion.
7. Identify and treat the following possible causes:

✓ Hypovolemia	✓ Pain
✓ Hypoxemia	✓ Tamponade
✓ Hyperthermia	✓ Tension pneumothorax
✓ Hypo/hyperkalemia & Metabolic disorders	✓ Thromboembolism
	✓ Toxins/Poisons/Drugs
8. Transport patient ASAP.

*QRS duration wide for age > 0.09 seconds

[†]Lidocaine at 1 mg/kg 1 time may be substituted if the patient is hypersensitive to amiodarone.

SUDDEN INFANT DEATH SYNDROME



Sudden Infant Death Syndrome is sudden death, without apparent cause, during sleep. It affects infants usually less than six months of age. It may be difficult to differentiate from suspected child abuse.



1. Perform CPR, unless obvious signs of death.
2. Apply cardiac monitor. Treat arrhythmias appropriately.
3. Support parents and avoid questions or comments that suggest blame.
4. Observe and carefully note:
 - ✓ Location and position of child
 - ✓ Objects immediately surrounding child
 - ✓ Behavior of all adults present
 - ✓ Explanations provided
 - ✓ Vomitus or foreign body in mouth, if present
5. Report all observations to Medical Control, County Coroner, or Law Enforcement.

UNSTABLE NARROW-COMPLEX PEDIATRIC TACHYCARDIA*



1. Maintain patent airway. Assist breathing as necessary, administer **O₂**.
2. Apply monitor. Perform rhythm assessment, apply 12 lead EKG, and monitor blood pressure and oximetry.
3. Establish IV/IO access. **DO NOT** delay therapy awaiting 12 lead EKG and/or IV/IO access.
4. Consider vagal maneuvers.[†]
5. Perform cardioversion at 0.5-1 j/kg. May increase to 2 j/kg if ineffective. Sedate prior to cardioversion with **etomidate** at 0.1 mg/kg, if needed, **DO NOT** delay cardioversion.
6. Identify and treat the following possible causes:

✓ Hypovolemia	✓ Tension pneumothorax
✓ Hypoxemia	✓ Tamponade
✓ Hyperthermia	✓ Toxins/Poisons/Drugs
✓ Hypo/hyperkalemia & Metabolic disorders	✓ Thromboembolism
	✓ Pain
7. Transport patient ASAP.

*Infants usually > 220/min; children usually > 180/min

†Application of ice or cold water to the face may be particularly effective in infants and children.

UNSTABLE WIDE-COMPLEX PEDIATRIC TACHYCARDIA*



1. Maintain patent airway. Assist breathing as necessary, administer **O₂**.
2. Apply monitor. Perform rhythm assessment, apply 12 lead EKG, and monitor blood pressure and oximetry.
3. Establish IV/IO access. **DO NOT** delay therapy awaiting 12 lead EKG and/or IV/IO access.
4. Perform cardioversion at 0.5-1 j/kg. May increase to 2 j/kg if ineffective. Sedate prior to cardioversion with **etomidate** at 0.1 mg/kg, if needed, **DO NOT** delay cardioversion.
5. Administer **amiodarone** at 5 mg/kg IV/IO over 20-60 minutes.[†] May repeat at 5 mg/kg up to a maximum dose of 15 mg/kg. Maximum single dose of 300 mg.
6. Transport patient ASAP.

*QRS duration wide for age > 0.09 seconds

[†]Lidocaine at 1 mg/kg one time may be substituted if the patient is hypersensitive to amiodarone.

SECTION 6: TRAUMA PROTOCOLS

ABDOMINAL TRAUMA

1. Allow patient to assume position of comfort, unless spinal injury is suspected.
2. Administer high flow **O₂**.
3. Apply cardiac monitor.
4. Establish a large bore IV of NS at TKO rate, unless shock is present.
5. If shock is present, establish a second large bore IV and titrate to maintain a target BP of 80-90 systolic.
6. Treatment for specific abdominal injuries (maintain high degree of suspicion for critical injury in an otherwise stable appearing patient):
 - A. Evisceration:
 - I. **DO NOT** replace.
 - II. Cover with saline-moistened dressing and, if available, cover dressing with plastic wrap.
 - B. Impaled Objects:
 - I. Stabilize in place and avoid any unnecessary movement of the patient or object.
 - II. **DO NOT** remove.
 - C. Blunt Trauma
 - I. Consider MAST for injury stabilization and/or hypotension.
 - II. Maintain a target BP of 80-90 systolic if patient is hypotensive.

ANIMAL BITES

1. Assess scene safety paying special attention to the potential presence of aggressive animals.
2. Contact appropriate animal control agencies to ensure capture, appropriate caging, restraint, or euthanasia of offending animal.
3. If significant injuries are present, administer **O₂**, apply cardiac monitor, and establish IV/IO access.
4. Perform copious irrigation with sterile saline and/or tap water and apply sterile dressings.
5. Remove constricting jewelry from a bitten extremity.
6. If fractures are suspected, splint the extremity.
7. If severe pain is present consider administering **fentanyl** at 0.5-1 mcg/kg IV/IO/IM, up to a total dose of 3 mcg/kg as long as BP > 100.
8. Animal bites shall be promptly reported to SCRAPS. In the rare case that a patient refuses transport, the EMS providers shall contact **SCRAPS (509-477-2532)** to ensure the bite has been reported. In addition, for transported patients, the EMS provider shall request that the hospital personnel report the bite to SCRAPS and document this request.*

*Does not apply to commissioned service animals.

BURNS

1. Remove patient from hazard.
 - A. Remove patient from physical contact with burning agent(s) by removing contaminated/burned clothing, jewelry, and dry chemicals.
 - I. Dry chemicals should be brushed off the surface
 - II. Burned area should be flushed with large amounts of low pressure water for 15-30 minutes.
 - III. **DO NOT** delay transport while flushing chemical burns.
2. Administer high flow **O₂**.
3. Assess for other possible non-burn trauma.
4. If stridor or facial burns are present, consider early ET intubation.
5. Determine depth and size of burn.
6. If > 15% burn or facial burn is present, establish a large bore IV of NS at appropriate rate ([see Classification of Burns](#)).
7. Cover burned area with dry, sterile sheets.
8. Maintain normothermia. To help hypothermia, cover with dry sterile burn sheets and wrap with a blanket.
9. If necessary, consider the administration of intravenous **fentanyl** at 0.5-1 mcg/kg IV/IO/IM, up to a total dose of 3 mcg/kg for pain.

CHEMICAL BURNS TO THE EYE

1. Flush eye(s) with large amounts of low pressure water or saline for 15 minutes ASAP.
2. Locate and transport chemical or container.

CHEST TRAUMA

1. Take spinal precautions.
2. Administer high flow O₂.
3. Assist ventilation if respiratory rate < 10 or > 30.
4. Apply cardiac monitor.
5. Establish a large bore IV of NS at TKO, unless shock is present.
6. If shock is present, run fluids wide open and titrate to maintain a systolic BP of 90.
7. Treatment for specific chest injuries:
 - A. Open Chest Wound:
 - I. Apply occlusive dressing.
 - B. Tension Pneumothorax
 - I. Perform **needle thoracostomy**.*

*If there is uncertainty regarding the diagnosis, contact medical control for advice regarding needle thoracostomy.

CRUSH INJURY SYNDROME



Prolonged compression of extensive areas of the body and/or limb(s) for 1 hour or more may result in crush injury syndrome, requiring unique prehospital treatment.



1. Take spinal precautions, if indicated.
2. Administer high flow **O₂**.*
3. Apply cardiac monitor.
4. Establish 2 large bore IV/IO of NS, if possible.
5. If shock is present, run fluids wide open and titrate to maintain a systolic BP of 90.
6. In general, IV fluids and medical therapy should be initiated prior to the release of compression. However, the release of compression to the chest should not be delayed for the establishment of IV and the initiation of medical treatment.
7. Initiate the following treatment prior to the release of compression:
 - I. Administer 250cc IV/IO bolus of NS. Continue to administer NS at 500 ml/hr, even if the patient is normotensive, unless the patient becomes markedly hypertensive and/or develops **pulmonary edema**.
 - II. Administer 5 mg of **albuterol (Ventolin®)** in 6 ml NS using small volume nebulizer.
 - III. Consider the administration of **sodium bicarbonate (NaHCO₃)** at 1 eq/kg IVP/IO and/or 10% **calcium gluconate** 20 ml IV/IO slowly over 1-2 minutes.
8. If the patient has hypotension and **bradycardia** associated with EKG evidence of hyperkalemia[†], initiate the following treatment:
 - I. Administer 10% calcium gluconate 20 ml IV/IO slowly over 1-2 minutes.[‡]

- II. Administer NaHCO_3 at 1 mEq/kg IVP/IO.
- III. Administer 5 mg of Ventolin® in 6 ml NS using small volume nebulizer.
- IV. Administer NaHCO_3 at 1 mEq/kg added to 1000 ml NS wide open.

*If RSI is indicated, avoid the administration of **succinylcholine**. If paralysis is necessary to manage the airway, Medical Control shall be contacted to consider the use of **vecuronium bromide (Norcuron®)**.

†EKG findings associated with hyperkalemia include tall peaked T waves, a prolonged QRS complex, and sometimes the disappearance of P and/or T waves. Complete heart block or asystole may occur.

‡If calcium gluconate is not available, calcium chloride may be substituted at a lower volume. Slowly administer 5-10 ml of a 10% solution (0.5-1 gm) over 1-2 minutes..

HEAD TRAUMA

1. Take spinal precautions.
2. Administer high flow **O₂**.
3. If ventilation requires support, attempt to maintain normal oxygen and CO₂ levels.
4. Apply cardiac monitor.
5. Establish a large bore IV of NS at TKO rate, unless shock is present.
6. If shock is present, run fluids wide open and titrate to maintain a systolic BP of 90.
7. If patient has altered level of consciousness:
 - I. Perform **blood glucose test**. If blood glucose is < 60, obtain blood sample and administer 50 ml of **50% dextrose** IV/IO.
 - II. Administer 0.4 mg of **naloxone (Narcan®)** IV/IO and, if no response to initial dose, administer 1.6 mg of Narcan IV/IO.[†]
 - III. Perform **Glasgow Coma Scale Score** test.

^{*}Consider Rapid Sequence Intubation, if necessary, to provide optimal ventilation.

[†]This drug may be given IM or via the endotracheal tube if IV access cannot be established. The ET dose is double the IV dose. Naloxone may also be given via a Mucosal Atomization Device (MAD) at a dose of 2 mg.

INJURIES TO THE EAR

1. Take spinal precautions.
2. Use direct pressure to control bleeding from external ear.
3. **DO NOT** pack or probe the ear canal.
4. Watch for fluid drainage from the ear.
5. Check for battle signs, indicating basal skull fracture.

INJURIES TO THE NOSE

1. Take spinal precautions.
2. Establish a patent airway.
3. Control anterior bleed with direct pressure.

PENETRATING AND BLUNT INJURIES TO THE EYE

1. Check vision in each eye separately.
2. Assess for leakage of intraocular fluid.
3. Protect injured eye with metal eye pad or inverted paper cup.
4. Avoid applying a pressure dressing.
5. Cover uninjured eye to prevent lid and eye movement.
6. Stabilize impaled objects. **DO NOT** remove.

PENETRATING OR BLUNT INJURIES OF NECK

BLUNT INJURY:

1. Administer high flow O₂.
2. Take spinal precautions.
3. Establish a large bore IV of NS at TKO rate, unless shock is present.
4. If shock is present, run fluids wide open and titrate to maintain a systolic BP of 80-90.
5. If stridor is present, consider ET intubation or **needle cricothyrotomy**.

PENETRATING INJURY:

1. Administer high flow O₂.
2. Take spinal precautions that will still allow for appropriate treatment of the wound.
3. Establish a large bore IV of NS at TKO rate, unless shock is present.
4. If shock is present, run fluids wide open and titrate to maintain a systolic BP of 80-90.
5. If stridor is present, consider ET intubation or needle cricothyrotomy.
6. Apply an occlusive dressing.
7. Control the blood loss by using a dressing and gloved fingers to apply direct pressure to the source of bleeding.
8. Transport patient with head down, if possible.

PENETRATING TRAUMA FROM TASER® WEAPONS

1. Unlike other forms of penetrating foreign bodies, Taser® barbed darts, because of their short length (1/4 in.), may be safely removed by EMS personnel when requested by law enforcement.
2. The darts should only be removed in the field if they do not involve the eye, face, neck, breast, and/or groin. Patients with retained darts in these areas should be transported to a hospital to have them removed by a physician.
3. The individual must be in police custody and EMS personnel must be convinced that the patient is adequately restrained.
4. Wear gloves.
5. Ensure that wires are disconnected from the gun or the wires have been cut.
6. Push on the body part containing the dart (straight #8 fish hook) and simultaneously pull the dart straight out.
7. Apply alcohol or iodine to the puncture area and dress as needed.
8. Treat the dart as a contaminated sharp. The darts should be placed in a biohazard *sharps* container and turned over to law enforcement.
9. If EMS provider's safety is guaranteed, all patients must be thoroughly assessed to determine if other medical problems or injuries are present.
10. If the individual does not have any other presenting injuries/illness, they may be left in the custody/care of law enforcement.
11. If transported to the hospital, follow the [Restraints for Aggressive or Violent Patients](#) policy.

SOFT TISSUE AVULSIONS OR AMPUTATIONS

ATTACHED TISSUE:

1. If grossly contaminated, rinse with normal saline.
2. Return to normal position.
3. Secure with saline-moistened dressing.
4. Control bleeding with direct pressure.

UNATTACHED TISSUE:

1. If grossly contaminated, rinse with normal saline.
2. Wrap in saline-moistened gauze.
3. Place unattached tissue inside waterproof container, i.e. glove or plastic bag.
4. Keep the unattached tissue cool, but, do not place tissue in direct contact with ice or cold pack.
5. Transport the unattached tissue with the patient, if possible.

SPINAL TRAUMA

1. Take spinal precautions.
2. Maintain patent airway, while observing spinal precautions.
3. Maintain neutral position when inserting airway adjuncts.
4. Administer high flow O₂.
5. Perform motor response and sensory status assessment.
6. Immobilize the C spine in a neutral position, unless there is mechanical resistance or new neurologic symptoms associated with this in-line positioning.
7. If resistance or new neurologic symptoms develop during positioning and the airway is adequate, immobilize the cervical spine in the position encountered.
8. Perform frequent airway, vital signs, and neurologic status assessments.
9. Consider neurogenic shock.
10. Establish large bore IV of NS at TKO rate, unless shock is present.
11. If shock is present, run fluids wide open and titrate to maintain a systolic BP of 90.

SECTION 7: ENVIRONMENTAL PROTOCOLS

DROWNING

1. Administer **O₂** to 100% oxygenation. Assist ventilation, as necessary. Consider **CPAP**. Also consider **endotracheal intubation**, if necessary.
2. Take spinal precautions.
3. Apply cardiac monitor and establish IV/IO access.
4. Monitor pulse oximetry, if available.
5. Hyperventilate patient once airway control is established and consider PEEP valve (Adult: 30/min; Pediatric: 35-50/min).
6. Obtain core temperature with low read thermometer.
7. All submersion patients who may have experienced near-drowning should be transported to a hospital for evaluation.
8. In cases of cold-water drowning, do not abandon resuscitative efforts until all ALS measures have been tried and patient's core temperature has been normalized. In extended underwater time (> 1 hour) contact Medical Control for concurrence with not initiating resuscitation.

FROSTBITE

1. Gentle assessment (cellular ice crystal damage may result from rough handling).
2. Protect patient from further exposure.
3. Remove frozen, wet, or restrictive clothing from patient.
4. Permit only gradual warming by room temperature out of hospital, provided you can ensure refreezing will not occur.
5. Protect damaged areas with loose, dry sterile dressings (be prepared to splint).
6. Elevate affected extremities. Do not allow patient to use affected areas.
7. Establish IV/IO access.
8. Administer NS at TKO rate.
9. For severe pain, administer **fentanyl** at 0.5-1 mcg/kg IV/IO/IM. May repeat in 10 minutes, up to a total dose of 3 mcg/kg.
10. Follow all ALS procedures and appropriate protocols.

HEAT CRAMPS/ HEAT EXHAUSTION

1. Obtain vital signs and perform secondary survey, as indicated.
2. Obtain core temperature with thermometer.
3. Apply cardiac monitor.
4. Move patient to cooler environment, and remove their excess clothing.
5. Apply tepid compression to forehead, neck, axilla, groin, and extremities. Consider evaporative airflow. Avoid ice packs and cold water immersion.
6. Administer oral fluids (water, sports drinks diluted with 2 parts water for every 1 part sport drink).
7. Establish IV/IO access.
8. Administer NS, if unable to take oral fluids or hypotensive. Administer trial of volume infusion.

HEAT STROKE

1. Obtain vital signs and perform secondary survey, as indicated.
2. Obtain core temperature with wide range thermometer. Repeat q 5 minutes.
3. Apply cardiac monitor.
4. Move patient to cooler environment, and remove clothing. Cool aggressively with wet sheets, cool packs, and/or evaporative airflow. Avoid ice packs and cold water immersion. Lower body temperature to 102° F (39°C).
5. Administer high flow **O₂**. Establish ET intubation, if necessary.
6. Establish IV/IO access.
7. Administer trial of volume infusion, unless **pulmonary edema** develops.
8. Treat **seizures**, **arrhythmias**, or unconsciousness per appropriate protocol.

HYPOTHERMIA



Hypothermia is a state of low body temperature. When the core temperature of the body drops below 95°F (35°C), an individual is considered to be hypothermic.

Mild Hypothermia = A core temperature $\geq 90^{\circ}\text{F}$ (32°C).

Severe Hypothermia = A core temperature $< 90^{\circ}\text{F}$ (32°C).

Hypothermia can be attributed to inadequate thermogenesis, excessive cold stress, or a combination of both. Cardiac arrhythmias, including ventricular fibrillation, become more probable as the body's core temperature falls. The severely hypothermic patient requires assessment of pulse and respirations for at least 30 seconds every 1 to 2 minutes.



1. Remove wet garments.
2. Protect against heat loss and wind chill by using blankets, insulating materials, and moisture barriers. Remember to cover the head.
3. Maintain horizontal position. Do not elevate the extremities.
Hypothermic patients should be handled gently at all times, because tactile stimulation may precipitate arrhythmias and/or cause tissue damage.
4. Obtain and monitor core temperature.
5. Monitor cardiac rhythm.
6. Allow a low HR, RR and BP associated with lowered metabolic rate.
7. Intubate, if unresponsive, in arrest, severe dysrhythmias, or BP < 70 .
8. Ventilate to keep pCO₂ near 40. **DO NOT** hyperventilate. Normal respiratory rate may be hyperventilation for hypothermic patient.
9. Administer **O₂** to 100% oxygenation, warmed if possible.
10. Start re-warming measures:
 - ✓ Heat packs to neck, armpits, and groin.

11. Turn the transport vehicle's heat to high.
12. Establish 2 large-bore IVs and infuse 500cc bolus of warmed NS (42° to 44° C). Repeat 500cc boluses until a BP $\geq$ 80 is achieved. Consider IO placement, if unable to establish IVs.
13. Monitor for CHF due to sluggish myocardial contractility.
14. Re-warm by 1°C (2°F) per hour.
15. Unconscious Patient:
 - I. Perform **blood glucose test**. If blood glucose is < 60, obtain blood sample. Administer 50 ml of **50% dextrose**, IV/IO.
 - II. Administer 2 mg of **naloxone (Narcan®)**, IV/IO.*
16. Pulseless Patient
 - A. Core temperature < 30C (86F):
 - I. Perform CPR.
 - II. Withhold IV medications until temperature is > 30°C (86°F).
 - III. Limit to 1 shock for VF/ VT.
 - IV. Transport patient to hospital.
 - B. Core temperature > 30°C (86°F):
 - I. Perform CPR.
 - II. Administer IV medications as indicated, but at increased intervals between doses.
 - III. Repeat defibrillation for VF/ VT as core temperature rises.
17. If patient arrests, re-warming to 35°C (95°F) is essential before resuscitative efforts may be terminated. If patient is hypothermic and in arrest for an unknown or prolonged period of time prior to arrival consider contacting medical control for advice on how to proceed.
18. When deciding your destination, consider availability of cardiac bypass for re-warming in patients with PEA. Contact medical control for advice if uncertain.

*Narcan® may be given via IM, IO or Mucosal Atomization Device (MAD) if regular IV access cannot be established.

SECTION 8: RESPIRATORY PROTOCOLS

AIRWAY OBSTRUCTION: ADULT

1. Ask, "Are you choking?"
2. Perform abdominal thrusts/Heimlich maneuver. Perform chest thrusts for pregnant or obese victims.
3. Repeat abdominal thrusts until effective or victim becomes unresponsive.
4. Lower victim to floor. If victim is unresponsive with no breathing or no normal breathing (i.e., agonal gasps), begin CPR (no pulse check).
5. Before you begin breaths, look into mouth. If you see a foreign body that can be easily removed, remove it.
6. Reattempt ventilations.
7. If unable to ventilate patient, attempt to remove obstruction(s) using laryngoscope and McGill forceps.
8. If obstruction persists, consider percutaneous **needle cricothyrotomy**.

ASTHMA

1. Allow patient to assume position of comfort.
2. Administer high flow **O₂**.^{*}
3. Establish IV/IO access.
4. Apply cardiac monitor.
5. Consider administration of unit dose **albuterol (Ventolin®)** and **ipratropium bromide (Atrovent®)** treatment, using small volume nebulizer.
6. Repeat administration of Ventolin® treatment only, using small volume nebulizer. May be continued if symptoms persist.
7. Consider administering **epinephrine** at 1:1 000, 0.01 mg/kg IM,[†] maximum initial adult dosage of 0.3 mg.
8. Consider **CPAP**, if patient's condition is appropriate. Consider **endotracheal intubation**, if patient is in obvious respiratory failure.
9. If patient's respiratory effort is or becomes inadequate, consider ET intubation.

^{*}If patient has a history of emphysema/COPD, consider lower rate of O₂ administration.

[†]If patient's age is > 40 and/or has known coronary artery disease, use with caution.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

1. Allow patient to assume position of comfort.
2. Administer low flow **O₂**. Increase flow, as needed.
3. Apply cardiac monitor and establish IV/IO access.
4. Consider administration of unit dose **albuterol (Ventolin®)** and **ipratropium bromide (Atrovent®)** treatment using small volume nebulizer.
5. Repeat administration of Ventolin® treatment only, using small volume nebulizer. If symptoms persist, repeated treatments of Ventolin® may be given continuously.
6. If severe respiratory distress is present, consider **CPAP**.
7. If patient has a decline in their level of consciousness and/or inadequate respiratory effort, consider **endotracheal intubation**.

TRACHEOSTOMY/STOMA EMERGENCY AIRWAY MANAGEMENT

INTRODUCTION: Patients with a tracheostomy tube in place or open stoma may fall into one of two categories.

1. **Tracheostomy** patients have intact airway anatomy between the tracheostomy and their mouth/nose.
2. Total **laryngectomy** patients rely entirely on their open stoma for their airway. Airway emergencies for both patient types most commonly result from obstruction.

PROCEDURE: Maintain proper PPE/BSI precautions. If patient is in need of ventilator assistance due to respiratory failure/arrest or airway obstruction:

For patients with tracheostomy tube in place:

1. Attempt to ventilate with **bag-valve mask** through tracheostomy tube if bag-valve will connect.
2. If unable to ventilate through tracheostomy tube, attempt to ventilate with bag-valve-mask sealed over mouth and nose while occluding tracheostomy tube.
3. If airway obstruction is encountered, suction down tracheostomy with appropriate size suction catheter:
 - I. Advance catheter gently until resistance is felt.
 - II. Withdraw about 2 cm then apply continuous suction while withdrawing.
 - III. Suction procedure should not exceed 10 seconds.
4. Reattempt ventilation through tracheostomy tube.
5. If obstruction persists, remove tracheostomy tube.
6. **BLS:** Attempt to ventilate through stoma using bag-valve and pediatric mask.
7. **ALS:** Insert appropriate size cuffed endotracheal tube into stoma.
8. Inflate cuff and reattempt ventilation through ET Tube.

9. Confirm proper placement:

- ✓ Check for chest rise
- ✓ Auscultate over epigastrium
- ✓ Auscultate chest for bilateral breath sounds
- ✓ Observe for fogging/misting in ET Tube
- ✓ End Tidal CO₂

Laryngectomy/open stoma patients or those with a tube that cannot be connected to bag-valve mask:

1. Remove stoma cover, if present.
2. Remove inner tube, if present.
3. Suction through open stoma with appropriate size catheter, if obstruction suspected.
 - I. Advance catheter gently until resistance is felt.
 - II. Withdraw about 2 cm then apply continuous suction while withdrawing.
 - III. Suction procedure should not exceed 10 seconds.
4. **BLS:** Attempt to ventilate through stoma with bag-valve- and pediatric mask.
5. **ALS:** Insert appropriate size cuffed ET Tube and inflate cuff.
6. Confirm proper placement:
 - ✓ Check for chest rise
 - ✓ Auscultate over epigastrium
 - ✓ Auscultate chest for bilateral breath sounds
 - ✓ Observe for fogging/misting in ET Tube
 - ✓ End Tidal CO₂
7. Suction down ET Tube with appropriate sized catheter, if necessary.
8. Continue ventilations through ET Tube. Monitor capnography and oximetry.

SECTION 9: SPECIAL SITUATION PROTOCOLS

CARDIAC ARREST DUE TO PHYSICAL TRAUMA

Cardiac arrest due to major blunt or penetrating trauma is managed differently than the routine cardiac arrest that is not accompanied by hypovolemia, tension pneumothorax, or cardiac tamponade. Initial management is the same, the ABC's of resuscitation, with maintenance of the airway (using the jaw-thrust without head-tilt because of the high frequency of concomitant neck injuries), rescue breathing, and support of circulation (chest compressions). Patients who are still breathing but unresponsive and who require respiratory support are preferably intubated nasotracheally. Apneic patients should be intubated orotracheally, if it can be accomplished without excessive movement of the cervical spine. If **endotracheal intubation** cannot be performed rapidly and safely, an EOA may provide an alternative method of airway management.

Tension pneumothorax should be suspected in any trauma victim. The resuscitation team should carefully check for the presence of unequal breath sounds in the right and left chest and for a tracheal shift. If any of these conditions are found, contact receiving physician for orders to perform a **needle thoracostomy**.

At least 2 large bore IV lines should be inserted, preferably in different extremities. Intravenous LR should be infused rapidly as needed to maintain arterial pressure and perfusion, on the assumption that hypotension is due to hypovolemia unless there is evidence to the contrary in a severely injured accident victim. MAST trousers may be of limited assistance temporarily by increasing peripheral vascular resistance and by stabilizing long bone fractures in the lower extremities.

Extensive, time-consuming care of trauma victims in the field is usually not warranted. However, there is evidence that the initiation of basic and advanced life support by paramedics for trauma cardiac arrest victims may improve rate of survival. The final decision whether to “load and go” or to begin definitive care prior to transport must be based on the unique characteristics of each incident.

DROWNING AND NEAR DROWNING

DEFINITION: Drowning is defined as death due to submersion (and usually suffocation) in water or other fluids. Near drowning is the term used when recovery, at least temporarily, occurs following submersion injury. Ten to 15 percent of drownings occur without aspiration of water or gastric contents. Some near drowning victims have recurrence of respiratory symptoms 3-4 hours or less after initial episode.

PATHOPHYSIOLOGY: The major physiological consequences of near drowning are hypoxia, acidosis, and **pulmonary edema**.

- Hypoxia results from the lack of air exchange from the damage caused by the inhalation of fluid. Often there is a combined respiratory metabolic acidosis.
- Pulmonary edema occurs in up to 75% of near drowning cases. Aspiration of hypertonic seawater (approximately 3% sodium chloride) is associated with a shift of intravascular fluid into the alveoli. Fresh water aspiration causes pulmonary edema by injuring the alveolar capillary membrane and removing surfactant(s), allowing protein rich plasma to enter the alveolar space.

Drowning may be associated with other injuries, i.e. spinal cord damage (diving), air embolism (scuba diving) or **hypothermia**; and it may occur as a complication of alcohol or other drug ingestion, **hypoglycemia**, or **seizures**.

SCENE ASSESSMENT: If rescue needed, notify Spokane County Sheriff's Office immediately to activate the Dive Rescue Team. **DO NOT** enter the water to attempt to rescue a drowning victim unless you are qualified in water rescue. Think of your own safety first - we don't need more victims.

INITIAL TREATMENT: Once the victim has been reached, effective respiratory support should be the primary goal. An open airway and mouth to mouth ventilation should be started as soon as these techniques can be performed safely. Attempts to drain water from the breathing passages by any means other than postural drainage or suction are not necessary or advisable and may increase the risk of vomiting and aspiration. Any foreign matter in the

mouth should be removed. If during ventilation attempts the rescuer finds the airway to be blocked, the Heimlich maneuver (subdiaphragmatic abdominal thrusts) should be used.

As soon as the victim is in a stable position, the carotid pulse should be checked. The pulse may be hard to detect because of vasoconstriction or depression of the cardiac output of the victim. If no pulse, begin chest compressions.

ALS MEASURES: The initial goal of ALS is to secure and enhance the airway through **endotracheal intubation** and suction. Take spinal precautions throughout the rescue attempt, if necessary. The highest concentration of **O₂** should be delivered. Establish a large bore IV of LR with appropriate infusion rates. Monitor the cardiac rhythm and treat **arrhythmias** appropriately. Obtain core temperature during transport as the patient may be hypothermic. Use of **sodium bicarbonate (NaHCO₃)** is not recommended. Treat for hypothermia.

All victims of near drowning, no matter how mild the episode appears to have been, should be taken to the hospital (not the doctor's office) for evaluation and observation. Patients who go on to develop delayed symptoms (secondary drowning) usually display signs of respiratory distress within the first 4 hours. These patients should be admitted to the hospital for further observation and treatment.

ELECTROCUTION

PATHOPHYSIOLOGY: The danger of cardiac arrest is related principally to the magnitude and duration of the electrical current. The voltage of the electrical source and the electrical resistance of the body tissues through which the electricity passes are only important in that they determine the magnitude of the current flow. Alternating current at 60 Hertz (the frequency used by power companies) is generally more dangerous to humans than direct current at any given voltage because it is more likely to induce **ventricular fibrillation**.

When a low current intensity (1 milliampere, or mA) is applied from the body surface, there is little danger of harm and the electrical current is usually felt as a tingling sensation in the area of contact. Progressively higher currents cause increasingly unpleasant and painful sensations. At approximately 10 mA, tetanic muscular contractions may occur, which may make it difficult or impossible for a hand grasping an object with an electrical current to let go. The current at which it is not possible to release an energized object varies considerably from person to person within the range of 30 mA. At 40-50 mA the tetanic contractions may involve all muscles, including the diaphragm and the intercostals, causing respiratory arrest until the current flow stops. With contact of short duration at this current level normal respiration usually resumes immediately after the current flow ceases. Longer contact can cause prolonged apnea with resultant hypoxemia, tissue hypoxia, secondary cardiac arrest, and death.

Higher currents (100 mA to several amperes), even of brief duration, can directly induce ventricular fibrillation. Brief duration shocks at or just above 10 mA may result in a current flow of sufficient strength that the heart holds its contraction in systole until release of the current. This is thought to protect against or reverse ventricular fibrillation in some circumstances. Defibrillators used in resuscitation deliver current in this range.

Higher current flow (several tens of amperes) may cause prolonged respiratory arrest. Massive currents of several hundred amperes can induce both respiratory and cardiac **arrhythmia**, including ventricular fibrillation.

The victim of such a massive electrical shock rarely remains conscious. Electrical power linemen receiving such injuries have been reported to climb down the utility pole before collapsing in cardiac arrest, presumably due to a ventricular arrhythmia.

The passage of electrical current through body tissue generates heat and may produce injuries similar to that of a **burn** or **crush injury**. Current often flows along nerves and blood vessels where there is disruption of the vascular endothelium and thrombosis. The resulting thermal injury may be of sufficient severity to require debridement, escharotomy, fasciotomy, or amputation.

Secondary injuries, caused when the victim is thrown by contact with an electrical source, may include cervical spine or other bony fractures, closed **head injury**, and peripheral nerve damage. Myoglobinuria may occur due to muscular injury.

LIGHTNING: Acts as a massive DC countershock, depolarizing the entire myocardium at once, following which the heart's normal rhythm may resume. In one published series, death occurred in 45% (30 of 66) victims struck by lightning. The patients who died were those who suffered an immediate **cardiac arrest**. Respiratory arrest often lasts longer than **asystole** and the victim may die from hypoxia if CPR is not started promptly. Patients who do not arrest immediately have an excellent chance of recovery.

MANAGEMENT OF THE VICTIM OF SEVERE ELECTRIC SHOCK: The rescuer must be certain that the current is off before attempting to touch the victim or move the victim from the electrical source. If possible, the current should be switched off at its source. Rescuers should not touch a victim who is still in contact with an active current source. If unconscious, the victim should be assessed for the presence of adequate breathing and circulation. Rescue breathing and chest compressions should be started when indicated, taking care to protect the cervical spine from further motion or injury if there is any likelihood that the victim was thrown or suffered a fall. In such a case the chin-lift or jaw-thrust, without head-tilt, should be used to open the airway. A cervical collar

or its equivalent should be used if available. Any obvious orthopedic injury should be immobilized.

When a power lineman on a utility pole is electrocuted, rescue breathing can often be initiated by rescuers on the pole, with chest compressions, if needed, as soon as the victim can be lowered to the ground. Even with no loss of consciousness, a victim of high-voltage electrical shock should receive cardiac monitoring and transport to the hospital due to the danger of delayed cardiac arrest from a life-threatening arrhythmia.

Since virtually all victims of lightning injury who do not go into immediate arrest survive, when multiple victims are simultaneously struck by lightning, individuals who appear clinically dead immediately following the strike should be treated before other victims showing signs of life. Most patients who are successfully resuscitated from cardiac arrest due to lightning or other high voltage electrical shock injury will have return of spontaneous respirations within 30 minutes. Complete recovery has been reported after resuscitation of up to several hours in some patients. The victim of cardiac arrest due to electrical shock may warrant prolonged aggressive efforts in certain circumstances. The decision to terminate resuscitation should be made by a physician well versed in the treatment of electrical injuries based on all the factors unique to the specific incident.

When significant crush or burn injury is suspected, IV fluids (lactated Ringer's or normal saline) should be administered at a rate sufficient to maintain the urine output at 50-100 ml/hr, to minimize the likelihood of renal shutdown due to myoglobinuria and/or dehydration from third space fluid loss.

EMS RESPONSE TO METH LAB RELATED INJURIES

- ✓ **The Hazardous Materials Response** policy should be applied to all responses involving meth labs and patients exposed to hazardous materials in that environment, unless otherwise indicated by reference material regarding the exposure. The Hazmat team should be involved early to provide expert guidance regarding provider precautions and patient treatment.
- ✓ Protect yourself and others from any significant exposure.
- ✓ In particular, avoid exposure to noxious gases and smoke without proper protective gear.
- ✓ Patients contaminated with chemical substances involved in the manufacturing of methamphetamine should undergo basic decontamination prior to transport.
- ✓ Patients suffering from respiratory symptoms should receive appropriate respiratory support.
- ✓ All potentially contaminated clothing should be removed.
- ✓ Patients with eye or skin exposure should have any apparent dry chemicals brushed off the skin surface. Exposed areas should be flushed with large amounts of low pressure water for 15 minutes.
- ✓ HEAR Radio patch to the hospital should use a Hazmat prefix with the appropriate code, i.e. red, yellow, or green, identifying the severity of the patient's injuries. In addition, the hospital should be notified that the patient has undergone basic decontamination.

HYPOTHERMIA

DEFINITION: **Hypothermia** is defined as a core body temperature below 35° C (95° F). Because many standard medical thermometers do not read below 34.4° C (94° F), clinical hypothermia can be easily overlooked. Most clinically significant episodes of hypothermia result from a fall in core body temperature due to injury, immersion in cold water, or prolonged exposure to a cold environment. The very young and the very old are the most susceptible to hypothermia. Infants lose the same amount of heat per unit of body surface area as adults but cannot produce as much heat as adults. Infants also have a larger body surface area relative to total body mass than adults. Older individuals have a lower metabolic rate than the young, making it difficult for them to maintain a normal body temperature when subjected to an ambient temperature below 18° C (64.4° F).

Alcohol ingestion increases the risk of hypothermia by causing cutaneous vasodilation, impairment of the shivering mechanism, hypothalamic dysfunction, and a lack of awareness of the environment. Other medical conditions commonly associated with the development of hypothermia include drug ingestion (especially barbiturates or phenothiazines), diabetes (especially in the presence of **hypoglycemia**), hypothyroidism, hypopituitarism, hypoadrenalism, anorexia nervosa, **head injury**, and sepsis. Immersion in cold water, as in near drowning, can cool the body temperature much more rapidly than exposure to cold air because the thermal conductivity of water is 32 times greater than that of air. Hypothermia can occur in previously healthy individuals (such as cross-country skiers or hikers) who become injured and are exposed to the cold for prolonged periods of time.

CLINICAL FEATURES: The most important clinical effort of a lowered core body temperature is a gradual and progressive decline in basal metabolic rate and oxygen consumption. Mild hypothermia (above 30° C (86° F)) results in shivering, loss of fine motor coordination, and lethargy. Below 30° C (86° F) the pupils are usually dilated and there is hyporeflexia. Reflex vasoconstriction helps to preserve the core temperature, but makes detection of the pulse and blood pressure difficult. The hypothermic patient may appear clinically dead, but may still be viable with proper diagnosis and aggressive

management. Fully successful clinical recovery has occurred in a patient with an initial core temperature as low as 17° C (62.6° F). The only way to establish the potential viability of the hypothermic patient is to attempt resuscitation and active rewarming.

Hemodynamically, mild hypothermia causes a rise in pulse rate, blood pressure, peripheral vascular resistance, central venous pressure, and cardiac output. Moderate to severe hypothermia, below 30° C (86° F), causes bradycardia, arrhythmia's (atrial fibrillation is common, but virtually any atrial, junctional, or ventricular arrhythmia can occur), hypotension, and a fall in cardiac output. The risk of **ventricular fibrillation** or **asystole**, the usual final event leading to death, increases as the temperature drops below 28° C (82.4° F).

Oxygenation and acid-base balance are altered by hypothermia. Mild hypothermia initially causes hyperventilation. As the core temperature decreases, there is respiratory depression with anoxia and carbon dioxide retention. A combined respiratory and metabolic acidosis may occur due to hypoventilation, carbon dioxide retention, reduced hepatic metabolism of organic acid due to decreased perfusion of the liver, poor peripheral perfusion, and increased lactic acid production from poor perfusion of skeletal muscle and shivering.

GENERAL PRINCIPLES OF TREATMENT: Early recognition of hypothermia is essential. Health care providers in the field and in the emergency department must maintain a high index of suspicion in any patient with an altered level of consciousness who has been subjected to even a modestly cool environment. A thermometer capable of registering a temperature of 30° C (86° F) or less is essential.

Because the cold heart is irritable and susceptible to serious arrhythmia, care should be taken to move the patient gently during transportation or during transfer of the patient from a litter to a hospital bed. The patient should be monitored continuously, and equipment for resuscitation (including a defibrillator) should be immediately available. The hypothermic heart is usually unresponsive to cardioactive drugs, pacemaker stimulation, and

defibrillation. Nonessential interventions should generally be avoided until the core temperature is increased above 30° C (86° F). However, indicated and necessary procedures should not be withheld. For example, **endotracheal intubation** of the severely hypothermic patient may be needed to protect the airway, to correct hypoxemia and hypercarbia, and to deliver warm humidified oxygen. There is little evidence that intubation is likely to precipitate ventricular fibrillation in this setting as long as the patient is adequately ventilated (usually with a **bag valve mask** device) and the respiratory acidosis corrected by hyperventilation prior to attempting intubation.

The effect of most drugs is diminished during hypothermia. Metabolism of drugs is usually reduced, causing accumulation in the body and potential toxicity during rewarming, if repeated doses have been administered. Nonessential drugs should generally be avoided until the temperature is corrected to above 30° C (86° F). Indicated and necessary drugs should not be withheld, although they may need to be administered in reduced doses, at less frequent intervals, or both. Hypoglycemia should be treated with glucose. Hyperglycemia during hypothermia will often correct spontaneously with rewarming. Volume depletion should be corrected.

FIELD MANAGEMENT: Once hypothermia is suspected, every effort should be made to minimize further heat loss, to begin the rewarming process, and to cautiously transport the patient. If possible, wet garments should be removed and replaced with dry (preferably warm) garments. Blankets and/or an insulated sleeping bag may be used to retain body heat. A normothermic rescuer may be alongside the victim underneath the covers to assist in rewarming. If available, airway rewarming with warmed humidified **oxygen** should be used because it can improve the patient's heat balance.

HYPOTHERMIA-INDUCED CARDIAC ARREST: Treatment of a patient in cardiac arrest due to hypothermia is different from the treatment of a normothermic patient in cardiac arrest. The most common cardiac rhythms in hypothermia induced arrest are ventricular fibrillation and asystole. However, the fibrillating hypothermic heart is often resistant to defibrillation until the core temperature is raised and the temperature at which the heart will respond to defibrillation varies. In general, defibrillation should be attempted as soon as possible. If

unsuccessful, CPR should be continued and aggressive attempts should be made to rapidly rewarm the patient's core temperature. Periodically the core temperature increases when using a combination of techniques with repeated attempts at defibrillation. The patient should be intubated as soon as possible and should be ventilated with warmed humidified oxygen.

HOW LONG SHOULD ATTEMPTS AT RESUSCITATION BE CONTINUED? In general, children or young adults who develop cardiac arrest due to a sudden severe drop in core temperature (as in cold water immersion) should be treated aggressively, since survival without neurological impairment may be possible. A common problem is how to manage the unwitnessed cardiac arrest victim who is found in a cool or cold environment. The victim could have arrested due to hypothermia or the cold body temperature could be due to death. The clinical maxim that patients who appear dead after prolonged exposure to cold temperature should not be considered dead until they have been restored to near normal core temperature and remain unresponsive to resuscitation cannot be applied literally in all cases. Instead, the decision to terminate resuscitation must be individualized by the physician in charge based on the unique circumstances of each incident.

MENTAL HEALTH EMERGENCIES

PATIENT CONTACT AND COOPERATION: Problem behaviors that prevent contact with the patient may be present. If problem behaviors exist that the emergency care provider (responder) is not prepared to deal with, they should call for assistance. For example, if someone is threatening people with a weapon, the responder should summon the police for aid. Once contact has been made with the patient, the evaluation can proceed.

ELICITING COOPERATION: Active listening is the main tool employed in dealing with a problem behavior patient. It can often elicit cooperation from a resistant or violent patient. Properly used, it makes the patient feel understood and instills confidence in the responder. Active listening involves the skills of paraphrasing, perception checking, behavior describing, and feeling reflection.

A problem behavior patient can become uncooperative and even violent at any time. The following list, extracted from articles in Hospital Physician (1971), offers some tips a responder can use in dealing with violent patients:

- ✓ If you are afraid of the violent patient, do not pretend you are not. Your act won't fool the patient. It is better to let the patient know that, despite fear, you are in control of yourself and able to control the patient.
- ✓ Violent patients want limits and will respond when you make clear that you will restrain them and control their violent ways.
- ✓ When talking to a violent patient, stand facing them with your arms crossed. In this nonthreatening position, you can easily deflect blows above or below the belt. Some psychiatrists always talk to violent patients while sitting down. This position can have a calming effect on the patient.
- ✓ Do not try to deal with a violent patient alone in a small room. Both patient and responder need space between them. The patient may have a fear of being touched, and the responder needs room to maneuver, if attacked.

- ✓ Do not sit or stand in the way of the door while interviewing a violent patient. The patient will be less likely to attack if they feel they have a clear exit.
- ✓ Ask the violent patient if he/she owns a firearm and if so, whether it is a pistol, rifle or shotgun. Many psychiatrists feel that the pistol owner or collector is a higher risk than the rifle or shotgun owner.
- ✓ Be especially wary of the self-referred violent patient whose trademark is "If you do not hospitalize me", they are the worst risk in respect to violence. Also be wary of the pseudo-violent patient who presents as extremely tight and rigid and fears losing control. Once sedated, they may scream and carry on, but their body is very relaxed. When they are under control of the medication, they feel free to vent their feelings.

APPROACHING THE PATIENT: Approach the patient in a calm and decisive manner. Make it clear you are there to help and are in control of the situation. Zuni and Barr (1971) compiled the following list of don'ts in handling a psychiatric emergency:

- Ø **Don't** threaten the patient.
- Ø **Don't** openly disagree with the statements of acutely disturbed individuals, listen instead.
- Ø **Don't** make promises which cannot be kept.
- Ø **Don't** joke, laugh or discuss other patients or allow other bystanders to do so in front of the patient.
- Ø **Don't** assume that the patient is consciously manipulating without hard evidence.
- Ø **Don't** take away the patient's pride. Sometimes they may have regained control of themselves, but, both unconsciously and consciously, feel the need to continue the disturbed behavior. This may be because they are surrounded by people who saw them in an agitated state.

Ø **Don't** assume that the manifestations of the acute emotional disturbance are either in part or fully psychopathic in origin until medical illness has been reasonably ruled out. Many medical disorders can mimic emotional disturbance, such as encephalitis, meningoencephalitis, meningitis, cranial nerve paralysis, postictal state, acute cerebellar symptoms, post-concussive syndrome, Guillain-Barre syndrome, and neuropathies.

When a patient is anxious or violent, they are responding to fantasies they have about themselves in relation to the environment. The more in touch they are with reality the less anxious or violent they will become. A responder can facilitate contact with reality by carefully explaining their procedures and by giving the patient a set of expectations. For example, an injured person showing symptoms of shock may be very anxious and distressed by their circumstances. They may have seen their injury and have the fantasy they are dying. This fantasy would be further confirmed by their experiencing increased perspiration, nausea, weakness, and changes in breathing. A responder can put the patient more in touch with reality by making reassuring statements and explaining the procedures that will follow. This tends to dispel the fantasy that they are dying and reduce the severity of anxiety and shock symptoms as the procedures are carried out. The patient will have replaced their fantasy with a concrete set of expectations. In the same way, a violent patient will often reduce aggressiveness when confronted by a responder who will take charge, set limits and explain procedures.

If a patient is so agitated or violent that all techniques for eliciting cooperation fail, they must be restrained to begin intervention procedures and to prevent injury to themselves, or others.

EVALUATION: The responder's goal in a problem behavior evaluation is to gather information that will be useful to the physician or mental health professional in making a diagnosis. The responder's evaluation will be the basis for deciding which facility the patient is to be transported to. Active listening is the key to attaining a useful evaluation.

Occasionally a visit to an emergency scene by a responder will abate a crisis without hospitalization, but the factors underlying the problem will linger, requiring further attention. The responder should be prepared to provide the patient with a referral to where help can be found on an outpatient basis. This may be the name of the community mental health center, mental health professional, psychiatrist, psychologist, or social worker.

Occasionally, a patient will not voluntarily be helped from a problem behavior that needs in-patient attention. In this event, the patient will have to be involuntarily committed. In the state of Washington, involuntary commitments must be completed by mental health professionals associated with county mental health facilities.

Only through practice and experience can a responder learn to be effective with problem behavior patients.

COMMUNICATING WITH OTHER PROFESSIONALS: Responders will usually communicate with a physician and the department will determine if a mental health professional needs to be involved. If the problem seems to be chiefly psychiatric, it is helpful, to the intake therapist, to have friends and relatives appear at the emergency department after the patient. During a crisis, many important behavior patterns can be identified by the therapist with the patient and significant others in their life. This can be of great benefit to the patient. If the physician determines that the patient needs to be sent to a mental health evaluation and treatment facility, it may be necessary for the responder to stand by and render assistance to the mental health professional. This is usually necessary when the patient is not cooperating.

The responder should be ready to prepare the patient for transfer to the appropriate facility.

As other professionals are contacted, it should be noted that they are interested in information specific to their profession. Communication with another professional is enhanced if the responder is prepared to provide the appropriate information. Below are lists showing information of specific interest to professionals whom responders communicate with regularly:

A. Child Protection Worker

- ✓ Identification: names and approximate ages of abused child, parents, guardians and other children
- ✓ Extent of abuse:
 - ➔ Observed or reported by another (sometimes interfamily squabbles can lead to false complaints about child abuse)
 - ➔ Subjective observation - fear, hollowness of eyes, scars, bruises, etc.
- ✓ Address or directions to child's residence
- ✓ Prior history: Has it happened before?
- ✓ Other observations: Impressions of parents and other family members, evidence of alcohol abuse, etc.

B. Law Enforcement

- ✓ Location at scene
- ✓ Identification of problem person. if available
- ✓ Description of problem person (a physical description quickly enables law enforcement to identify potentially dangerous people when arriving at the scene)
- ✓ Description of problem behavior:
 - ➔ A threat to self, others, or property?
 - ➔ Description of weapons involved
 - ➔ Indications of drug or alcohol abuse
- ✓ Any history of problem person (former mental patient, convict, etc.)

C. Physicians and Mental Health Professionals

- ✓ Identification of patient
- ✓ Age, sex, race, marital status, number of children
- ✓ Chief complaint of patient
- ✓ Acute medical problem, vital signs (especially for physicians)
- ✓ Description of problem behavior, dominating traits, secondary traits
- ✓ Evidence of precipitating circumstances

- ✓ Previous psychiatric care (briefly describe)
- ✓ Evidence of alcohol or drug abuse
- ✓ Present medication
- ✓ If currently in treatment, the name of family physician
- ✓ Brief medical history

LEGAL CONSIDERATIONS: Laws pertaining to emergency medical and/or problem behavior involve child abuse, alcohol, involuntary treatment, confidentiality, Good Samaritan Acts, and liability. These laws vary from state to state. The laws discussed here apply in the state of Washington. The Revised Code of Washington (RCW) 26.44 states if a child or mentally retarded person is physically or sexually abused, abandoned, or isolated from parent because of a crisis; a report of the facts must be made at the local Department of Social Services Child Protection Office or to local law enforcement. Such reports are usually not made directly by responders. This, however, needs to be decided by the individual emergency team. The law requires that after an oral report of the facts is made, a written report needs to follow.

An immediate verbal report shall be made by telephone or otherwise to the proper law enforcement agency or the Department of Social Services and upon request, shall be followed by a report in writing. Such reports shall contain the following information if known:

- ✓ Name, address and age of the child
- ✓ Name and address of the child's parents, stepparents, guardians, or other persons having custody of the child
- ✓ Nature and extent of the child's injury or injuries
- ✓ Nature and extent of the neglected child
- ✓ Nature and extent of the sexual abuse
- ✓ Any evidence of previous injuries, including their nature and extent
- ✓ Any other information which may be helpful in establishing the cause of the child's death, injury or injuries and the identity of the perpetrator or perpetrators (RCW 26.44.040)

Alcohol abuse is frequently a factor in behavior problems. In 1972, the Uniform Alcoholism Act was signed into Washington State Law (RCW 7096A). This law no longer allows treating an intoxicated person as a criminal, except in cases where a criminal act is committed in conjunction with intoxication. Police now treat an intoxicated person as someone who may need help. For example, a police officer who comes in contact with an intoxicated person tries to aid the individual by getting them home. Police officers discourage any activity that may endanger the intoxicated person or others. The officer may determine that the person is incapacitated by alcohol. Incapacitation means the person is incapable of making a rational decision with respect to their need for alcoholism treatment or constitutes a danger to themselves, others, or property. If incapacitated, a person can be involuntarily detained in protective custody for eight hours. The person must then be examined by an alcoholism professional affiliated with community alcohol centers to confirm incapacitation. If so, the law provides that the person can involuntarily be committed to a treatment facility for at least 48 hours. Presently, few facilities exist in Washington State that can manage patients committed for alcohol incapacitation. Therefore, an alcoholism professional usually refers the person to outpatient services and they are released. Sometimes a person can be convinced to voluntarily commit themselves to an in-patient program.

If a patient, as a result of a mental disorder, presents a likelihood of serious harm to themselves or others, or is gravely disabled, a mental health professional can authorize commitment of that patient to an evaluation and treatment facility for a 72 hour evaluation. Also, a peace officer can take a person into custody and place an individual in an evaluation and treatment facility if they, as the result of a mental disorder, present an imminent likelihood of serious harm to themselves or others (RCW 71.05.150).

Juveniles, 13 years of age or younger, can be involuntarily committed with parental consent. Juveniles between the ages of 13 and 17 can be involuntarily committed only through a petition by the person's parent(s), conservator, guardian, or juvenile court. "The petition shall set forth the reasons why commitment is necessary and what alternative courses of treatment have been explored." Juveniles between the ages of 14 and 17

must give their consent for voluntary treatment and also have the consent of their parents (RCW 72.23.070). In a problem behavior emergency, the responder's consulting physician can determine if involuntary treatment is necessary and the appropriate officials can be notified.

Presently, no law exists in Washington State requiring medical personnel to report gunshot wounds or suspicious injuries. It is common practice, however, for medical personnel to inform law enforcement officials of such injuries. Each responding team should develop a policy for these circumstances.

Patients are sensitive to facts about their personal life being known by others. Each patient has a human right to have their personal life facts disclosed only to those persons who have a professional need to know. Most helping professions have ethics regarding patient confidence. In addition, laws have been passed protecting the confidence in patient relationships with physicians and mental health professionals (RCW 5.60.060, 18.83.110). Presently, no laws in Washington protect the confidence in patient-responder relationships.

The Good Samaritan Act protects any person who, while acting in good faith and not for compensation, renders emergency care or transportation for emergency medical treatment (RCW 4.24.300). The law protects from liability if the patient files suit against them. Some responders are not compensated and would be covered by this law.

EMS personnel are protected from liability, while rendering emergency lifesaving service under the responsible supervision and control of a licensed physician, to a person who is in immediate danger of loss of life (In act of attempting suicide)(RCW 18.71.210).

Physicians or hospitals licensed in Washington State are not liable for failure to obtain consent in rendering emergency medical surgical, hospital or health services (18.71.220). Perhaps responders employed by the hospital are protected by this law. Malpractice claims involving a problem behavior patient might likely result from breeches of confidence and the use of physical restraints.

PREGNANCY AND CARDIAC ARREST



The dramatic alterations in maternal cardiovascular physiology induced by pregnancy make cardiopulmonary resuscitation of expectant mothers unique. During pregnancy, maternal blood volume and cardiac output increase by up to 150% more than nonpregnant levels. Uterine blood flow increases between 20-30% during the last trimester of pregnancy to accommodate the needs of the fetus. In order to permit this marked, but essential increase in flow, the utero-placental vascular bed must be maximally dilated. In addition, when the mother is supine, the gravid uterus may compress the iliac vessels, the inferior vena cava, and the abdominal aorta, resulting in hypotension and as much as a 25 times reduction in cardiac output.



MANAGEMENT OF CARDIAC ARREST DURING PREGNANCY: When cardiac arrest occurs in a pregnant woman before the 24th week of gestation (the putative onset of fetal viability), the rescuer's primary concern should be directed towards saving the mother, whose chances of survival are far better than those of the fetus. Conventional therapy and procedures applicable to any arrest situation should be used as indicated and appropriate.

Beyond the 24th week of gestation, the rescuer must consider the life of the potentially viable fetus as well as that of the mother. Precipitating events for cardiac arrest include arrhythmia, congestive heart failure, myocardial infarction, or intracranial hemorrhage in a toxemic patient. Spontaneous bleeding, including intrahepatic bleeding, may occur, resulting in hypovolemia.

Most of the standard resuscitation procedures can and should be applied without modification. For example, if **ventricular fibrillation** is present, it should be treated with defibrillation according to the ventricular fibrillation algorithm. Closed-chest compressions and support of ventilation may be done conventionally. To obviate the effects of the gravid uterus on venous return, a wedge, such as a pillow or other similar device, should be placed under the

right abdominal flank and hip to gently push the uterus to the left side of the abdomen.

Lidocaine (Xylocaine®) crosses the placenta, however, when used in standard doses, there appears to be little effect on the fetus. The use of vasopressors such as **epinephrine**, norepinephrine, and **dopamine** should be avoided if possible since they induce uteroplacental vasoconstriction, especially when hypoxemia and/or hypotension is present, which may endanger the life of the fetus.

COMPLICATIONS FROM CPR: Maternal complications that can occur when CPR is performed during pregnancy include laceration of the liver, uterine rupture, hemothorax, and hemopericardium.

RIGHT VENTRICULAR INFARCTION

PATHOPHYSIOLOGY: Isolated right ventricular infarction (RVI) is extremely rare and it is usually seen as a complication of another infarction. RVI's seldom exist alone and are almost always seen accompanying an inferior infarct. The coronary artery involved is usually an occluded right coronary artery (RCA). Approximately 30-50 percent of inferior wall myocardial infarctions involve the right ventricle. The right ventricle is not designed to provide systemic circulation. Its purpose is to pump blood through the lungs and pulmonary circuit. Thus, the pressures it is required to produce are less, and it has a thinner wall than the left ventricle. Its functional abilities are dependent upon preload or the volume of venous return to the heart. Any reduction in venous return will result in diminished pumping pressure by the right ventricle, diminished pulmonary circulation, diminished left ventricular filling, diminished cardiac output, diminished systemic blood pressure and, if not corrected, possible dysrhythmias, shock, and death.

DIAGNOSIS: Cardinal signs of RVI are unexplained hypotension, distended jugular veins with Kussmaul's sign (increased jugular vein pressure on inspiration) and clear lung sounds. RVI can be diagnosed by the presence of ST-segment elevation in the right precordial lead V₄ (rV₄), in the setting of an inferior wall myocardial infarction. A 12-lead tracing that shows ST segment elevation in any of the inferior leads (II, III, or a VF) or relative ST segment depression in V₂ or V₃, compared with the lead V₁, should immediately trigger the acquisition of a right-sided 12-lead. To obtain a field tracing of a right-sided 12-lead, reposition lead V₄ to V₄R by placing in the fifth intercostals space, midclavicular line, on the right side of the chest. ST segment elevation in V₄R is considered diagnostic for RVI. The T wave in V₄R usually has a convex or "domed" shape when injury is present. RVI is usually present if ST segment elevation in lead III is greater than ST segment elevation found in lead II in the setting of an inferior wall myocardial infarction.

SECTION 10: BLS/ILS AND SUPPLEMENTAL PROTOCOLS

ASPIRIN

INDICATIONS FOR USE IN AN ACUTE CORONARY EVENT:

Patient exhibits any of the following signs or symptoms:

- ✓ Uncomfortable pressure, fullness, squeezing, or pain in the center of the chest that lasts more than a few minutes or goes away and comes back
- ✓ Pain that spreads to the shoulders, neck or arms
- ✓ Chest discomfort with lightheadedness, fainting, sweating, nausea, or shortness of breath
- ✓ Patient exhibits any 2 of the following signs or symptoms, and you think it is of cardiac origin:
- ✓ Atypical chest pain, stomach or abdominal pain. This may include discomfort that can be localized to a point that is “sharp” in nature, that is reproducible by palpation, or that is in the “wrong” location (such as the upper abdomen).
- ✓ Unexplained nausea (without vomiting) or lightheadedness (not vertigo)
- ✓ Without chest pain
- ✓ Shortness of breath and difficulty breathing, without chest pain
- ✓ Unexplained anxiety, weakness, or fatigue.
- ✓ Palpitations, cold sweat, or paleness.

CONTRAINDICATIONS FOR USE:

- ✓ Patient is allergic to **aspirin** or ibuprofen (Motrin®, Advil®)*.
- ✓ If they have just taken aspirin for this event, do not administer aspirin.

PROCEDURE:

1. ALS/ILS upgrade and evaluation required unless ALS/ILS is unavailable.
2. Ensure the patient is alert and responsive.

3. If the patient has their own nitroglycerin and meets the criteria for administration, do not delay in administering nitroglycerin.
4. Administer 325mg[†] of aspirin.
5. Record your actions, including the dosage and the time of administration.

*Also, any non-steroidal anti-inflammatory drug (NSAIDS)

†Four baby aspirin or 1 adult aspirin

BLS AIRWAY OBSTRUCTION: ADULT

ADULT (PUBERTY AND OLDER):

1. Ask, "Are you choking?"
2. Perform abdominal thrusts/Heimlich maneuver or chest thrusts for pregnant or obese victims.
3. Repeat abdominal thrusts until effective or victim becomes unresponsive.
4. Lower victim to floor, if victim is unresponsive with no breathing or no normal breathing (i.e., agonal gasps), begin CPR (no pulse check).
5. Before you begin breaths, look into mouth. If you see a foreign body that can be easily removed, remove it.
6. Continue CPR until ALS arrives or during ALS rendezvous.

BLS AIRWAY OBSTRUCTION: PEDIATRIC

INFANT (LESS THAN 1 YEAR OF AGE):

1. Confirm severe airway obstruction. Check for the sudden onset of severe breathing difficulty, ineffective or silent cough, weak or silent cry.
2. Give up to 5 back slaps and up to 5 chest thrusts.
3. Repeat step 2 until effective or victim becomes unresponsive.
4. If victim is unresponsive with no breathing or no normal breathing (i.e., agonal gasps), begin CPR (no pulse check).
5. Before you deliver breaths, look into mouth. If you see a foreign body that can be easily removed, remove it.
6. Continue CPR until ALS arrives or throughout ALS rendezvous

CHILD (1 YEAR TO ADOLESCENT (PUBERTY)):

1. Ask "Are you choking?"
2. Give abdominal thrusts/Heimlich maneuver.
3. Repeat abdominal thrusts until effective or victim becomes unresponsive.
4. If victim is unresponsive with no breathing or no normal breathing (i.e., agonal gasps), begin CPR (no pulse check).
5. Before you deliver breaths, look into mouth. If you see a foreign body that can be easily removed, remove it.
6. Continue CPR until ALS arrives or throughout ALS rendezvous.

EMT GLUCOSE TESTING

POLICY:

1. Blood Glucose Testing is a procedure approved by the Medical Program Director for use by the certified EMTB. It is to be used in agencies that wish to adopt it as part of their program.
2. The Medical Program Director or designee is responsible for managing skill retention, reviewing, monitoring, and making recommendations regarding the system's program.

PREREQUISITES: The student will be an EMT basic or above

- ✓ Patient is allergic to **aspirin** or ibuprofen (Motrin®, Advil®)*.
- ✓ If they have just taken aspirin for this event, do not administer aspirin.

COURSE DESCRIPTION:

- ✓ The course is designed to be a minimum of 1 hour in length and combining lecture with hands-on practice
- ✓ The instructor can be anyone competent in using the glucose machine that each department has. This most likely would be their paramedic partner
- ✓ Module I:
 - Lecture with equipment display 1/2 hour
- ✓ Module II:
 - Lab with hands-on practice in the field

EQUIPMENT:

- | | |
|--|--------------------|
| ✓ Policies for infection control, quality control, and guidelines for use of blood glucose monitoring supplies | ✓ Lancets |
| ✓ Blood glucose strips and/or monitor (same as will be used in the field) | ✓ 2 x 2s |
| | ✓ Alcohol swabs |
| | ✓ Gloves |
| | ✓ Sharps container |
| | ✓ Check off sheet |

COURSE COMPETENCIES:

Upon successful completion of this course, the student shall be able to:

- ✓ Describe the purpose of blood glucose monitoring
- ✓ Describe and demonstrate methods necessary to prevent cross contamination through the use of equipment by adherence to universal blood and body fluid precautions
- ✓ Demonstrate the correct technique for individual strip and/or instrumentation operation to include
 - Specimen collection and infection control
 - Instrumentation calibration
 - Test performance
 - Individual instrumentation display codes and troubleshooting procedures
 - Documentation of results and proper follow-up of abnormal test results in a timely fashion
- ✓ Demonstrate proper quality control testing, and documentation of results, and corrective actions
- ✓ Discuss preventative maintenance of strips and/or instrumentation to include documentation and follow-up
- ✓ List and describe the indications for blood glucose testing as stated in the protocols
- ✓ Describe the contraindications for blood glucose testing

COURSE CONTENT MODULE I, LECTURE:

1. Description

- ✓ Blood glucose testing is an invasive diagnostic aid to assist in the management of ALS patients with specific signs and symptoms. Patient care, treatment, and outcome may be improved with its use
- ✓ Blood glucose testing may be performed only with the approval of the county Medical Program Director

- ✓ Normal supportive therapy, airway management, and peripheral IV access should not be affected by blood glucose testing
- 2. **Indications:** As outlined in the NW Region Protocols
- 3. **Contraindications:** Use of strips or instrumentation that has failed QC testing and with no corrective action taken.
- 4. **Special considerations:**
 - A. Infection control:
 - ✓ Adherence to Universal Blood and Body Fluid Precautions during use
 - ✓ Disposal of lancets, disposable equipment, and contaminated strips in proper containers at point of use
 - ✓ Proper disinfection procedure for instrumentation
 - B. Storage and handling:
 - ✓ According to manufacturer's recommendations
 - ✓ Do not use after expiration date
 - C. Complications:
 - ✓ Following proper technique, infection, and quality control procedures avoids any complications
- 5. **Regulatory issues:**
 - ✓ Quality control and preventative maintenance
 - ✓ External proficiency testing
 - ✓ Competency checks
- 6. **Procedure for Blood Glucose Testing**
 - I. Identify the need for blood glucose testing (protocols).
 - II. Assemble and prepare the proper equipment.
 - III. Prepare patient for the procedure.
 - IV. Obtain the specimen.
 - V. Perform the test according to the manufacturer's instructions.
 - VI. Document and report the results.

- VII. These guidelines are not intended to alter current protocols, but to enhance them. The use of this diagnostic aid could improve patient outcome.

Quality Control Procedure: Quality control testing will be performed weekly with a high and low quality control solution.

COURSE CONTENT MODULE II, LAB:

1. After completing Module I, Module II may be done in the field with the EMT's partner as their preceptor. No one, however, can perform any glucose testing without first completing Module I.
2. In the situation of a live patient, the EMT will be guided by their preceptor/partner through the process, if time permits.
 - ✓ Patient care is not to be compromised for the sake of an EMT learning a new procedure. The educational situation will be delayed until a more appropriate time becomes available.
3. After the EMT has been observed doing three blood glucose tests by their preceptor/partner, they are to be checked off on the check off sheet. This will give them the ability to perform the skill proficiently.
4. All EMTs will be observed from time to time doing a blood glucose test for quality improvement review.

SEE NEXT PAGE FOR CHECK OFF SHEET

BLOOD GLUCOSE MONITORING BY EMTB CHECK OFF SHEET

Student's Name _____

-

Date: _____ Evaluator: _____

CRITERIA	Pts possible	Pts attained
Assess patient and correctly identifies the need for blood glucose test. (Identifies protocols)	2	
Prepares the patient for test	1	
Assembles materials and prepares environment	1	
Calibrates instrument	1	
Obtains blood sample	1	
Correctly performs procedure according to manufacturer instructions	1	
Reports value, correct treatment suggestion	1	

Total _____

Critical Criteria:

Failure to meet any of the critical criteria constitutes automatic failure. The student will discuss with the Medical Program Director prior to retesting.

_____ Fails to properly perform Blood glucose testing

_____ Performs any technique resulting in potential harm to the patient

Eight points required for passing

I attest to the accuracy and validity of the above information. I certify that the named student has met the applicable conditions put forth by Kitsap County for utilization of Blood Glucose Testing.

EMS Officer or designee

Date

MARK 1 KIT (ATROPINE AND 2-PAM)

THERAPEUTIC EFFECTS	Blocks the effects of poisoning from organophosphorus pesticides and nerve agents.
INDICATIONS	Clear and severe symptoms of poisoning from organophosphorus or nerve agents.
CONTRAINDICATIONS	None
PRECAUTIONS/SIDE EFFECTS	Adverse reactions may occur, including blurred vision, headache, nausea, hypertension, dizziness, drowsiness, tachycardia, and hyperventilation.
ADULT DOSAGE/ROUTE	1. Mild to moderate symptoms: Administer 1-2 doses IM, sequentially from the MARK 1 Kits. 2. Severe symptoms: Administer 3 doses IM from the MARK 1 Kits

TREATMENT OF PATIENTS EXPOSED TO NERVE AGENTS GB, VX, AND ORGANOPHOSPHOROUS PESTICIDES

1. The **Hazardous Materials Response** policy should be applied to all responses involving these agents.
2. The following treatment should be considered only when the patient manifests typical symptoms of exposure to these agents and the scene is suggestive of exposure.
3. Mass Casualty Incident – Early recognition that field patient treatment needs will exceed immediately available supplies should prompt an immediate call to the CCC to initiate the release of Chempacks.
4. Symptoms:

Table 10.1 DUMBELS MTWThF

D	Defecation	M	Muscle weakness and paralysis
U	Urination	T	Tachycardia
M	Miosis	W	Weakness
B	Bronchorrhea	Th	Hypertension
E	Excitation	F	Fasciculations
L	Lacrimation		
S	Salivation or seizures		

TREATMENT: The medication you will be administering is packaged in a MARK 1 Kit.

1. Mild to moderate symptoms:
 - I. Establish a patent airway and adequate ventilation.
 - II. Administer 1 MARK 1 dose of **atropine** followed by 1 dose of **pralidoxime chloride** (2-PAM).*
 - III. Supplement by administering **O₂**.
 - IV. If symptoms persist after 5-10 minutes, repeat injections.

- V. If symptoms persist after an additional 10 minutes, repeat injections a third time.
- 2. Severe symptoms (respiratory compromise, seizure, or coma):
 - I. Administer 3 auto injector kits, atropine and 2-PAM in rapid succession
 - II. If symptoms persist after third set of injections then DO NOT administer any more antidotes.
 - III. Administer 1-2 mg of **lorazepam (Ativan®)** slowly, IV/IM. May be repeated in 3-5 minutes, up to a total dose of 4 mg.[†]

^{*}Warning: Morphine, theophylline, aminophylline, or succinylcholine should be used with caution for patients treated with 2-PAM.

[†]If patient's needs exceed immediately available supplies of lorazepam, diazepam, 10 mg IM may be given by autoinjector.

SECTION 11: DRUG PROTOCOLS

EMS ALTERNATIVE MEDICATION LIST

ALLERGIC REACTIONS

MEDICATION	APPROVED USE	ALTERNATIVE MEDICATIONS	APPROVED INDICATION, ROUTE, & DRUGS
Diphenhydramine	Moderate to severe anaphylaxis	Other H2/H1 Inhibitors (e.g., Vistaril, Pepcid)	Hydroxyzine- 25-50mg IM; <i>Peds 0.1mg/kg</i> Famotidine- 20mg IV; <i>Peds 0.25mg/kg IV</i>
Epinephrine	Severe anaphylaxis	Epinephrine drip investigate other packaging options (multi-dose vials of 1:10,000, single dose vials, etc.) Epi-Pen	

ANTICONSULSANT; SEDATION

MEDICATION	APPROVED USE	ALTERNATIVE MEDICATIONS	APPROVED INDICATION, ROUTE, & DRUGS
Diazepam	Anticonvulsant; Sedation during RSI except head injury & trauma; Excited delirium or severe agitation; Sedation prior to cardioversion;	Other available Benzodiazepines; In order of preference: Midazolam, Lorazepam. Ketamine (may be used for sedation, not for anticonvulsant)	Midazolam- 3-5 mg IV/IO, IM; <i>Peds- 0.1-0.2 mg/kg IV/IO, IM</i> Lorazepam- 1-2 mg IV/IO, IM; <i>Peds- 0.1 mg/kg IV/IO, IM, PR</i>
Midazolam	Anticonvulsant; Sedation during RSI; Excited delirium or severe agitation; Sedation prior to cardioversion	Other available Benzodiazepines (Diazepam, Lorazepam); Ketamine (may be used for sedation, not for anticonvulsant)	Lorazepam- 1-2 mg IV/IO, IM; <i>Peds- 0.1 mg/kg IV/IO, IM, PR</i> Diazepam- 5-10 mg IV/IO, IM, PR; <i>Peds-0.2-0.5mg/kg IV/IO</i>
Lorazepam	Anticonvulsant; Sedation during RSI; Excited delirium or severe agitation; Sedation prior to cardioversion	Other available Benzodiazepines (Diazepam, Lorazepam); Ketamine (may be used for sedation, not for anticonvulsant)	Midazolam- 3-5 mg IV/IO, IM; <i>Peds- 0.1-0.2 mg/kg IV/IO, IM</i> Diazepam- 5-10 mg IV/IO, IM, PR; <i>Peds-0.2-0.5mg/kg IV/IO</i>

CARDIAC MEDICATIONS

MEDICATION	APPROVED USE	ALTERNATIVE MEDICATIONS	APPROVED INDICATION, ROUTE, & DRUGS
Atropine	Bradycardia	✓ Transcutaneous Pacing ✓ Epinephrine infusion ✓ Dopamine infusion	1. Transcutaneous Pacing 2. Epinephrine[†] 2-10mcg/min IV infusion; <i>Peds 0.1mcg/kg/min</i> 3. Dopamine- 2-10mcg/kg/min
Amiodarone	Ventricular dysrhythmias	✓ Lidocaine ✓ Procainamide- Peds use limited to SVT, A-flutter and VT w/ pulses	1. Lidocaine- 1-1.5 mg/kg, repeat 0.5-0.75 prn max 3mg/kg; <i>Peds- 1mg/kg max 3mg/kg</i> 2. Procainamide[†] 20mg/min IV/IO, max 17mg/kg; <i>Peds 15mg/kg IV/IO over 30-60 min</i>
Lidocaine	Ventricular dysrhythmias	✓ Amiodarone ✓ Procainamide- Peds use limited to SVT, A-flutter and VT w/ pulses	1. Amiodarone: Recurrent V-Fib/pulseless V-Tach: 300mg IV/IO repeat 150mg x 1 prn. V-Tach/WCT: 150mg over 10 min IV/IO x 2 prn; <i>Peds- 5.0 mg/kg IV/IO</i> 2. Procainamide[†] 20mg/min IV/IO, max 17mg/kg; <i>Peds 15mg/kg IV/IO over 30-60 min</i>
Diltiazem	Narrow complex supraventricular tachycardia	✓ Verapamil ✓ Propranolol	1. Verapamil-2.5-5.0 mg IV repeat prn 5-10mg in 15-30 min to max of 20mg; <i>Peds- 0.1-0.3mg/kg max 5mg. Repeat x 1 prn max 10mg.</i> 2. Propranolol- 0.5-1mg/min, repeat prn max 0.1mg/kg; <i>Peds- 0.01-0.1mg/kg over 10mins</i>

CARDIAC MEDICATIONS CONTINUED

MEDICATION	APPROVED USE	ALTERNATIVE MEDICATIONS	APPROVED INDICATION, ROUTE, & DRUGS
Dopamine	Cardiogenic shock; hypotension not related to hypovolemia	Epinephrine infusion	Epinephrine ⁺ - 2-10mcg/min IV infusion; <i>Peds 0.1mcg/kg/min</i>
Furosemide	Pulmonary Edema; Hypertensive Crisis	Nitroglycerine	Nitroglycerine - 0.4mg SL, Buccal
Epinephrine (1:10,000)	Asystole; PEA	Vasopressin	Vasopressin 40 units IV/IO q 20 min.

DIABETIC EMERGENCIES

MEDICATION	APPROVED USE	ALTERNATIVE MEDICATIONS	APPROVED INDICATION, ROUTE, & DRUGS
50% Dextrose	Hypoglycemia	✓ 25% Dextrose ✓ Glucagon	Glucagon - 1mg SC, IM, IV; <i>Peds- 0.5mg SC, IM, IV</i>

PAIN MANAGEMENT

MEDICATION	APPROVED USE	ALTERNATIVE MEDICATIONS	APPROVED INDICATION, ROUTE, & DRUGS
Morphine	Acute pain control	Fentanyl (1 st choice if available); ✓ Dilaudid ✓ Ketorolac	1. Fentanyl- 25-50mcg IV/IO, IM max 3mcg/kg; <i>Peds</i> 1-2 mcg/kg IV/IO, IM max of 3 mcg/kg. 2. Dilaudid- 0.2-0.6 mg q 2-3 hrs.; give slowly over 2-3 min. <i>Peds</i> 0.015 mg/kg slow IV/IM q 4-6 hrs. 3. Ketorolac- 30mg IV/IO, 60mg IM. ½ dose if >65y/o OR <50kg. Repeat prn Max 60mg; <i>Peds</i> >2y/o- 0.5mg/kg IV/IO, 0.1mg/kg IM. Repeat prn Max 15mg IV, 30mg IM
Fentanyl	Acute pain control	Morphine (1 st choice if available); ✓ Dilaudid ✓ Ketorolac	1. Morphine- 5-10 mg IV/IO, IM q 5 min prn; <i>Peds</i>- 0.1-0.2mg/kg IV/IO, IM 2. Dilaudid-0.2-0.6 mg q 2-3 hrs give slowly over 2-3 min. <i>Peds</i> 0.015 mg/kg slow IV/IM q 4-6 hrs. 3. Ketorolac- 30mg IV/IO, 60mg IM. ½ dose if >65y/o OR <50kg. Repeat prn Max 60mg; <i>Peds</i> >2y/o- 0.5mg/kg IV/IO, 0.1mg/kg IM. Repeat prn Max 15mg IV, 30mg IM

RAPID SEQUENCE INDUCTION (RSI)

MEDICATION	APPROVED USE	ALTERNATIVE MEDICATIONS	APPROVED INDICATION, ROUTE, & DRUGS
Succinylcholine	Induce paralysis during RSI	Non-Depolarizing Neuromuscular Blocker (Rocuronium, Vecuronium)	Induce Paralysis during RSI; IV/IO only 1. Rocuronium - 1-1.2 mg/kg 2. Vecuronium - 0.3-0.4 mg/kg
Pancuronium	Maintain paralysis after intubation	Other long acting Non-Depolarizing Neuromuscular Blocker (Rocuronium, Vecuronium)	Maintain Paralysis; IV only 1. Rocuronium -0.1-0.2 mg/kg q 20-30 min. 2. Vecuronium - 0.1mg/kg q 20-30 min. 3. Pancuronium -0.015-0.1 mg/kg q 30-60 min.
Vecuronium	Maintain paralysis after intubation	Other long acting Non-Depolarizing Neuromuscular Blocker (Rocuronium, Pancuronium)	Maintain Paralysis; IV/IO only 1. Rocuronium -0.1-0.2 mg/kg q 20-30 min. 2. Pancuronium -0.015-0.1 mg/kg q 30-60 min.
Rocuronium	Maintain paralysis after intubation	Other long acting Non-Depolarizing Neuromuscular Blocker (Vecuronium, Pancuronium)	Maintain Paralysis; IV/IO only 1. Vecuronium - 0.1mg/kg q 20-30 min. 2. Pancuronium - 0.015-0.1mg/kg q 30-60 min.
Etomidate	Sedative agent during RSI	✓ Benzodiazepines, if available. ✓ Ketamine ✓ Fentanyl	1. Midazolam 3-5 mg IV/IO 2. Diazepam 5 – 10 mg IV/IO 3. Ketamine * 1-2 mg/kg IV/IO 4. Fentanyl 25-50mcg IV/IO <i>Peds 1-2 mcg/kg IV/IO</i>

OTHER PREHOSPITAL MEDICATIONS

MEDICATION	APPROVED USE	ALTERNATIVE MEDICATIONS	APPROVED INDICATION, ROUTE, & DRUGS
Naloxone	Opiate Overdose	No Alternative	Airway Management , Intubate prn
Ondansetron	Severe Nausea	✓ Phenergan ✓ Inapsine (droperidol)	1. Phenergan- 12.5-25mg IV, IM, PR; <i>Peds >2y/- 0.25-1mg/kg PR</i> 2. Inapsine- 0.625-2.5 mg IV, IM; <i>Peds >2y/o- 0.1 mg/kg</i>

***Ketamine** – Mix 50mg in 250ml balanced salt solution (= 2mg/ml). Give slow IV, over 1min. Do not give undiluted 100mg/ml preparation

†**Procainamide** – 20mg/min until one of the following: Suppression of arrhythmia, Hypotension, QRS widens by 50%, Max dose

‡**Epinephrine** – 1 mg in 500cc balanced salt solution (=2 mcg/cc), start at 1 cc/min and increase every 1 minute, prn.

50% DEXTROSE*

THERAPEUTIC EFFECTS	Dextrose is a simple sugar which the body can rapidly metabolize while in hypoglycemic states.
INDICATIONS	Hypoglycemia as suggested by lethargy or coma in a known diabetic with a documented blood sugar of < 60 mg/dl.
CONTRAINDICATIONS	None.
PRECAUTIONS/SIDE EFFECTS	Draw sample blood and determine glucose level before administration. Ensure good venous access.
ADULT DOSAGE/ROUTE	50 ml of 50% dextrose (25 gm), IV/IO. May be repeated.
PEDIATRIC DOSAGE/ROUTE 	1 ml/kg, IV/IO.
INFANT DOSAGE/ROUTE	1 ml/kg diluted 1:1 with NS, IV/IO.

*If 50% dextrose solution is unavailable, D10 (100 g/1000 ml) IV solution may be substituted. Adult dose: 250 ml; may repeat in 10 minutes, if needed. Pediatric dose: 5 ml/kg. Infant dose: 5 ml/kg.

ACETYLSALICYLIC ACID (ASPIRIN)

THERAPEUTIC EFFECTS	An antipyretic, anti-inflammatory analgesic with properties reducing platelet aggregation that may reduce the size of a blood clot within a coronary artery causing an AMI.
INDICATIONS	For the treatment of patients with suspected AMI.
CONTRAINDICATIONS	Hypersensitivity to aspirin or nonsteroidal anti-inflammatory analgesics.
PRECAUTIONS/SIDE EFFECTS	Hypersensitivity to aspirin or nonsteroidal anti-inflammatory analgesics.
ADULT DOSAGE/ROUTE	160-325 mg chewable tablet orally.
PEDIATRIC DOSAGE/ROUTE 	

ACTIVATED CHARCOAL (ACTIDOSE/SORBITAL)

THERAPEUTIC EFFECTS	A specially prepared charcoal with a surface that will absorb and bind toxins.
INDICATIONS	In poisoning where emesis is contraindicated and administration has been recommended by Poison Control and/or the receiving physician.
CONTRAINDICATIONS	An airway that cannot be controlled.
PRECAUTIONS/SIDE EFFECTS	Administer only after emesis or in cases where emesis is contraindicated
ADULT DOSAGE/ROUTE	50 gm premix solution given orally.
PEDIATRIC DOSAGE/ROUTE 	1 gm/kg premix solution given orally. Maximum dose of 50 gm.

ADENOSINE (ADENOCARD®)

THERAPEUTIC EFFECTS	Slows conduction through the AV node and can interrupt reentry pathways through the AV node.
INDICATIONS	Conversion to sinus rhythm of Paroxysmal Supra Ventricular Tachycardia (PSVT). This includes the initial diagnosis and treatment of stable, undifferentiated, regular, monomorphic wide complex tachycardia and excludes known Wolf Parkinson White syndrome.
CONTRAINDICATIONS	✓ Second or third degree AV block ✓ Sick sinus syndrome ✓ Hypersensitivity to adenosine.
PRECAUTIONS/SIDE EFFECTS	May exacerbate asthma . Should only be used during pregnancy if clearly needed. May cause hypotension, facial flushing, dyspnea, light headedness, or nausea. Reduce initial dose to 3 mg in patients receiving Persantine (dipyridamole), Carbamazepine, Aggrenox, and heart transplant patients.
ADULT DOSAGE/ROUTE	6 mg, rapid IV bolus. Follow with a rapid 20cc fluid bolus. Second dose of 12 mg rapid IV bolus may be given after 2 minutes, if needed. Follow with a rapid 20cc NS bolus. A large (antecubital) vein may be more appropriate for administration.
PEDIATRIC DOSAGE/ROUTE 	0.1 mg/kg, rapid IV bolus. Maximum dose of 6 mg. Follow immediately with 5–10 ml NS flush. Second rapid IV bolus 0.2 mg/kg may be given after 2 minutes. Maximum dose 12 mg. Follow immediately with 5–10 ml NS flush. A large (antecubital) vein may be more appropriate for administration. All pediatric administration of this medication requires receiving physician's permission.

ALBUTEROL (VENTOLIN®)

THERAPEUTIC EFFECTS	A synthetic sympathomimetic which causes bronchodilatation with less cardiac effect than epinephrine . The duration of effect is about 4 hours.	
INDICATIONS	1. Adult asthma and pediatric respiratory wheezes 2. Bronchospasm in emphysema 3. Chronic bronchitis 4. Wheezing associated with toxic smoke inhalation 5. Renal failure with hypotension and bradycardia associated with EKG evidence of hyperkalemia 6. Crush injury syndrome prior to the release of compression or if the patient has hypotension and bradycardia associated with EKG evidence of hyperkalemia	
CONTRAINDICATIONS	Hypersensitivity to Albuterol	
PRECAUTIONS/SIDE EFFECTS	Patient may experience palpitations, anxiety, nausea, and dizziness. Vital signs must be monitored; use caution with cardiac or hypertensive patients.	
ADULT DOSAGE/ROUTE	Indications 1-4 2.5 mg in 3 ml NS with small volume nebulizer attached to O₂ at 6 liters to vaporize solution. May repeat.	Indications 5-6 5 mg in 6 ml NS with small volume nebulizer attached to O ₂ at 6 liters to vaporize solution. May repeat if symptoms persist.
PEDIATRIC DOSAGE/ROUTE 	Indications 1,4,5,6: 2.5 mg in 3 ml NS (3 ml premix) with small volume nebulizer attached to O ₂ at 6 liters to vaporize solution. May repeat if symptoms persist.	

AMIODARONE

THERAPEUTIC EFFECTS	Prolongs myocardial cell action potential duration, refractory period and noncompetitively inhibits alpha and beta adrenergic stimulation.		
INDICATIONS	1. Recurrent ventricular fibrillation or recurrent pulseless ventricular tachycardia 2. Recurrent hemodynamically unstable ventricular tachycardia 3. Stable ventricular tachycardia in consultation with online medical control		
CONTRAINDICATIONS	Hypersensitivity to Amiodarone or any of its components.*		
PRECAUTIONS/SIDE EFFECTS	May prolong QT interval. Use with caution if renal failure is present. May produce vasodilation and hypotension. May also have a negative inotropic effect.		
ADULT DOSAGE/ROUTE	Indication 1 300 mg diluted in 20 ml of NS, IVP/IO. Consider repeating 1 time after 3-5 minutes at 150 mg in 10 ml of NS IVP/IO.	Indication 2 150 mg diluted in 10 ml of NS, IV over 10 minutes and may repeat q 10 minutes, as needed†	Indication 3 150 mg diluted in 10 ml of NS, IV over 10 minutes‡
PEDIATRIC DOSAGE/ROUTE 	Indication 1 5 mg/kg diluted with 4 ml of NS for q 50 mg of amiodarone, IVP/IO. Max single dose of 300 mg. Consider repeating 5 mg/kg IVP/IO q 3-5 minutes to a total dose of 15 mg/kg IV (2.2 gm in adolescents) in 24 hours.	Indication 2,3 5 mg/kg diluted with 4 ml of NS for every 50 mg of amiodarone, IV/IO over 20-60 minutes. Maximum single dose of 300 mg. May repeat up to a maximum of 15 mg/kg (2.2 gm in adolescents) in 24 hours.	

*Lidocaine may be substituted for Amiodarone under these circumstances.

†The maximum dose of amiodarone IV is 2.2 gm over 24 hours

‡To only be used with online medical control consultation

ATROPINE

THERAPEUTIC EFFECTS	Blocks the parasympathetic nervous system and its inhibiting effects on heart rate. It does not increase the strength of cardiac contraction.		
INDICATIONS	1. Bradycardia with hypotension or escape beats 2. Nerve agent or organophosphate poisoning 3. Prior to use of succinylcholine for intubation in children, age five or less, or prior to the use of a second dose of succinylcholine for RSI in adults		
CONTRAINDICATIONS	None in the emergency setting		
PRECAUTIONS/SIDE EFFECTS			
ADULT DOSAGE/ROUTE*	Indication 1 IV/IO 0.5 mg q 3-5 minutes, up to a total of 0.04 mg/kg or 3 mg	Indication 2 MDV or Mark 1 Kit(s) should be used to administer from 1-3 doses of atropine ^{†‡}	Indication 3 IV/IO 0.5 mg
PEDIATRIC DOSAGE/ROUTE 	Indication 1 IV/IO 0.02 mg/kg, repeated once if needed	Indication 2 Infant: 0.05-.1 mg/kg IM/IV/IO (or 0.2 mg-1mg), Peds Atropen or MDV Child: 1-4 mg IM/IV/IO, Peds Atropen, MDV, or Mark 1	Indication 3 0.02 mg/kg up to a maximum of 0.5 mg

*Atropine may be given ET at double the IV dose

†Elderly/frail, 1-4 mg IM/IV/IO Peds Atropen, MDV, or Mark 1

‡ If MDV not available, IV route not established and/or precise dosing not possible, consider administration of Mark 1

CALCIUM GLUCONATE

THERAPEUTIC EFFECTS	Essential for the transmission of nerve impulses that initiate the contraction of cardiac muscle. Calcium gluconate is a specific antagonist of the adverse effects of potassium. Onset of action is 1-3 minutes, duration is 30-50 minutes.
INDICATIONS	1. Renal patient with suspected hyperkalemia associated with bradycardia and hypotension or an unstable cardiac arrhythmia 2. Calcium channel blocker overdose associated with bradycardia and hypotension or unstable arrhythmia 3. Crush injury syndrome prior to release of compression or if, at any time, the patient has hypotension and bradycardia associated with EKG evidence of hyperkalemia
CONTRAINDICATIONS	Calcium gluconate should not be used during resuscitation efforts unless hyperkalemia, hypocalcemia, or calcium channel blocker toxicity is suspected.
PRECAUTIONS/SIDE EFFECTS	Use with extreme caution in patients known to take digoxin, as life threatening arrhythmias can result. Use a large secure vein; SQ infiltration can cause tissue necrosis. Flush the line before and after use, as calcium gluconate is incompatible with Sodium Bicarbonate.
ADULT DOSAGE/ROUTE	20 ml of 10% calcium gluconate IV/IO administered slowly over 1-2 minutes.

DIAZEPAM (VALIUM®)

THERAPEUTIC EFFECTS	CNS depressant that induces amnesia and reduces the incidence and recurrence of seizures.
INDICATIONS	Major motor seizures secondary to nerve agent exposure or organophosphate poisoning.
CONTRAINDICATIONS	Hypersensitivity to Diazepam. Relative Contraindications: ✓ Respiratory depression ✓ Hypotension
PRECAUTIONS/SIDE EFFECTS	Due to a short half-life of the drug, seizure activity may recur. Watch for respiratory depression.
ADULT DOSAGE/ROUTE	5-10 mg IM/IV, MDV, or MARK 1.
PEDIATRIC DOSAGE/ROUTE	Infant (0-3 years or < 13 kg): 0.2-0.5 mg/kg IM/IV (1.25-5 mg MDV) Child (3-10 years or 13-25 kg): 0.2-0.5 mg/kg IM/IV (2.5-10 mg MDV or MARK 1)
ELDERLY/FRAIL	1.25-10 mg IM/IV, MDV, or MARK 1.

DILTIAZEM

THERAPEUTIC EFFECTS	A drug of the Calcium channel blocker class, it is a potent vasodilator and depresses A-V node conduction. It is used in the treatment of hypertension, angina pectoris, and some types of arrhythmia.	
INDICATIONS	1. Maintenance of therapy, initiated at the transferring hospital for angina, hypertension, paroxysmal supraventricular tachycardia (re-entrant supraventricular tachycardia) or atrial fibrillation/atrial flutter (PSVT). 2. Following contact with medical control may be used to control ventricular rate in new onset or recurrent acute onset atrial fibrillation and atrial flutter.	
CONTRAINDICATIONS	Hypotension, SA node or AV nodal conduction disturbances, Congestive Heart Failure, Wolff-Parkinson-White syndrome (WPW).	
PRECAUTIONS/SIDE EFFECTS	Use with caution in patients on Beta-Blockers. Do not use if patient is on Quinidine	
ADULT DOSAGE/ROUTE	Indication 1 5-15 mg/hr, titrated to physiologically appropriate heart rate (can dilute in D5W or NS).	Indication 2 Acute Rate Control: 15-20 mg (0.25 mg/kg) IV over 2 minutes. May administer a second dose of 20 mg IV in 15 minutes.

DIPHENHYDRAMINE (BENADRYL®)

THERAPEUTIC EFFECTS	Inhibits the release of histamine, thereby reducing bronchoconstriction and vasodilation.		
INDICATIONS	1. Anaphylaxis 2. Mild or moderate allergic reaction 3. Urticaria		
CONTRAINDICATIONS	✓ Lower respiratory distress ✓ Hypersensitivity to Benadryl®		
PRECAUTIONS/SIDE EFFECTS	May induce hypotension, headache, palpitations, tachycardia, sedation, drowsiness and disturbed coordination.		
ADULT DOSAGE/ROUTE	Indication 1 50 mg IV/IO. May be given IM, if no access.	Indication 2 25-50 mg IV/IM.	Indication 3 25-50 mg IV/IM.
PEDIATRIC DOSAGE/ROUTE 	1 mg/kg IV/IO/IM. Maximum dose of 50 mg.		

DOPAMINE

THERAPEUTIC EFFECTS	Beta agonist which does not appreciably increase myocardial oxygen consumption. It maintains renal and mesenteric blood flow while inducing vasoconstriction and increasing blood pressure.
INDICATIONS	1. Cardiogenic shock 2. Hypotension not secondary to hypovolemia
CONTRAINDICATIONS	Hypotension due to hypovolemia without aggressive fluid resuscitation.
PRECAUTIONS/SIDE EFFECTS	Tachydysrhythmias and ventricular fibrillation or irritability. May be deactivated by alkaline solutions. Reduce the dosage if the patient is on monoamine oxidase inhibitors (antidepressant). Blood pressure should be constantly monitored.
ADULT DOSAGE/ROUTE	Mix 400 mg/250 ml of D5W (1600 mcg/ml) and initiate IV infusion at 5 mcg/kg/minute, titrating to blood pressure.
PEDIATRIC DOSAGE/ROUTE 	Same as adult.

EPINEPHRINE (ADRENALIN)-ADULT

THERAPEUTIC EFFECTS	A potent alpha and beta stimulant which is diluted 1 mg in 1 ml (1:1 000) or 1 mg in 10 ml (1:10 000) of saline. It increases vasoconstriction through its 1pha properties and electrical activity of the heart through its beta properties.			
INDICATIONS	1. Ventricular Fibrillation/Pulseless Ventricular Tachycardia 2. Asystole/PEA 3. Asthma 4. Anaphylaxis ✓ Moderate ✓ Severe 5. Bradycardia or non-traumatic hypotension			
CONTRAINDICATIONS	None in the patient who needs aggressive resuscitation.			
PRECAUTIONS/SIDE EFFECTS	Should be protected from light and should not be infused with alkaline solutions such as sodium bicarbonate since they will deactivate epinephrine. The drug's actions are of short duration.			
ADULT DOSAGE/ROUTE	Indications 1,2 1 mg 1:10 000 IV/IO* q 3-5 minutes, as needed.	Indications 3,4a 0.01 mg/kg 1:1 000 IM up to 0.3 mg q 5 minutes, as needed.	Indication 4b ✓ 0.01 mg/kg 1:10 000 IV/IO*, slowly, up to 0.3 mg q 5 min. as needed. ✓ 0.01 mg/kg 1:1 000 IM up to 0.3 mg q 5 minutes as needed.	Indication 5 A continuous infusion of 2-10 mcg/min.

*May be given ET at double the IV dose.

EPINEPHRINE (ADRENALIN)-PEDIATRIC



THERAPEUTIC EFFECTS	A potent alpha and beta stimulant which is diluted 1 mg in 1 ml (1:1 000) or 1 mg in 10 ml (1:10 000) of saline. It increases vasoconstriction through its 1pha properties and electrical activity of the heart through its beta properties.			
INDICATIONS	1. Bradycardia or non-traumatic hypotension 2. Ventricular Fibrillation/Pulseless Ventricular Tachycardia 3. Asystole/PEA 4. Anaphylaxis ✓ Moderate ✓ Severe			
CONTRAINDICATIONS	None in the patient who needs aggressive resuscitation.			
PRECAUTIONS/SIDE EFFECTS	Should be protected from light and should not be infused with alkaline solutions such as sodium bicarbonate since they will deactivate epinephrine. The drug's actions are of short duration.			
PEDIATRIC DOSAGE/ROUTE	Indication 1 A continuous infusion of 0.1 to 1 mcg/kg/min	Indications 2,3 0.01 mg/kg 1:10 000 IV/IO. Max dose 1 mg q 3-5 min. If no access, 0.1 mg/kg 1:1 000 diluted in 3 ml NS ET q 3-5 min	Indication 4a 0.01 mg/kg 1:1 000 IM. Up to 0.3 mg q 5 minutes, as required.	Indication 4b 0.01 mg/kg 1:10 000 IV/IO. Up to 0.3 mg q 5 minutes, as required.

ETOMIDATE

THERAPEUTIC EFFECTS	A short-acting sedative-hypnotic agent which appears to have gamma-aminobutyric acid (GABA-like effects). Reduces subcortical inhibition at the onset of hypnosis while inducing neocortical sleep. Minimal cardiovascular and respiratory depressant. No analgesic action. Duration depends on dose, but usually 3-5 minutes with an average dose of 0.1 mg/kg (may be prolonged by a sedative premedication or a repeat dose).	
INDICATIONS	1. To induce sedation prior to endotracheal intubation particularly to patients at risk for hypotension 2. Sedation for emergent cardio version	
CONTRAINDICATIONS	Sensitivity to etomidate.	
PRECAUTIONS/SIDE EFFECTS	May depress respirations. Nausea, vomiting, and myoclonus may occur. Etomidate may cause adrenal suppression when used on patients with septic shock; other sedative agents should be considered in this situation.	
ADULT DOSAGE/ROUTE	Indication 1 0.3 mg/kg IV/IO over a period of 30-60 seconds.	Indication 2 0.1 mg/kg IV/IO over a period of 30-60 seconds.
PEDIATRIC DOSAGE/ROUTE 	Indication 1 0.3 mg/kg IV/IO over a period of 30-60 seconds.	Indication 2 0.1 mg/kg IV/IO over a period of 30-60 seconds.

FENTANYL

THERAPEUTIC EFFECTS	A potent analgesic.
INDICATIONS	Severe pain, including: cardiac chest pain, burns , extremities, chest and abdominal injuries, and abdominal pain.
CONTRAINDICATIONS	Should not be given in patients with: ✓ Altered mental status ✓ Hypersensitivity to fentanyl ✓ Hypotension ✓ Volume depletion ✓ Respiratory depression
PRECAUTIONS/SIDE EFFECTS	May cause respiratory depression. Naloxone (Narcan®) should be readily available to counteract the effects of fentanyl. The receiving physician should be informed directly of the prehospital administration of fentanyl at the time of hospital arrival. As with all narcotic analgesics, fentanyl can cause respiratory depression and it should be administered slowly and titrated to achieve analgesia. Lower dose ranges should be used with elderly and frail patients. Do not use if systolic BP < 100 mmHg or SpO2 < 90%.
ADULT DOSAGE/ROUTE*	0.5-1 mcg/kg. Most common adult dosage is 25-50 mcg IV/IO/IM. Dose may be repeated in 10 minutes and should be titrated to relieve pain up to a total dose of 3 mcg/kg.
PEDIATRIC DOSAGE/ROUTE* 	Use of fentanyl in the pediatric population is reserved for children over the age of two. 0.5-1 mcg/kg IV/IO/IM. Dose may be repeated in 10 minutes and should be titrated to relieve pain up to a total dose of 3 mcg/kg.

*Rapid injection may cause respiratory arrest or chest rigidity-give over 30-60 seconds.

FUROSEMIDE (LASIX®)

THERAPEUTIC EFFECTS	A potent diuretic which inhibits sodium reabsorption by the kidney. Water is eliminated with the sodium. Its effects are noted within 5 minutes. Also causes vasodilation, which reduces preload.
INDICATIONS	Pulmonary edema
CONTRAINDICATIONS	✓ Fever and/or hypotension ✓ Pregnancy (except in life threatening circumstances)
PRECAUTIONS/SIDE EFFECTS	Severe dehydration and electrolyte depletion may result from excessive doses of Lasix®. Hypotension may occur. The administration of Lasix® to patients for whom pneumonia, COPD, or emphysema is the cause of their respiratory distress has been associated with increased mortality. Therefore, it should only be used when the provider is confident that patient's symptoms are caused by pulmonary edema.
ADULT DOSAGE/ROUTE	0.5-1 mg/kg IV/IO, slowly.*

*For patients already taking Lasix®, initial administration of double their daily dose may be an appropriate guideline.

GLUCAGON

THERAPEUTIC EFFECTS	Converts liver glycogen to glucose. Also produces relaxation of smooth muscle of stomach, duodenum, small bowel and colon. Increases cAMP in the myocardium possibly increasing heart rate and contractile force.	
INDICATIONS	1. Hypoglycemia , when unable to give PO or IV dextrose 2. Possibly helpful in B Blocker and Calcium Channel Blocker overdose refractory to standard treatment.	
CONTRAINDICATIONS	✓ Pheochromocytoma (vascular tumor of adrenal gland) ✓ Hypersensitivity to Glucagon	
PRECAUTIONS/SIDE EFFECTS	Nausea and vomiting.	
ADULT DOSAGE/ROUTE	Indication 1 1 mg IM/SQ if blood glucose < 60 mg/dl.	Indication 2 3-10 mg IV/IO bolus (0.05-0.15 mg/kg) followed by 3-5 mg/hr (0.05-0.1)
PEDIATRIC DOSAGE/ROUTE 	Indication 1 .05 mg/kg up to 1 mg IM/SQ.	Indication 2 30-150 mcg/kg IV/IO bolus followed by 70 mcg/kg/hr.

*Current paramedic drug supplies are insufficient for the higher adult doses, but the administration of available supplies may be a beneficial adjunct to standard treatment in cases of severe B Blocker or Calcium Channel Blocker overdose.

HEPARIN

THERAPEUTIC EFFECTS	A rapid anti-coagulant which acts as a catalyst to accelerate the rate at which antithrombin III neutralizes thrombin and activated coagulation factor X(X_a).
INDICATIONS	1. Unstable angina and/or myocardial infarction 2. Pulmonary embolism 3. Deep vein thrombosis
CONTRAINDICATIONS	Hemorrhage
PRECAUTIONS/SIDE EFFECTS	Allergic reactions to heparin rarely occur. Heparin should be used with extreme caution whenever there is an increased risk of hemorrhage. Some of the risk factors include GI lesions, recent surgery, blood dyscrasias, menstruation, uncontrolled hypertension, and indwelling catheters.
ADULT DOSAGE/ROUTE	Although dosage is variable, typically an initial loading dose of 5000 units is given by IV injection followed by a continuous infusion from 500 to 2300 units per hour.

HYDROXOCOBALAMIN

THERAPEUTIC EFFECTS	The action hydroxocobalamin in the treatment of cyanide poisoning is based on its ability to bind cyanide ions. Each hydroxocobalamin molecule can bind one cyanide ion by substituting it for the hydroxo ligand linked to the trivalent cobalt ion, to form cyanocobalamin, which is then secreted in the urine.
INDICATIONS	For the treatment of known or suspected cyanide poisoning including patients in CPA secondary to smoke inhalation.
CONTRAINDICATIONS	Known hypersensitivity to hydroxocobalamin or cyanocobalamin.
PRECAUTIONS/SIDE EFFECTS	Potential nausea, vomiting, diarrhea, abdominal pain, eye swelling, irritation, or redness, red colored urine, red colored skin and mucus membrane, and acne like rash. Hydroxocobalamin is physically incompatible with dopamine and fentanyl and the concurrent administration through the same IV line can result in particle formation.
ADULT DOSAGE/ROUTE	5 g (Two 2.5 vials) administered IV over 15 minutes. May be repeated once based upon the clinical severity of the poisoning with the rate of infusion ranging from 15 minutes to 2 hours, based on the patient's condition. Each vial should be reconstituted with 100 ml of NS and rocked or rotated for 30 seconds to mix solution and then infused over 7.5 minutes.

PEDIATRIC DOSAGE/ROUTE



1. 70 mg/kg IV/IO over 15 minutes; may repeat x1
2. Hydroxocobalamin is supplied as 5 gm in 200 mL glass vial*
 - I. Add 200 mL 0.9% NS (D5W or LR are ok); use transfer spike
 - II. Swirl, rock, or invert vial.
3. Final concentration: 25 mg/mL; infuse in dedicated line.

Weight (kg/lbs)	Dose (mg)	Dose (mL)	Infusion method
2 kg/4.4 lbs	140 mg	5.6 mL	Syringe pump
3 kg/6.6 lbs	210 mg	8.4 mL	Syringe pump
4 kg/8.8 lbs	280 mg	11 mL	Syringe pump
5 kg/11 lbs	350 mg	14 mL	Syringe pump
10 kg/22 lbs	700 mg	28 mL	Syringe pump
15 kg/33 lbs	1050 mg	42 mL	Syringe pump
20 kg/44 lbs	1400 mg	56 mL	Syringe pump
25 kg/55 lbs	1750 mg	70 mL	Syringe pump
30 kg/66 lbs	2100 mg	84 mL	Syringe pump
35 kg/77 lbs	2450 mg	98 mL	Syringe pump
40 kg/88 lbs	2800 mg	112 mL	Syringe pump
45 kb/99 lbs	3150 mg	126 mL	Syringe pump
50 kg/110 lbs	3500 mg	140 mL	Syringe pump

*Older Cyanokits (may be expired) supplied as: 2.5 gm in 100 mL vial; add 100 mL of NS (or D5W or LR); use transfer spike; final conc. Also 25 mg/mL; may need 2 vials for dose.

IPRATROPIUM BROMIDE (ATROVENT®)

THERAPEUTIC EFFECTS	An anticholinergic (parasympatholytic) agent that inhibits vagally-mediated reflexes by antagonizing the action of acetylcholine, resulting in bronchodilatation. In combination with albuterol (Ventolin®) , the median duration is 5 to 7 hours.
INDICATIONS	1. Bronchial asthma 2. Bronchospasm in emphysema 3. Chronic bronchitis 4. Wheezing associated with toxic smoke inhalation 5. Pediatric respiratory distress with wheezing
CONTRAINDICATIONS	✓ Hypersensitivity to ipratropium bromide ✓ Hypersensitivity to atropine or its derivatives
PRECAUTIONS/SIDE EFFECTS	Should be used with caution in patients with narrow angle glaucoma and prostatic hypertrophy or bladder neck obstruction. Only use with pregnant patients if necessary. Providers should ensure that the patient's eyes are protected from contact with this solution.
ADULT DOSAGE/ROUTE	500 mcg (1 unit dose vial) added to 1 unit dose vial of Ventolin® in small volume nebulizer attached to O₂ at 6 liters to vaporize solution.* DO NOT repeat.
PEDIATRIC DOSAGE/ROUTE 	500 mcg (1 unit dose vial) added to 1 unit dose vial of Ventolin® in small volume nebulizer attached to O ₂ at 6 liters to vaporize solution.* DO NOT repeat.

*Ipratropium bromide is also supplied in a premix unit dose with albuterol.

LIDOCAINE (XYLOCAINE®)

THERAPEUTIC EFFECTS	An agent which increases the fibrillation threshold thereby reducing ectopy and the development of ventricular fibrillation as well as reduces the increase in cranial pressure associated with endotracheal intubation . It is also a local anesthetic which may reduce the pain of intraosseous infusion.
INDICATIONS	1. To be used for RSI prior to the use of succinylcholine in head injury patients. 2. Alternative to amiodarone in cardiac arrest from VF/VT. 3. Alternative to amiodarone in the following conditions: A. Recurrent hemodynamically unstable ventricular tachycardia B. Stable ventricular tachycardia in consultation with medical control 4. Pain relief for conscious patients who are responsive to pain stimuli during intraosseous infusion of fluid bolus or flush.
CONTRAINDICATIONS	✓ Hypersensitivity to lidocaine ✓ 2nd degree Mobitz II heart block ✓ 3rd degree heart block ✓ Bradycardia (even when associated with wide-complex ventricular escape beats)
PRECAUTIONS/SIDE EFFECTS	High plasma concentration may cause myocardial and circulatory depression, possible CNS symptoms (e.g. seizures). Reduce infusion dose if severe CHF or low cardiac output is compromising hepatic and renal blood flow.

Table continues on next page:

ADULT DOSAGE ROUTE	Indication 1 1 mg/kg IV/IO	Indication 2 1-1.5 mg/kg IV/IO. For refractory may give additional 0.5-0.75 mg/kg IV/IO, repeat in 5-10 min., max 3 doses or total of 3 mg/kg*)	Indications 3a,3b 0.5-0.75 mg/kg IV/IO, up to 1-1.5 mg/kg may be used. Repeat q 5-10 min., max total dose of 3 mg/kg	Indication 4 20-40 mg of 2% Lidocaine (preservative free) into EZ IO port prior to the initial bolus or flush
PEDIATRIC DOSAGE ROUTE 	Indication 1 1 mg/kg IV/IO.	Indication 2 1 mg/kg IV/IO (max dose 100 mg†)	Indications 3a,3b 1 mg/kg IV/IO, once.	Indication 4 0.25-0.5 mg/kg of 2% Lidocaine (preservative free) into EZ IO port prior to the initial bolus or flush

*May be given via endotracheal tube, 2-4 mg/kg.

†May be given via endotracheal tube, 2-3 mg/kg.

LORAZEPAM (ATIVAN®)

THERAPEUTIC EFFECTS	Anticonvulsant
INDICATIONS	Major motor seizures when midazolam is not available.
CONTRAINDICATIONS	✓ Hypersensitivity to lorazepam ✓ Acute narrow angle glaucoma ✓ Hypotension ✓ Respiratory failure Relative Contraindications: ✓ Respiratory distress ✓ Decreased LOC
PRECAUTIONS/SIDE EFFECTS	✓ Respiratory depression ✓ Hypotension ✓ Sedation ✓ Nausea ✓ Vomiting
ADULT DOSAGE/ROUTE	Dilute 1:1 with an equal volume of NS and administer IV/IM* or 1-2 mg IO slowly and may repeat q 3-5 minutes, up to a maximum dose of 4 mg.
PEDIATRIC DOSAGE/ROUTE 	Dilute 1:1 with an equal volume of NS and administer IV/IM*, PR, or 0.1 mg/kg IO q 3 minutes, up to a maximum dose of 2 mg.

*IM lorazepam should not be diluted.

MAGNESIUM SULFATE

THERAPEUTIC EFFECTS	Blocks neuromuscular transmission and decreases the amount of acetylcholine liberated at the end plate of the motor nerve impulse.	
INDICATIONS	1. Control of seizures in severe toxemia of pregnancy 2. May be effective in treatment of V-fib or pulseless V-Tach if hypomagnesemic state or Torsades de Pointes is suspected.	
CONTRAINDICATIONS	Should not be given to mothers with toxemia of pregnancy during the 2 hours immediately preceding delivery.	
PRECAUTIONS/SIDE EFFECTS	Because magnesium is removed from the body solely by the kidneys, this drug should be used with caution in patients with renal impairment. Clinical indications of a safe dosage regimen include the presence of the patellar reflex and absence of respiratory depression.	
ADULT DOSAGE/ROUTE	Indication 1 4 gm of 50% solution diluted with 20 mL normal saline IV/IO. 4 gm of 50% solution, IM.	Indication 2 1-2 gm of 50% solution diluted in 10 ml normal saline, IV/IO.
PEDIATRIC DOSAGE/ROUTE 	Indication 2 25-50 mg/kg of 50% solution diluted with 5-10 ml normal saline IV/IO over 10-20 minutes. Maximum dose is 2 gm.	

MIDAZOLAM (VERSED®)

THERAPEUTIC EFFECTS	Sedation	
INDICATIONS	1. Adult or pediatric seizures* 2. To facilitate external pacing 3. Sedation following intubation* 4. Excited delirium or severe agitation interfering with necessary patient assessment and/or treatment* 5. Premedication prior to cardioversion or endotracheal intubation if etomidate is not available*†	
CONTRAINDICATIONS	✓ Hypersensitivity to midazolam ✓ Acute narrow angle glaucoma ✓ Shock	
PRECAUTIONS/SIDE EFFECTS	May depress respirations or produce over-sedation. Due to a short half-life of the drug, readministration may be necessary.	
ADULT DOSAGE/ROUTE	Indications 1,2,3,5 1-2 mg q 3 minutes IV/IM. Up to a max dose of 6 mg	Indication 4 2.5 mg q 3-5 minutes IV/IM up to a max dose of 10 mg*
PEDIATRIC DOSAGE/ROUTE 	IV/IM/PR/IO .05-0.1 mg/kg q 3 min to a maximum dose of 2 mg†	

*May be given intranasally via Mucosal Atomization Device (MAD) at a dose of 5 mg.

†May be given intranasally via MAD at a dose of 0.2 mg/kg up to a maximum dose of 2 mg.

MORPHINE (MSO₄)

THERAPEUTIC EFFECTS	A potent analgesic which also causes some vasodilation. Reduces myocardial oxygen demand.	
INDICATIONS	1. For the treatment of severe pain (for patients with prolonged transport time, > 30 minutes).* 2. For the treatment of severe pain when fentanyl is not available.	
CONTRAINDICATIONS	Should not be administered to patients with: ✓ Head or abdominal pain ✓ Hypersensitivity to morphine ✓ Hypotension ✓ Volume depletion	
PRECAUTIONS/SIDE EFFECTS	May cause respiratory depression. Naloxone (Narcan®) should be readily available to counteract the effects of morphine. The receiving physician should be informed directly of the prehospital administration of morphine at the time of hospital arrival.	
ADULT DOSAGE/ROUTE	Indication 1 2-6 mg IV push. Repeat with 2 mg q 5 minutes, as needed. 5-15 mg may be given IM based on the patient's weight.	Indication 2 2-6 mg IV push. Repeat with 2 mg q 5 minutes, as needed. 5-15 mg may be given IM based on the patient's weight.
PEDIATRIC DOSAGE/ROUTE 	Indication 1 1 mg q 5 minutes IVP, as needed. Dose not to exceed 0.1 mg/kg. Appropriate dose may be given IM based on patient's weight.	

*Morphine may be substituted for Fentanyl in the event of a Fentanyl drug shortage.

NALOXONE (NARCAN®)

THERAPEUTIC EFFECTS	Blocks the effects of both narcotics and synthetic narcotics. It may be helpful in coma due to alcohol ingestion.
INDICATIONS	- Suspected opiate narcotic and/or synthetic narcotic overdose including the following agents: - Codeine - Dilaudid/Hydromorphone HCL - Dextromethorphan - Heroin - Nubain/Nalbuphine HCL - Talwin/Pentazocine - Vicodin/Hydrocodone - Veterinary narcotics - Suboxone/Buprenorphine HCL - Darvon/Propoxyphine - Dolophine/Methadone - Sublimaze/Fentanyl - Morphine - Stadol/Butorphanoltartrate - Ultram/Tramadol HCL - Known narcotic overdose with respiratory depression - Coma of unknown origin
CONTRAINDICATIONS	Hypersensitivity to naloxone
PRECAUTIONS/SIDE EFFECTS	Naloxone should be administered cautiously to patients who are known or suspected to be physically dependent on narcotics. Rapid administration may cause nausea. Abrupt and complete reversal by naloxone can cause withdrawal-type effects. This includes newborn infants of mothers with known or suspected narcotic dependence. Naloxone crosses the placenta and may precipitate withdrawal in the fetus as well as in the mother. Acute and abrupt withdrawal increases the likelihood of pulmonary edema , ventricular arrhythmias and severe agitation. Naloxone has a shorter half-life than most narcotics; the patient may return to the overdose state.
ADULT DOSAGE/ROUTE	0.4 mg IV/IO/IM.* If the initial dose is unsuccessful, administer a dose of 1.6 mg 2 minutes later. Up to 10 mg may be required for Darvon, Talwin, Stadol, Nubain, Suboxone, and fentanyl overdoses.
PEDIATRIC DOSAGE/ROUTE	0.1 mg/kg IV/IO/IM,* up to a max dose of 2 mg.

*Naloxone may be given intranasally via MAD at a dose of 2 mg for adults and 0.1 mg/kg up to a total of 2 mg for children.

NITROGLYCERIN

THERAPEUTIC EFFECTS	A rapid acting smooth muscle relaxant which reduces cardiac workload and, to a lesser degree, dilates the coronary arteries.	
INDICATIONS	1. Chest pain or symptoms suggestive of angina and/or myocardial infarction 2. Acute pulmonary edema 3. To prevent angina and/or to improve myocardial perfusion in patients with probable or proven coronary disease	
CONTRAINDICATIONS	✓ Hypotension ✓ Suspected increased intracranial pressure ✓ Administration of sildenafil citrate (Viagra®, Revatio), or vardenafil (Levitra®) within 24 hours. Administration of tadalafil (Cialis®) within 96 hours	
PRECAUTIONS/SIDE EFFECTS	May induce headache, which is sometimes severe. Patients may develop tolerance. Nitroglycerin is also light sensitive and will lose potency when exposed to air.	
ADULT DOSAGE/ROUTE	Indications 1,2 1 tablet (0.4 mg) SL. If BP > 100, administer q 5 minutes. Up to 3 tablets, as long as BP remains > 100.	Indication 3 IV initiated at 5 mcg/min. increase by 5 increments of mcg/min. q 3-5 minutes until some response is obtained. If no response seen at 20 mcg/min. increments of 10 and later 20 mcg/min. can be used, as long as BP remains > 100.

ONDANSETRON (ZOFRAN®)

THERAPEUTIC EFFECTS	Reduces nausea and vomiting. Ondansetron is a selective 5-HT ₃ receptor antagonist. The mechanism of action has not been fully characterized.
INDICATIONS	Nausea and vomiting
CONTRAINDICATIONS	Hypersensitivity to ondansetron
PRECAUTIONS/SIDE EFFECTS	Rare cases of the following have been reported: ✓ Angina ✓ Constipation ✓ Rash ✓ Extrapyrimaldal reactions Oral administration should not be substituted for IV hydration when the patient's history, symptoms, and clinical findings indicate the need for IV fluids.
ADULT DOSAGE/ROUTE	Administer 4 mg IV/IM undiluted. May repeat once after 15 minutes.* The rate of IV administration should be less than 30 seconds and preferably over 2-5 minutes. Available in 2 ml single dose vials at a concentration of 2 mg/ml.
PEDIATRIC DOSAGE/ROUTE 	Administer 4 mg undiluted IV/IM, for children weighing > 40 kg . May repeat once after 15 minutes. 0.1 mg/kg IV for pediatric patients weighing < 40 kg . The rate of IV administration should not be less than 30 seconds and preferably over 2-5 minutes.

*May be given orally without water with an orally disintegrating tablet (ODT) placed on the tongue and allowed to dissolve by saliva.

OXYGEN (O₂)

THERAPEUTIC EFFECTS	Oxygen added to the inspired air increases the amount of oxygen in the blood, and thereby increases the amount delivered to the tissue. Tissue hypoxia causes cell damage and death. Breathing, in most people, is regulated by small changes in the acid-base balance and CO ₂ levels. It takes relatively large decreases in oxygen concentration to stimulate respiration.
INDICATIONS	Presence of hypoxia as evidenced by respiratory distress or altered mentation. Any situation in which oxygen demands have increased.
CONTRAINDICATIONS	None in the prehospital setting.
PRECAUTIONS/SIDE EFFECTS	If the patient is not breathing adequately on their own, the treatment of choice is ventilation with oxygen, not just supplemental oxygen. In a small percentage of patients with chronic lung disease, administration of oxygen will decrease respiratory drive. Oxygen will dramatically accelerate combustion; ensure that no open flames or sources of ignition are present. Do not withhold oxygen because of this possibility and be prepared to assist ventilation if needed. May result in retrolental fibroplasias if given in high concentrations to premature infants (maintain 30-40% oxygen saturation). Hyperventilation and hyperoxygenation may be detrimental to a broad spectrum of patients. The use of SpO₂ and ET CO₂, if available, is strongly encouraged.

Table continues on next page:



ADULT/PEDIATRIC DOSAGE ROUTE 		
	Nasal Cannula	2-6 liters a minute
	Small Volume Nebulizer	6-10 liters a minute
	Simple Face Mask	8-10 liters a minute
	Blow By	12-15 liters a minute
	Non-Rebreather Mask	12-15 liters a minute
	Bag Valve Mask w/Reservoir	12-25 liters a minute
	CPAP	Follow device manufacturer's recommendations
Note on Administration: ✓ Titrate the flow rate to maintain a target oxygen saturation range of 94-96% ✓ For intubated patients, monitor end-tidal capnography, if available, to verify normal ranges between 35-45 mmHg ✓ Adequate oxygenation is measured with SpO2 while adequate ventilation is measured with ET_{CO}₂ ✓ Avoid Hyper ventilation and hyperoxygenation A 5 cm PEEP valve should be applied to all intubated patients, unless one of the following conditions is present: A. Asthma B. Hypotension C. Suspected pneumothorax D. Cardio pulmonary arrest E. Chest trauma with the exception of flail chest		

OXYMETAZOLINE HYDROCHLORIDE

THERAPEUTIC EFFECTS	A long acting topical vasoconstrictor that reduces mucosal edema and may help slow intranasal bleeding.
INDICATIONS	1. As an adjunct to direct pressure to help control epistaxis 2. To facilitate placement of a nasotracheal tube and reduce the likelihood of bleeding associated with this technique
CONTRAINDICATIONS	Hypersensitivity to oxymetazoline hydrochloride
PRECAUTIONS/SIDE EFFECTS	Unlikely to be a benefit in bleeding associated with severe nasal trauma. Normal pupillary reflex may be affected if this preparation gets in the eyes. Possible adverse side effects in patients with the following: ✓ Heart disease ✓ Hypertension ✓ Thyroid disease ✓ Diabetes ✓ Prostatic hypertrophy ✓ Pregnancy ✓ Nursing mothers
ADULT DOSAGE/ROUTE	2 or 3 sprays in each bleeding nostril.

PRALIDOXIME CHLORIDE (2-PAM)

THERAPEUTIC EFFECTS	Oximes attach to the nerve agent that is inhibiting the cholinesterase and break the agent-enzyme bond to restore normal activity to the enzyme.
INDICATIONS	Symptoms of nerve agent exposure or organophosphorus pesticides. 2-PAM Chloride is most effective if administered immediately after exposure, less effective if administered 6 hours after exposure.
CONTRAINDICATIONS	None
PRECAUTIONS/SIDE EFFECTS	Use the following medications with caution for patients being treated with 2-PAM: ✓ Morphine ✓ Theophylline ✓ Aminophylline ✓ Succinylcholine Avoid reserpine or phenothiazine type tranquilizers including Phenergan®. Adverse reactions may include the following symptoms: ✓ Blurred vision ✓ Dizziness ✓ Headache ✓ Drowsiness ✓ Nausea ✓ Tachycardia ✓ Hypertension ✓ Hyperventilation

Table continues on next page:

ADULT DOSAGE/ROUTE	Mild to Moderate Symptoms Administer 1-2 doses IM sequentially from the Mark 1 kit (or administer 600-1800 mg IM/IV from MDV).	Severe Symptoms Administer 3 doses IM from the Mark 1 kits (or administer 1800 mg IM/IV from MDV).
PEDIATRIC DOSAGE/ROUTE 	Infant (0-3 years, < 13 kg) Administer 25-50 mg/kg IM/IV (or 150-600 mg MDV).	Child Administer 25-50 mg/kg IM/IV (or 300-1200 mg MDV or in Mark 1).
ELDERLY/FRAIL DOSAGE/ROUTE	Administer 10-25 mg/kg IM/IV MDV or MARK1	

RACEMIC EPINEPHRINE-PEDIATRIC



THERAPEUTIC EFFECTS	A potent alpha and beta stimulant containing equal amounts of the D- and L- isomers of epinephrine . When administered via inhalation, it reduces upper airway edema associated with stridor in pediatric patients with viral croup.					
INDICATIONS	Severe pediatric respiratory distress with stridor.					
CONTRAINDICATIONS	Not indicated for use in adult patients.					
PRECAUTIONS/SIDE EFFECTS	Should not be used instead of assisted ventilation in patients with obvious respiratory failure. Tachycardia likely to result. The effects are temporary and a resurgence of symptoms may occur from minutes to hours after treatment.					
PEDIATRIC DOSAGE/ROUTE	Administered via small volume nebulizer: <table><tr><td>PT > 2 YR</td><td>PT < 2 YR</td></tr><tr><td>0.5 ml (2.25%) diluted in 3 ml NS.</td><td>0.25 ml (2.25%) diluted in 3 ml NS.</td></tr></table>		PT > 2 YR	PT < 2 YR	0.5 ml (2.25%) diluted in 3 ml NS.	0.25 ml (2.25%) diluted in 3 ml NS.
PT > 2 YR	PT < 2 YR					
0.5 ml (2.25%) diluted in 3 ml NS.	0.25 ml (2.25%) diluted in 3 ml NS.					

ROCURONIUM BROMIDE*

THERAPEUTIC EFFECTS	A non-depolarizing neuromuscular blocking agent with rapid to intermediate onset, depending on dose and intermediate duration. It acts by competing for cholinergic at the motor-plate. It paralyzes all skeletal muscles including respiratory muscles and gag reflex. This agent does not produce sedation and a sedative such as versed should also be used for patient comfort.
INDICATIONS	To maintain paralysis of intubated patients when renewed muscular activity, following the administration of succinylcholine , imperils patient care and transport time to the hospital is > 15 minutes. In rare circumstances, when there is no alternative to the use of a paralytic to achieve adequate airway management, medical control shall be contacted for consideration of use in RSI.†
CONTRAINDICATIONS	Short prehospital transport times and/or lack of definitive airway stabilization via endotracheal intubation . In general, not to be used for RSI unless there are no alternative means of facilitating endotracheal intubation and contact. Permission is made with direct online medical control.
PRECAUTIONS/SIDE EFFECTS	Multiple conditions and drugs may cause potentiation of, or resistance to, neuromuscular block. Use caution when administering rocuronium bromide in patients with hepatic dysfunction or neuromuscular diseases.
ADULT DOSAGE/ROUTE	0.6 mg/kg IV/IO. One repeat dose may be given if unusually prolonged prehospital time requires reanalysis.
PEDIATRIC DOSAGE/ROUTE 	IV/IO 0.6 mg/kg. One repeat dose may be given if unusually prolonged prehospital time requires reanalysis.

*Succinylcholine remains our preferred agent for these indications providing supplies are available.

†Rocuronium bromide is not recommended for RSI in pediatric patients.

SODIUM BICARBONATE (NAHCO₃)

THERAPEUTIC EFFECTS	Provides bicarbonate to assist the buffer system in reducing the effects of acidosis.		
INDICATIONS	1. Cyclic anti-depressant overdose with QRS duration > 100 msec. 2. Post-resuscitation hypotension 3. Pulseless electrical activity with hydrogen ion acidosis 4. Crush injury		
CONTRAINDICATIONS	None when used in severe hypoxia or late cardiac arrest.		
PRECAUTIONS/SIDE EFFECTS	May cause alkalosis if administered too aggressively. It may also deactivate vasopressors and may precipitate when administered with calcium chloride.		
ADULT DOSAGE/ROUTE	Indication 1 1 mEq/kg IV/IO bolus and may repeat q 10 minutes x3 for persistent QRS > 100 msec.	Indications 2,3 1 mEq/kg IV/IO.	Indication 4 1 mEq/kg IV/IO. In the case of hyperkalemia, to be followed by sodium biocarbonate, 1 mEq/kg added 1000cc NS wide open.
PEDIATRIC DOSAGE/ROUTE 	Same as adult.		

SUCCINYLCHOLINE (ANECTINE®)

THERAPEUTIC EFFECTS	A biphasic skeletal muscle relaxant with rapid onset and short duration of action; it paralyzes all skeletal muscles including respiratory muscles and eliminates gag reflex. This agent does not produce sedation and a sedative such as etomidate or midazolam (Versed®) should also be used for patient comfort.
INDICATIONS	Inadequate oxygenation or unprotected airway where intubation is indicated, but difficult due to gag reflex, clenched teeth, seizure, or other complications.
CONTRAINDICATIONS	Contraindications are always relative to the life threat of the patient. Succinylcholine should only be used if an airway cannot be established by other methods. Alternative means of establishing an airway should be used for patients with severe cellular damage, including crush injuries , burns more than 8 hours old, atrophy due to neurogenic damage, and patients with known renal failure and EKG evidence of hyperkalemia. These patients may develop cardiac dysrhythmias or arrest after administration. Medical control should be contacted for consideration of vecuronium bromide (Norcuron®) when a paralytic is necessary for airway management.
PRECAUTIONS/SIDE EFFECTS	Patients requiring a second dose may experience increased intracranial pressure. The use of succinylcholine should also be avoided in patients with potential penetrating eye injuries.
PRELIMINARY DRUG THERAPY	To sedate the conscious patient, administer etomidate or Versed. To protect the patient, administer lidocaine (Xylocaine®) or atropine.
ADULT DOSAGE/ROUTE	1.5 mg/kg IV/IO. One repeat dose may be administered, if necessary. 3 mg/kg IM up to a total dose of 150 mg.
PEDIATRIC DOSAGE/ROUTE 	Same as with adult.

VECURIUM BROMIDE (NORCURON)

THERAPEUTIC EFFECTS	A non-depolarizing neuromuscular blocking agent with rapid onset and intermediate duration of action. Paralyzes all skeletal muscles including respiratory muscles and gag reflex. This agent DOES NOT produce sedation and a sedative such as midazolam (Versed®) should also be used for patient comfort.
INDICATIONS	To maintain paralysis of intubated patients when renewed muscular activity, following the administration of succinylcholine , endangers patient care and transport time to the hospital is > 15 minutes. In rare circumstances, when there is no alternative to the use of a paralytic to achieve adequate airway management, medical control shall be contacted for consideration of use in RSI.
CONTRAINDICATIONS	Short prehospital transport times and/or lack of definitive airway stabilization via endotracheal intubation. In general, not to be used for RSI unless there are no alternative means of facilitating endotracheal intubation and contact, for permission, is made with direct online medical control.
PRECAUTIONS/SIDE EFFECTS	Administration of succinylcholine or lidocaine (Xylocaine®) prior to vecuronium bromide appears to increase and prolong the duration of neuromuscular blockade. When magnesium sulfate has been administered for the management of toxemia of pregnancy, neuromuscular blockade induced by vecuronium bromide may be prolonged. Vecuronium bromide should be administered with caution in patients with hepatic dysfunction and patients with neuromuscular diseases.
ADULT DOSAGE/ROUTE	0.1 mg/kg* IV. One repeat dose may be given, if unusually prolonged prehospital time requires reparation.
PEDIATRIC DOSAGE/ROUTE 	Same as adult

*Safety and efficacy of vecuronium bromide in children younger than 7 weeks of age have not been established.

APPENDICES

APPENDIX A: COMMONLY PRESCRIBED DRUGS

COMMONLY PRESCRIBED DRUGS

BRAND NAME	GENERIC NAME	USE
Accupril®	Quinapril	✓ Hypertension ✓ Vasodilator
Aciphex®	Rabeprazole	✓ Acid pump Inhibitor ✓ Antiulcer agent
Actiq®	Fentanyl	✓ Analgesic
Actonel®	Risedronate	✓ Osteoporosis
Actos®	Pioglitazone	✓ Diabetes
Adderall®	Dextroamphetamine amphetamine	✓ CNS Stimulant ✓ ADHD
Advair®	Fluticasone salmeterol	✓ Asthma ✓ Bronchodilator
Aldactone®	Spironolactone	✓ Hypertension ✓ Diuretic
Alphagan P®	Brimonidine	✓ Antiglaucoma agent
Altace®	Ramipril	✓ Hypertension ✓ Vasodilator
Amaryl®	Glimepiride	✓ Diabetes
Ambien®	Zolpidem	✓ Sedative ✓ Sleep disorders
Antivert®	Meclizine	✓ Antiemetic ✓ Antivertigo
Aricept®	Donepezil	✓ Dementia
Atacand®	Candesartan	✓ Hypertension

Ativan®	Lorazepam	✓ Amnesic ✓ Antianxiety ✓ Anticonvulsant ✓ Muscle relaxant
Atrovent®	Ipratropium bromide	✓ Asthma ✓ Bronchodilator
Augmentin®	Amoxicillin clavulanate	✓ Systemic Antibacterial
Avalide®	Irbesartan hydrochlorothiazide	✓ Hypertension ✓ Diuretic
Avandia®	Rosiglitazone	✓ Diabetes
Avapro®	Irbesartan	✓ Hypertension
Avelox®	Moxifloxacin	✓ Systemic Antibacterial
Azmacort®	Triamcinolone	✓ Asthma ✓ Anti-inflammatory
Bactrim®	Sulamethoxazole trimethoprim	✓ Systemic Antibacterial ✓ Antiprotozal
Bactroban®	Mupirocin	✓ Topical Antibacterial
Bextra®	Valdecoxib	✓ Nonsteroidal anti-inflammatory ✓ Antirheumatic
Biaxin®	Clarithromycin	✓ Systemic Antibacterial
Blocadren®	Clarithromycin	✓ Systemic Antibacterial

Calan®	Verapamil	✓ Angina ✓ Antiarrhythmic ✓ Hypertension
Cardizem®	Diltiazem	✓ Hypertension ✓ Angina ✓ Antiarrhythmic
Catapres®	Clonidine	✓ Hypertension
Cefzil®	Cefprozil	✓ Systemic Antibacterial
Celebrex®	Celecoxib	✓ Analgesic, NSAID
Celexa®	Citalopram	✓ Depression
Cialis®	Tadalafil	✓ Analgesic ✓ NSAID
Ciloxan®	Ciprofloxacin	✓ Ophthalmic ✓ Antibacterial
Cipro®	Ciprofloxacin	✓ Ophthalmic Antibacterial
Clarinet®	Desloratadine	✓ Antihistamine
Concerta®	Methylphenidate	✓ CNS Stimulant
Coreg®	Carvedilol	✓ Hypertension ✓ Heart Failure
Cotrim®	Sulfamethoxazole trimethoprim	✓ Systemic Antibacterial ✓ Antiprotozoal
Coumadin®	Warfarin	✓ Anticoagulant

Covera HS®	Verapamil	✓ Angina ✓ Antiarrhythmic ✓ Hypertension ✓ Vascular headache ✓ Hypertrophic ✓ Cardiomyopathy
Cozzar®	Losartan	✓ Hypertension
Cyclessa®	Ethinyl Estradiol desogestrel	✓ Contraceptive
DarvocetN 100®	Propoxyphene acetaminophen	✓ Analgesic
Deltasone®	Prednisone	✓ Steroidal Anti-inflammatory ✓ Chemotherapy ✓ Immunosuppressant
Depakote®	Divalproex	✓ Mania ✓ Convulsions ✓ Migraine headache ✓ Prophylaxis
Desogen®	Ethinyl estradiol desogestrel	✓ Contraceptive
Desyrel®	Trazodone	✓ Depression ✓ Antineuralgic
Detrol®	Tolterodine	✓ Bladder antispasmodic
DiaBeta®	Glyburide	✓ Diabetes
Diflucan®	Fluconazole	✓ Systemic antifungal
Dilacor®	Diltiazem	✓ Angina ✓ Hypertension ✓ Antiarrhythmic

Dilantin®	Phenytoin	✓ Convulsions ✓ Antiarrhythmic
Diovan®	Valsartan	✓ Hypertension
Diovan HCT®	Valsartan hydrochlorothiazide	✓ Hypertension
Ditropan®	Oxybutynin	✓ Urinary tract antispasmodic
Duraclon®	Clonidine	✓ Hypertension ✓ Sleep disorders
Duragesic®	Fentanyl	✓ Analgesic
Dyazide®	Triamterene hydrochlorothiazide	✓ Hypertension ✓ Hypokalemia ✓ Diuretic
Effexor®	Venlafaxine	✓ Depression ✓ Anxiety
Elavil®	Amitriptyline	✓ Depression
Elidel®	Primecrolimus	✓ Eczema ✓ Dermatitis
Endocet®	Oxycodone acetaminophen	✓ Analgesic
Enjuvia®	Conjugated estrogen	✓ Hormone therapy ✓ Osteoporosis
Esidrix®	Hydrochlorothiazide	✓ Hypertension ✓ Diuretic
Estrostep Fe®	Ethinyl estradiol norethindrone	✓ Acne ✓ Endometriosis ✓ Contraceptive
Evista®	Raloxifene	✓ Osteoporosis

Femhrt®	Ethinyl estradiol norethindrone	✓ Acne ✓ Endometriosis ✓ Contraceptive
Flexeril®	Cyclobenzaprine	✓ Muscle Relaxant
Flomax®	Tamsulosin	✓ Prostate issues
Flonase®	Fluticasone	✓ Steroidal nasal anti-inflammatory ✓ Sinusitis
Flovent®	Fluticasone	✓ Steroidal nasal anti-inflammatory ✓ Sinusitis
Fosamax®	Alendronate	✓ Osteoporosis
Glucophage®	Metformin	✓ Diabetes
Glucotrol®	Glipizide	✓ Diabetes
Glucovance®	Glyburide metformin	✓ Diabetes
Glynase®	Glyburide	✓ Diabetes
Humalog®	Insulin lispro	✓ Diabetes
Humulin 70/30®	NPH regular insulin	✓ Diabetes
Humulin N®	NPH Isophane insulin	✓ Diabetes
Hytrin®	Terazosin	✓ Hypertension ✓ Prostate
Hyzaar®	Losartan hydrochlorthiazide	✓ Hypertension
Imdur®	Isosorbide mononitrate	✓ Angina
Imitrex®	Sumatriptan	✓ Migraines

Inderal®	Propranolol	✓ MI prophylactic ✓ Angina ✓ Arrhythmias ✓ Hypertension ✓ Tremors ✓ Hypertrophic Cardiomyopathy ✓ Pheochromocytoma ✓ Vascular Headache
Ismo®	Isosorbide mononitrate	✓ Angina
Isoptin®	Verapamil	✓ Angina ✓ Arrhythmias ✓ Hypertension ✓ Hypertrophic ✓ Cardiomyopathy ✓ Vascular headache
Kariva®	Ethinyl estradiol desogestrel	✓ Contraceptive ✓ Endometriosis
Keflex®	Cephalexin	✓ Systemic antibacterial
Klonopin®	Clonazepam	✓ Convulsions
KlorCon®	Potassium chloride	✓ Hypokalemia
Lanoxicaps®	Digoxin	✓ Arrhythmias
Lanoxin®	Digoxin	✓ Arrhythmias
Lantus®	Insulin glargine	✓ Diabetes
Lasix®	Furosemide	✓ Hypercalcemia ✓ Hypertension ✓ Renal disease ✓ Diuretic

Lescol®	Fluvastatin	✓ High cholesterol
Levaquin®	Levofloxacin	✓ Systemic antibacterial
Levitra®	Vardenafil	✓ Impotence
Levlen®	Ethinyl estradiol levonorgestrel	✓ Contraceptive
Levothroid®	Levothyroxine	✓ Thyroid
Lexapro®	Escitalopram	✓ Depression ✓ Anxiety
Lipitor®	Atorvastatin	✓ High cholesterol
Lo/Ovral®	Ethinyl estradiol norgestrel	✓ Contraceptive
Loestrin Fe®	Ethinyl estradiol norethindrone	✓ Acne ✓ Contraceptive ✓ Endometriosis
Lopid®	Gemfibrozil	✓ High cholesterol

Lopressor®	Metoprolol	✓ Antiadrenergic ✓ Angina ✓ Anxiety ✓ Arrhythmias ✓ Hypertension ✓ Tremors ✓ MI ✓ Vascular headache ✓ Pheochromocytoma ✓ Hypertrophic ✓ Cardiomyopathy
Lortab®	Hydrocodone acetaminophen	✓ Analgesic
Lotension®	Benazepril	✓ Hypertension
Lotrel®	Amlodipine benazepril	✓ Hypertension
Lotrisone®	Clotrimazole betamethasone	✓ Antifungal corticosteroid
Low Ogestrel®	Ethinyl estradiol norgestrel	✓ Contraceptive
Macrobid®	Nitrofurantoin	✓ Systemic antibacterial
Macrochantin®	Nitrofurantoin	✓ Systemic antibacterial
Maxide®	Triamterene hydrochlorothiazide	✓ Hypertension ✓ Hypokalemia ✓ Diuretic
Medrol®	Methylprednisolone	✓ Immunosuppressant ✓ Anti-inflammatory ✓ Corticosteroid
Metadate®	Methylphenidate	✓ ADHD ✓ CNS stimulant

Miacalcin®	Calcitonin salmon	✓ Osteoporosis
Micronase®	Glyburide	✓ Diabetes
Minitran®	Nitroglycerin	✓ Angina ✓ CHF
Miralax®	Polyethylene glycol	✓ Laxative
Mircette®	Ethinyl estradiol desogestrel	✓ Contraceptive
Mobic®	Meloxicam	✓ NSAID Anti-inflammatory
Monopril®	Fosinopril	✓ Hypertension
Naprosyn®	Naproxen	✓ Antiinflammatory ✓ Analgesic
Nasacort AQ®	Triamcinolone	✓ Nasal anti-inflammatory
Nasonex®	Mometasone furoate	✓ Nasal anti-inflammatory
Neurontin®	Gabapentin	✓ Anticonvulsant
Nexium®	Esomeprazole	✓ Heartburn ✓ Reflux
Nitrolingual®	Nitroglycerin	✓ Angina ✓ CHF
Nitrostat®	Nitroglycerin	✓ Angina ✓ CHF
Nordette®	Ethinyl estradiol levonorgestrel	✓ Contraceptive ✓ Endometriosis
Norvasc®	Amlodipine	✓ Hypertension
Omnicef®	Cefdinir	✓ Systemic antibacterial
OrthoCept®	Ethinyl estradiol norelgestromin	✓ Contraceptive

Ortho Tricyclen®	Ethinyl estradiol norgestimate	✓ Contraceptive ✓ Acne ✓ Endometriosis
Ortho Tricyclen Lo®	Ethinyl estradiol norgestimate	✓ Contraceptive ✓ Acne ✓ Endometriosis
Ovcon®	Ethinyl estradiol norethindrone	✓ Contraceptive ✓ Acne ✓ Endometriosis
Ovral®	Ethinyl estradiol norgestral	✓ Contraceptive ✓ Endometriosis
Oxycontin®	Oxycodone	✓ Analgesic
Pantanol®	Olopatadine	✓ Ophthalmic ointment ✓ Allergies
Paxil®	Paroxetine	✓ Depression ✓ Anxiety ✓ OCD ✓ PTSD
Percocet®	Oxycodone acetaminophen	✓ Analgesic
Phenaphen w/Codeine®	Acetaminophen Codeine	✓ Analgesic
Phenergan®	Promethazine	✓ Antiemetic ✓ Sedative
Plavix®	Clopidogrel	✓ Antithrombotic ✓ Blood thinner
Plendil®	Felodipine	✓ Angina ✓ Hypertension
Pravachol®	Pravastatin	✓ High cholesterol

Premarin®	Conjugated Estrogen	✓ Hormone replacement
Premphase®	Conjugated Estrogen medroxyprogesterone	✓ Osteoporosis ✓ Hormone replacement
Prempro®	Conjugated Estrogen medroxyprogesterone	✓ Osteoporosis ✓ Hormone replacement
Prevacid®	Lansoprazole	✓ Acid reflux ✓ Ulcers
Prilosec®	Omeprazole	✓ Acid reflux ✓ Ulcers
Prinivil®	Lisinopril	✓ Hypertension
Procardia®	Nifedipine	✓ Angina ✓ Hypertension
Prometh w/Codeine®	Promethazine Codeine	✓ Cough suppressant
Propecia®	Finasteride	✓ Hair growth (balding)
Proscar®	Finasteride	✓ Hair growth (balding)
Protonix®	Pantoprazole	✓ Acid reflux ✓ Ulcer
Proventil®	Albuterol	✓ Bronchodilator
Prozac®	Fluoxetine	✓ Depression ✓ OCD ✓ Bulimia
Pulmicort®	Budesonide	✓ Asthma
Remeron®	Mirtazapine	✓ Depression
Restoril®	Temazepam	✓ Sedative
Risperdal®	Risperidone	✓ Antipsychotic
Ritalin®	Methylphenidate	✓ ADHD ✓ CNS stimulant

Saraphem®	Fluoxetine	✓ Depression ✓ OCD ✓ Bulimia
Seasonale®	Ethinyl estradiol levonorgestrel	✓ Contraceptive ✓ Endometriosis
Septra DS®	Sulfamethoxazole trimethoprim	✓ Antibacterial ✓ Antiprotozoal
Seroquel®	Quetiapine	✓ Antipsychotic ✓ Sleep disorders
Singulair®	Montelukast	✓ Asthma
Skelaxin®	Metaxalone	✓ Muscle relaxant
Soma®	Carisoprodol	✓ Muscle relaxant
Strattera®	Atomoxetine	✓ ADHD
Sublimaze®	Fentanyl	✓ Analgesic
Synthroid®	Levothyroxine	✓ Thyroid hormone
Tenormin®	Atenolol	✓ Hypertension
Timoptic®	Timolol	✓ Glaucoma
Tobradex®	Tobramycin Dexamethasone	✓ Ophthalmic steroidal anti-inflammatory
Topamax®	Topiramate	✓ Anticonvulsant ✓ Migraines
Toprol®	Metoprolol	✓ Angina ✓ Arrhythmias ✓ Hypertension ✓ Hypertrophic ✓ Cardiomyopathy ✓ MI ✓ Pheochromocytoma

Tricor®	Fenofibrate	✓ High cholesterol
TriLeven®	Ethinyl estradiol levonorgestrel	✓ Contraceptive ✓ Endometriosis
Trimox®	Amoxicillin	✓ Systemic antibacterial
Triphasil®	Ethinyl estradiol levonorgestrel	✓ Contraceptive ✓ Endometriosis
Trivora 28®	Ethinyl estradiol levonorgestrel	✓ Contraceptive ✓ Endometriosis
Tussionex®	Hydrocodone Chloropheniramine	✓ Cough suppressant
Tylox®	Oxycodone Acetaminophen	✓ Analgesic
Ultracet®	Tramadol Acetaminophen	✓ Analgesic
Ultram®	Tramadol	✓ Analgesic
Valium®	Diazepam	✓ Anticonvulsant ✓ Anxiety ✓ Skeletal muscle relaxant
Valtrex®	Valacyclovir	✓ Systemic antiviral
Vasotec®	Enalapril	✓ Hypertension
Veetids®	Penicillin V	✓ Systemic antibacterial
Ventolin®	Albuterol	✓ Bronchodilator
Verelan®	Verapamil	✓ Angina ✓ Arrhythmias ✓ Hypertension ✓ Hypertrophic ✓ Cardiomyopathy ✓ Vascular headaches
Viagra®	Sildenafil	✓ Impotence

Vibramycin®	Doxycycline	✓ Systemic antibacterial ✓ Antiprotozal
Vicodin®	Hydrocodone acetaminophen	✓ Analgesic
Vigamox®	Moxifloxacin	✓ Ophthalmic antibacterial
Wellbutrin®	Bupropion	✓ Depression ✓ Smoking cessation
Xalatan®	Latanoprost	✓ Glaucoma
Xanax®	Alprazolam	✓ Anxiety
Yasmin®	Ethinyl estradiol drospirenone	✓ Contraceptive
Zantac®	Ranitidine	✓ Acid reflux ✓ Ulcer
Zestril®	Lisinopril	✓ Hypertension
Zetia®	Ezetimibe	✓ High cholesterol
Zithromax®	Azithromycin	✓ Systemic antibacterial
Zocor®	Simvastatin	✓ High cholesterol
Zoloft®	Sertraline	✓ Anxiety ✓ Depression ✓ OCD ✓ PTSD
Zyban®	Bupropion	✓ Depression ✓ Smoking cessation
Zyloprim®	Allopurinol	✓ Gout
Zyprexa®	Olanzapine	✓ Antipsychotic
Zyrtec®	Cetirizine	✓ Antihistamine
Zyrtec D®	Cetirizine pseudoephedrine	✓ Antihistamine ✓ Decongestant

APPENDIX B: MEDICAL ABBREVIATIONS

APPROVED ABBREVIATIONS SPOKANE COUNTY EMS & TRAUMA CARE COUNCIL

A

ā	Before
A-fib, A.F.	Atrial fibrillation
ABC	Airway/breathing/circulation
abd	Abdomen, abdominal
AC	Anticubital
ALS	Advanced life support
A.M.	Morning
AMA	Against medical advice
Amp	Ampule
A&O x 1,2,3,or 4	Alert and oriented to person, place, time, and circumstance
Approx	Approximately
ASA	Aspirin
ASAP	As soon as possible
AV	Atrioventricular
AVPU	Alert/responds to verbal stimulus/responds to painful stimulus un/responsive

B

BBB	Bundle branch block
b.i.d.	Twice daily
Bicarb	Sodium bicarbonate
Bigem	Bigeminy
BLS	Basic life support

BP	Blood pressure
BPM	Beats per minute
Brady	Bradycardia
BCLS	Basic cardiac life support
BM	Bowel movement
BS	Breath sounds
BVM	Bag valve mask
BSI	Body substance isolation

C

<u>c</u>	With
cc	Cubic centimeter
CA	Cancer
CABG	Coronary artery bypass graft surgery
cap	Capsule
CaCl ₂	Calcium chloride
CAD	Coronary artery disease
C/C	Chief complaint
CCU	Cardiac care unit
CHB	Complete heart block
CHF	Congestive heart failure
cm	Centimeter
CMS	Circulation motion sensation
CNS	Central nervous system
c/o	complains of
CO	Carbon monoxide

CO ₂	Carbon dioxide
cont	Continuous
COPD	Chronic obstructive pulmonary disease
CPR	Cardiopulmonary resuscitation
CSF	Cerebrospinal fluid
CSM	Circulation sensation movement
C-spine	Cervical spin
CV	Cardiovascular
CVA	Cerebral vascular accident

D

D&C	Dilatation and curettage
D.C.	Discontinue
defib	Defibrillation
disch	Discharge
DKA	Diabetic ketoacidosis
DNR	Do not resuscitate
DOA	Dead on arrival
DOE	Dyspnea on exertion
DOT	Department of transportation
Dr.	Doctor
drsg	Dressing
DT's	Delirium tremens
DVT	Deep vein thrombosis
D5W	5% Dextrose in water
Dx	Diagnosis

E

EBL	Estimated blood loss
EKG	Electrocardiogram
EDC	Estimated date of confinement
EEG	Electrocardiogram
EENT	Eyes, ears, nose, and throat
e.g.	For example
EMD	electromechanical dissociation
EMS	Emergency medical service
EMT	Emergency medical technician
EMT-D	Emergency medical technician - defibrillation
EMT-IV	Emergency medical technician - intravenous technician
EMT-I	Emergency medical technician - intermediate
EMT-P	Emergency medical technician - Paramedic
E-mycin	Erythromycin
ENT	Ear, nose, and throat
EOM	Extra ocular movements
Epi	Epinephrine
E.R. or E.D.	Emergency room/emergency department
ET	Endotracheal
ETA	Estimated time of arrival
Etc.	Etcetera
ETOH	Alcohol/ethanol
Exp.	Expiratory

F

Fr	French
Fx	Fracture
FD	Fire Department

G

GB	Gallbladder
GCS	Glasgow coma scale
GI	Gastrointestinal
gtt	Drops
GU	Genitourinary

H

hr	Hour
H ₂ O	Water
HCTZ	Hydrochlorothiazide
Hg	Mercury
HTN	Hypertension
Hx	Historical exam
HPI	History of present illness/injury
HR	Heart rate
Hs	Bedtime

I

ICU	Intensive care unit
i.e.	That is
IM	Intramuscular

incont	Incontinent
invol	Involuntary
IO	Intraosseous
irreg	Irregular
IV	Intravenous
IVP	IV Push
IVPB	IV Piggyback

J

j	Joule
JVD	Jugular venous distention

K

K	Potassium
KCl	Potassium chloride
Kg	Kilogram

L

L	Liter
Ⓛ	left
lac	Laceration
lat	Lateral
lb	Pound
lg	Large
liq	A liquid solution
LLL	Left lower lobe
LLQ	Left lower quadrant

LMP	Last menstrual period
LOC	Loss of consciousness
LPM	Liters per minute
LR	Lactated ringers
L-S Spine	Lumbar sacral spine
L Spine	Lumbar spine
LUL	Left upper lobe
LUQ	Left upper quadrant
LPN	Licensed practical nurse

M

MAE	Moves all extremities
MAO	Monoamine oxidase inhibitor
MCI	Multi-casualty incident
MD	Medical doctor
mec	Meconium
med	Medication or medicated
meg	Microgram
mEq	Milliequivalent
mg	Milligram
MIR	Medical incident report
ml	Milliliter
mm	Millimeter
mod	Moderate
MOI	Mechanism of injury
MPD	Medical program director
MSC	Motor and sensory check

MVA Motor vehicle accident

N

Na	Sodium
N/A	Not applicable
NaCl	Sodium chloride
NaHCO ₃	Sodium bicarbonate
NAD	No acute distress
N.C.	Nasal cannula
neg	Negative
neuro	neurologic
NKA	No known allergy
nl	Normal
ncc	At night
NPA	Nasal pharyngeal airway
NPO	Nothing by mouth
NS	Normal Saline
NSR	Normal sinus rhythm
N/V	Nausea/vomiting

O

O ₂	Oxygen
OB	Obstetrical
OD	Overdose
OK	Okay
OPA	Oral pharyngeal airway
OR	Operating room

OZ Ounce

P

p	After
PAC	Premature atrial contraction
Palp	Palpation
PAT	Paroxysmal atrial tachycardia
PCN	Penicillin
PD	Police Department
PASG	Pneumatic anti-shock garment
PE	Physical exam
PEA	Pulseless electrical activity
PERL	Pupils equal, reactive to light
PID	Pelvic inflammatory disease
PJC	Premature junctional contraction
PM	Afternoon
PMD	Private medical doctor
PO	By mouth
post	Posterior
P-R	P-R interval
Primary	Primary assessment
PRN	Whenever necessary
PT	Patient
PTA	Prior to arrival
P/U	Pickup
PUD	Peptic ulcer disease
PVC	Premature ventricular contraction

PE	Physical exam
POC	Position of comfort

Q

q	Every
q.d.	Every day
q.h.	Every hour
q2h	Every two hours
q.i.d.	Four times a day

R

Ⓡ	Right
resp	Respirations
RR	Respiratory Rate
rec'd	Received
reg	Regular
RLL	Right lower lobe
RLQ	Right lower quadrant
RN	Registered nurse
R/O	Rule out
RPM	Respirations per minute
RSR	Regular sinus rhythm
RUL	Right upper lobe
RUQ	Right upper quadrant
Rx	Prescription

S

s	Without
SB	Sinus bradycardia
SQ	Subcutaneous
sec	Second
SIDS	Sudden infant death syndrome
sl	Sublingual
sm	Small
S.O.	Sherriff's Office
SOB	Shortness of breath
soln	Solution
S/P	Status post
S/S	Signs and symptoms
ST	Sinus tachycardia
stat	Immediately
STD	Sexually transmitted disease
SVT	Suraventricular tachycardia
Sx	Symptoms

T

tab	Tablet
tach	Tachycardia
TCA	Tri-cyclic antidepressant
TIA	Transient ischemic attack
t.i.d.	Three times a day
TKO	To keep open

T-L spine	Thoracolumbar spine
TMJ	Temporo-mandibular joint
TPN	Total parenteral nutrition
trans	Transport
T-Spine	Thoracic spine
tx	Treatment
TVI	Total volume infused

U

U	Unit
URI	Upper respiratory infection
UTI	Urinary tract infection
UNK	Unkown

V

vent	Ventricular
V-fib or VF	Ventricular fibrillation
via	By way of
vs	Versus
VS	Vital signs
VT	Ventricular tachycardia

W

WD/WN	Well developed, well nourished
WNL	Within normal limits
WPW	Wolf Parkinson white syndrome
WSP	Washington State Patrol

Y

y or yrs	Years
Y/O	Years old

Symbols

@	At
♀	Female
♂	Male
%	Percent
<	Less than
>	More than
β	Beta
#	Number
1°	First degree
2°	Second degree
3°	Third degree

APPENDIX C: REFERENCE DOCUMENTS

APGAR SCORING

Fig. A.1: APGAR Score Test

	Sign	0	1	2
A	Activity (Muscle Tone)	Limp	Some Flexion of Extremities	Active Motion
P	Pulse (Heart Rate)	Absent	< 100	> 100
G	Grimace (Reflex Irritability, Nasal Center)	No Response	Grimace	Coughs, Sneezes
A	Appearance (Skin Color)	Blue/Pale	Extremities Blue	Completely Pink
R	Respiratory Effort	Absent	Slow/Regular	Good Crying

BLS/ALS EDUCATION REQUIREMENTS

WAC 246-976-161 Education requirements for certification. (1) Education is required for the recertification of all certified EMS personnel. This education may be obtained by completing the continuing medical education (CME) method, or through the ongoing training and evaluation program (OTEP) method, identified below.

A. CME topic content:

1. Must meet annual and certification period educational requirements identified in Table A.1 of this section, utilizing:
 - a. Cognitive, affective and psychomotor objectives found in curricula identified in WAC 246-976-021, for the level of certification being taught.
 - b. Current national standards published for CPR, foreign body airway obstruction (FBAO), and automatic defibrillation.
 - c. County medical program director (MPD) protocols, regional patient care procedures, and county operating procedures.
 - d. Training updates in standards as identified by the department.
2. Must be approved by the MPD.
3. May incorporate nationally recognized training programs as part of CME for content identified in A.1.a. of this subsection.

B. To complete the CME method you must:

1. Complete and document the educational requirements, indicated in Table A.1, appropriate to your level of certification.
2. Complete and document the skills maintenance requirements, indicated in Table A.2, appropriate to your level of certification.
 - a. IV starts for IV technicians, combined IV/airway technicians, ILS technicians, combined ILS/airway technicians, or paramedics:
 - I. During your first certification period, you must perform a minimum of 108 successful IV starts.
 - II. During the first year, you must perform a minimum of 36 successful IV starts.

- III. During the second and third year, you must perform a minimum of 36 successful IV starts per year, which may be averaged over the second and third years of the certification period.
- IV. If you have completed a certification period, you must demonstrate proficiency in starting IVs to the satisfaction of the MPD (see later certification periods in Table A.2).
- b. Endotracheal intubations for airway technicians, combined IV/airway technicians, combined ILS/airway technicians or paramedics:
 - I. During your first certification period, you must perform a minimum of 36 successful endotracheal intubations.
 - II. During the first year, you must perform a minimum of 12 successful endotracheal intubations, 4 of which must be performed on humans.
 - III. During the second and third year, you must perform a minimum of 12 endotracheal intubations per year, which may be averaged over the second and third years of the certification period. Four per year must be performed on humans.
 - IV. If you have completed a certification period, you must perform a minimum of 4 successful human endotracheal intubations per year, which may be averaged over the 3 year certification period (see later certification periods in Table A.2 of this section).
 - V. Upon approval of the MPD, individuals unable to complete the required endotracheal intubations during the certification period, may meet the endotracheal intubation requirements by completing an MPD and department-approved intensive airway management training program, utilizing cognitive, affective, and psychomotor objectives covering all aspects of emergency airway management.
- 3. Successfully complete the Washington state written examination and practical skills examination as identified in WAC 246-976-171.

- C. Any applicant changing from the CME method to the OTEP method must meet all requirements of the OTEP method.
- D. Ongoing training and evaluation programs:
 - 1. Must meet annual and certification period educational requirements identified in Table A.1, utilizing:
 - a. Cognitive, affective, and psychomotor objectives found in curricula identified in WAC 246-976-021, for the level of certification being taught, in the following core content areas:
 - I. Airway/ventilation (including intensive airway management training for personnel with advanced airway qualifications to determine competency)
 - II. Cardiovascular
 - III. Medical emergencies/behavioral
 - IV. Trauma (including intensive IV therapy training for personnel with qualifications to determine competency)
 - V. Obstetrics and pediatrics
 - VI. Operations
 - b. The current national standards published for CPR, foreign body airway obstruction (FBAO), and defibrillation and patient care appropriate to the level of certification.
 - c. County medical program director (MPD) protocols, regional patient care procedures, and county operating procedures.
 - d. Training updates in standards as identified by the department.
 - 2. Must provide cognitive, affective and psychomotor evaluations following completion of each topic presentation to determine student competence of topic content. Psychomotor skill evaluations must be recorded on skill evaluation forms from nationally recognized training programs, or on forms provided in approved curricula identified in WAC 246-976-021, for the level of certification being taught. If an evaluation form is not provided, a skill evaluation form must be developed and approved by the MPD to evaluate the skill.

3. Must be approved by the MPD; any additions or major changes to an approved OTEP require documented approval from the county MPD and the department.
4. Must be presented and evaluated by course personnel meeting the following qualifications:
 - a. Evaluators must:
 - I. Be a currently certified BLS or ALS provider who has completed at least one certification cycle. Certification must be at or above the level of certification being evaluated.
 - II. Complete an MPD approved evaluator's workshop, specific to the level of certification being evaluated, and teach proficiency in utilizing skill evaluation forms identified in D.2 of this subsection
 - III. Complete the evaluator application, DOH Form 530-012;
 - IV. Be approved by the county MPD and the department.
 - b. Instructors must:
 - I. Be a currently certified BLS or ALS provider who has completed at least one certification cycle at or above the level of certification being taught.
 - II. Be a currently approved evaluator at the level of certification being taught.
 - III. Be approved by the county MPD to instruct and evaluate EMS topics.
 - c. Guest lecturers, when used, must have specific knowledge and experience in the skills of the prehospital emergency care field for the topic being presented and be approved by the county MPD to instruct EMS topics.
5. May incorporate nationally recognized training programs within an OTEP for the core content areas identified in D.1.a of this subsection.

E. To complete the OTEP method you must:

1. Complete a department and MPD approved OTEP that includes requirements indicated in Table A.1 of this section, appropriate to your level of certification.
2. Complete and document the skills maintenance requirements, indicated in Table A.2 of this section, appropriate to your level of certification.
 - a. IV starts for IV technicians, combined IV/airway technicians, ILS technicians, combined ILS/airway technicians, or paramedics:
 - I. During your first certification period, you must perform a minimum of 36 successful IV starts.
 - II. During the first year, you must perform a minimum of 12 successful IV starts.
 - III. During the second and third year, you must perform a minimum of 12 successful IV starts per year, which may be averaged over the second and third years of the certification period.
 - IV. If you have completed a certification period, you must demonstrate proficiency in starting IVs to the satisfaction of the MPD (see later certification periods in Table A.2).
 - b. Endotracheal intubations for airway technicians, combined IV/airway technicians, combined ILS/airway technicians or paramedics:
 - I. During your first certification period, you must perform a minimum of 12 successful endotracheal intubations.
 - II. During the first year, you must perform a minimum of 4 successful human endotracheal intubations.
 - III. During the second and third year, you must perform a minimum of 4 human endotracheal intubations per year, which may be averaged over the second and third years of the certification period.
 - IV. If you have completed a certification period, you must perform a minimum of 2 successful human endotracheal intubations per year, which may be averaged over the 3

year certification period (see later certification periods in Table A.2).

- c. Skills maintenance requirements may be obtained as part of the OTEP.
 - d. Individuals participating in an OTEP meet skill maintenance requirements by demonstrating proficiency in the application of those skills to the county MPD during the OTEP.
- F. Any applicant changing from the OTEP method to the CME method must meet all requirements of the CME method.
- G. Table A.1 - Education requirements for recertification: A “☑” indicates an individual must demonstrate knowledge and competency in the topic or skill .

Table A.1: Education Requirements for recertification

EDUCATION REQUIREMENTS FOR CERTIFICATION	BASIC LIFE SUPPORT		EMT- INTERMEDIATE LEVELS					ALS
	FR	EMT	IV	Air	IV/Air	ILS	ILS/Air	
Annual Requirements								
CPR & Airway	☑	☑	☑	☑	☑	☑	☑	
Spinal Immobilization	☑	☑	☑	☑	☑	☑	☑	
Patient Assessment	☑	☑	☑	☑	☑	☑	☑	
Certification Period Requirements								
Infections Disease	☑	☑	☑	☑	☑	☑	☑	☑
Trauma		☑	☑	☑	☑	☑	☑	☑
Pharmacology		☑	☑	☑	☑	☑	☑	☑
Other Pediatric Topics	☑	☑	☑	☑	☑	☑	☑	☑
*Additional Education course hours totaling:	15hrs	30hrs	45hrs	45hrs	60hrs	60hrs	75hrs	150hrs

*Individuals obtaining education through the CME method must complete the total number of educational course hours indicated above. However, due to the competency-based nature of OTEP, fewer class hours may be needed to complete these requirements than the total course hours indicated above

- H. Table A.2: Skill maintenance requirements: A “☑” indicates an individual must demonstrate knowledge and competency in the topic or skill.

Table A.2: Skill Maintenance Requirements

SKILL MAINTENANCE REQUIREMENTS	EMT- INTERMEDIATE LEVELS					ALS
	IV	Air	IV/Air	ILS	ILS/Air	PM
First Certification Period						
1. First Year of Certification						
IV Starts*						
– Continuing Education method (may not be averaged)	36		36	36	36	36
– OTEP Method	12		12	12	12	12
Endotracheal intubations* (4 must be performed on humans for each method)						
– Continuing Education Method (may not be averaged)		12	12		12	12
– OTEP Method		4	4		4	4
Intraosseous infusion placement	☒		☒	☒	☒	☒
2. Second and Third Years of Certification (Annual Requirements)						
IV Starts*						
– Continuing Education method (may not be averaged)	36		36	36	36	36
– OTEP Method	12		12	12	12	12
Endotracheal intubations* (4 must be performed on humans for each method)						
– Continuing Education Method (may not be averaged)		12	12		12	12
– OTEP Method		4	4		4	4
Intraosseous infusion placement	☒		☒	☒	☒	☒
3. During the Certification Period						
Pediatric airway management		☒	☒		☒	☒
Multi-lumen airway placement				☒	☒	
Defibrillation				☒	☒	

Later Certification Periods						
1. Annual Requirements						
IV Starts	☒		☒	☒	☒	☒
Endotracheal intubations (2 per year must be performed on humans for each method)						
– Continuing Education Method (may not be averaged)		4	4		4	4
– OTEP Method		2	2		2	2
Intraosseous infusion placement	☒		☒	☒	☒	☒
2. During the Certification Period						
Pediatric airway management		☒	☒		☒	☒
Multi-lumen airway placement				☒	☒	
Defibrillation				☒	☒	

*The second and third year requirements may be averaged over the 2 years.

I. Skill maintenance requirements for individuals requesting reciprocal certification:

1. Reciprocity candidates credentialed less than 3 years must meet Washington State's skill maintenance requirements for the initial certification period identified above.
2. Reciprocity candidates credentialed 3 years or more must meet Washington State's skill maintenance requirements for second and subsequent certification periods.
3. The county MPD may evaluate an individual's skills to determine if the individual is proficient in the application of those skills prior to recommending certification. The MPD may recommend an individual obtain specific training to become proficient in any skills deemed insufficient by the MPD or delegate.

J. Description of selected terms used in Tables A.1 and A.2:

1. Class hours: Actual hours spent to become knowledgeable in a topic(s) or proficient in a skill(s).

2. Course hours: The predetermined time scheduled to conduct a course or topic.
3. CPR and airway management includes foreign body obstruction (FBAO) and the use of airway adjuncts appropriate to the level of certification, for adults, children and infants following national standards, assuring the following pediatric objectives are covered. Pediatric objectives - The EMS provider must be able to:
 - a. Identify and demonstrate airway management techniques for infants and children.
 - b. Demonstrate infant and child CPR.
 - c. Demonstrate FBAO technique for infants and children.
4. Endotracheal intubation: Proficiency includes the verification of proper tube placement and continued placement of the endotracheal tube in the trachea through procedures identified in county MPD protocols.
5. Infectious disease: Infectious disease training must meet the requirements of chapter 70.24 RCW.
6. Intraosseous infusion: Proficiency in intraosseous line placement in pediatric patients.
7. IV starts: Proficiency in intravenous catheterization performed on sick, injured, or preoperative adult and pediatric patients. With written authorization of the MPD, IV starts may be performed on artificial training aids.
8. Multi-lumen airway placement: Proficiency includes the verification of tube placement and continued placement of the multi-lumen airway through procedures identified in county MPD protocols.
9. Other pediatric topics: This includes anatomy and physiology and medical problems including special needs patients appropriate to the level of certification, ensuring the following pediatric objectives are covered.
 - a. Anatomy and physiology - The EMS provider must be able to:

- I. Identify the anatomy and physiology and define the differences in children of all ages.
 - II. Identify developmental differences between infants, toddlers, preschool, school age and adolescents, including special needs children.
 - b. Medical problems including special needs patients - The EMS provider must be able to:
 - I. Identify the differentiation between respiratory distress and respiratory failure.
 - II. Identify the importance of early recognition and treatment of shock in the infant and child patient.
 - III. Identify causes and treatments for seizures.
 - IV. Identify life-threatening complications of meningitis and sepsis.
 - V. Identify signs and symptoms of dehydration.
 - VI. Identify signs and symptoms of hypoglycemia.
 - VII. Identify how hypoglycemia may mimic hypoxemia.
 - VIII. Identify special needs pediatric patients that are technologically dependent (tracheotomy tube, central line, GI or feeding tubes, ventilators, community specific needs).
 - IX. Identify the signs and symptoms of suspected child abuse.
 - X. Identify the signs and symptoms of anaphylaxis and treatment priorities.
 - XI. Identify the importance of rapid transport of the sick infant and child patient.
10. Patient assessment: This includes adult, pediatric, and geriatric patients appropriate to the level of certification, ensuring the following pediatric objectives are covered. Pediatric objectives - The EMS provider must be able to:
 - a. Identify and demonstrate basic assessment skills according to the child's age and development.

- b. Demonstrate the initial assessment skills needed to rapidly differentiate between the critically ill or injured and the stable infant and child patient.
 - c. Identify and demonstrate the correct sequence of priorities to be used in managing the infant and child patient with life threatening injury or illness.
 - d. Identify that the priorities for a severely injured and critically ill infant and child are:
 - ✓ Airway management
 - ✓ Oxygenation
 - ✓ Early recognition and treatment of shock
 - ✓ Spinal immobilization
 - ✓ Psychological support
 - e. Demonstrate a complete focused assessment of an infant and a child.
 - f. Demonstrate ongoing assessment of an infant and a child.
 - g. Identify the differences between the injury patterns of an infant and a child compared to that of an adult.
 - h. Identify the psychological dynamics between an infant and a child, parent or caregiver and EMS provider.
11. Pharmacology: Pharmacology specific to the medications approved by the MPD (not required for first responders).
12. Proficiency: Ability to demonstrate and perform all aspects of a skill properly to the satisfaction of the MPD or delegate.
13. Spinal immobilization and packaging: This includes adult, pediatric and geriatric patients appropriate to the level of certification, assuring the following pediatric objectives are covered. Pediatric objectives - The EMS provider must be able to:
- a. Demonstrate the correct techniques for immobilizing the infant and child patient.
 - b. Identify the importance of using the correct size of equipment for the infant and child patient.

- c. Demonstrate techniques for adapting adult equipment to effectively immobilize the infant and child patient.
- 14. Trauma: For adult, pediatric and geriatric patients appropriate to the level of certification, ensuring the following pediatric objectives are covered. Pediatric objectives - The EMS provider must be able to:
 - a. Identify the importance of early recognition and treatment of shock in the infant and child patient.
 - b. Identify the importance of early recognition and treatment of the multiple trauma infant and child patient.
 - c. Identify the importance of rapid transport of the injured infant and child patient.

[Statutory Authority: Chapters 18.71 and 18.73 RCW. 04-08-103, § 246-976-161, filed 4/6/04, effective 5/7/04.
Statutory Authority: Chapters 18.71, 18.73, and 70.168 RCW. 00-08-102, § 246-976-161, filed 4/5/00, effective 5/6/00.]

SPOKANE COUNTY EMERGENCY MEDICAL SERVICES AND TRAUMA CARE COUNCIL (SCEMSTCC) BYLAWS

ARTICLE I TITLE

The name of the organization shall be known as the Spokane County Emergency Medical Services and Trauma Care Council (SCEMSTCC), referred to as the EMS Council.

ARTICLE II OFFICERS

Section 1. Qualification. Any director is qualified to hold office.

Section 2. Officers. The officers of the council shall be the Chair, Vice-Chair, Secretary/Treasurer and Executive-Chair. All Officers are elected by name, not the position they represent.

Section 3. Election. The Chair and Vice-Chair officers of the EMS Council shall be nominated and elected by simple majority vote of the members present and voting at the regular December meeting of the EMS Council. The Executive-Chair shall be the immediate past Chair for the next two year cycle.

Section 4. Term of office.

- The Chair and Vice-Chair shall be elected bi-annually for terms of two years.
- No director may hold more than one office.
- No director may serve more than two consecutive terms in the same office.

Section 5. Vacancy

1. Chair

- i. Vacancy in the office of Chair shall be filled by the Vice-Chair.

2. Vice-Chair

- i. Vacancy in the office of Vice-Chair shall be filled by election of the EMS Council at the first regular meeting at which said election may be completed for the remainder of the unexpired term.

3. Executive Chair

- i. Vacancy in the office of Executive-Chair shall be filled by a special election at the first regular meeting at which said election may be completed. Any Director that has previously held the office of Chair will be eligible to fill this vacancy.

ARTICLE III
DUTIES

Section 1. Chair. The chair of the EMS council shall:

1. Preside over all meetings of the EMS Council.
2. Appoint Ad Hoc committees/committee members and representatives as necessary.
3. Perform duties and functions of the council as the official EMS Council representative.
4. Shall serve on the executive committee.

Section 2. Vice-Chair. The Vice-chair of the EMS council shall:

1. Perform the duties of the chair in the absence of that officer.
2. Assist and monitor the committees and task forces established by the council or appointed by the Chair.
3. Shall serve on the executive committee.

Section 3. Secretary – Treasurer. The Secretary – Treasurer of the EMS Council shall be the Office Administrator of the **SCEMSTCC**. The Secretary – Treasurer shall:

1. Record and retain the minutes of the meetings of the EMS Council and committees.
2. Record, retain, and distribute protocols/guidelines/standing orders for the EMS Council, committees, and Medical Program Director.
3. Receive and disperse the correspondence of the EMS Council and committees.
4. Serve as treasurer of the EMS Council.
5. The Administrator shall not have a vote in Council matters.

Section 4. Executive Chair. The Executive-Chair of the Council shall:

1. Preside over all meetings of the Executive Committee.
2. In the absence of the Chair and Vice Chair, preside over all meetings of the EMS Council.

ARTICLE IV

COMPOSITION OF MEMBERSHIP

Section 1. Members. The council shall have no members. The internal operation of the council shall be governed by such bylaws, as a majority of the Board of Directors shall adopt.

Section 2. Board of Directors. The board of Directors for the EMS Council shall at a minimum consist of representatives from Spokane County Agencies as required by current Washington State statute and Washington Department of Health WAC.

Section 3. The board of directors shall include:

1. ALS Directors:
 - a. Each Public/Government ALS provider agency in Spokane County shall designate two directors, one of whom shall be the physician advisor of the Public/Government ALS provider agency.
 - b. Each Private ALS provider agency in Spokane County with ten or more full time equivalent paramedic personnel shall designate two directors, one of whom shall be the physician advisor of the Private ALS provider agency.
 - c. Each Private ALS provider and Air Transport agency in Spokane County with fewer than ten full time equivalent paramedic personnel shall designate one non-physician or physician director.
2. BLS Directors:
 - a. Four members, one from each geographic address quadrant (Sprague Avenue and Division Street) of Spokane County to be designated by consensus of the Public/Government BLS provider agencies within the quadrant, allowing that a BLS provider agency with a service area in more than one quadrant shall be considered to be in the quadrant in which the greatest part of its service area lies.
 - b. One BLS physician advisor from a licensed BLS providing agency representing collectively all BLS agencies in all quadrants. This physician will be selected by majority consensus of the four quadrant representatives.
3. Related vocations Directors:
 - a. One physician director designated by the Spokane County Medical Society.

- b. One director designated by consensus of the public and private EMS Provider Supervisory Organization and private BLS transport agencies within Spokane County.
 - c. One director designated by the Combined Communications Center (CCC) Board of Directors.
 - d. One director designated by consensus of the hospitals within Spokane County.
 - e. One director designated by the Spokane City/County Department of Emergency Management.
 - f. One elected official director designated by consensus of the elected City and County officials within Spokane County.
 - g. One director designated by consensus of the law enforcement agencies within Spokane County
 - h. One director designated by consensus of the prevention specialists involved in the delivery of EMS/TC within Spokane County
4. Unrelated vocations Directors:
- a. One director unrelated to EMS termed a “consumer” designated by the Board of Directors.
5. Non-Voting representatives:
- a. Two representatives of the WA Department of Health (L&C, and Regional support)
 - b. The Spokane County Medical Program Director
 - c. One representative of the U.S. Air Force, Fairchild AFB
 - d. The Spokane County Medical Examiner
 - e. The Spokane Regional Health District Health Officer

Section 4. The Board of Directors of the Council may be expanded or reduced by a formal vote of two-thirds majority of the Council’s Directors.

Section 5. Appointment of a director and alternate or a non-voting representative and alternate will be made by the agency represented in writing to the Council. Unrelated vocations directors shall be approved by a vote of two-thirds majority of the Board of Directors of the quorum.

Section 6. The term of a director shall not be limited.

Section 7. Each Director shall have one vote in council matters.

ARTICLE V

MEETINGS OF THE EMS COUNCIL

Section 1. Regular meetings. The regular meeting of the EMS Council shall be held on the second Tuesday of each month, excluding the month of August when no meeting will be held.

Section 2. Annual meeting. The regular meeting in the month of December shall be the annual meeting of the Council. Bi-annually the meeting shall include the election of officers for the succeeding two year period.

Section 3. Special meetings. A special meeting of the EMS Council may be called by the Chair or by any five members of the EMS Council. The notice for a special meeting shall state the purpose of the meeting, and only that subject shall be considered or acted on.

Section 4. Notice of meetings. Notice of any meeting of the EMS Council shall be provided at least five days prior to the meeting, providing that a special meeting for an emergency situation may be called with 24 hours' notice.

Section 5. Quorum. A quorum shall be 40% of the filled Directors positions of the EMS Council. A quorum shall be required for final action at any meeting.

Section 6. Voting. Passage of business items shall require a simple majority of the members present of any meeting that meets the "quorum" requirements unless specified differently elsewhere in the bylaws. By an affirmative vote of the body in a regular or special meeting or at request of the executive board, an e-mail electronic vote can occur on items deemed necessary for consideration by the complete board between scheduled meetings. The response will be required from 40% of the filled directors positions and take a simple majority of positive responses for passage.

ARTICLE VI

COMMITTEES

Section 1. The council shall have 3 standing committees.

1. Executive committee:

- a. Comprised of the current Executive Chair, current Chair, and current Vice-Chair.
- b. Meetings of the executive committee shall be held as necessary to carry out short-notice/ emergency EMS Council business.
- c. Any executive committee member may call a meeting at any time agreeable to

all three members.

2. Quality Improvement (QI) committee:

i. Membership:

- Physician and agency QI officer or other designated representative from each Public/Government ALS agency.
- Physician and agency QI officer or other designated representative from each Private ALS agency with over ten full time equivalent paramedics
- Physician from each Private ALS agency with under ten full time equivalent paramedics
- One physician director designated by the Spokane County Medical Society.
- One Director from one of the BLS quadrants.
- BLS physician advisor director.
- One representative agreed upon by consensus of Air Transport Services.

b. The regular meeting of the QI committee shall be the second Tuesday of each month, following the regularly scheduled Council meeting.

c. The QI committee shall:

- i. Review and provide recommended changes to protocols/guidelines/standing orders/County Operating Procedures to the EMS Council. Changes will be forwarded to the EMS Council for approval.
- ii. Review complaints brought forward to the EMS Council or MPD and make recommendations for action to the appropriate authorities except where issues fall under the purview of the MPD and Uniform Disciplinary Act (UDA) as established by rule and law. These proceedings shall be only open to committee members and specifically invited guests of the agencies involved in the complaint or invited by the MPD.
 - Complaints to be reviewed shall be made in writing to the MPD expressing their concerns and involvement. A copy of the complaint will be distributed to agencies/facilities involved to provide support documentation and information for review at the meeting. Complaints for review will only be accepted from patients, a patient's physician, treating EMS agencies, or the treating personnel at a medical facility involved in direct treatment of said patient. No "third-party" hearsay complaints will be reviewed.

- d. The Q.I. Committee shall be chaired by the Medical Program Director (MPD).
3. Finance Committee:
 - a. Comprised of the executive committee and other members selected by the board.
 - b. Meeting of the finance committee shall be at the discretion of the Chair, but will be held at least once each year.
 - c. The finance committee shall:
 - i. Make recommendations to the EMS Council on share amounts and budgets, as well as audit or procure an audit of the books of the EMS Council when appropriate.

Section 2. Ad hoc committees. The EMS Council may appoint such other ad hoc committees as may be determined to be necessary or advisable for the proper or adequate conduct of the affairs of the EMS Council.

Section 3. Committee action. The committees, by simple majority of a quorum, shall determine those recommendations to be forwarded through the committee chair to the EMS Council.

ARTICLE VII

OFFICE OF THE MEDICAL PROGRAM DIRECTOR

Section 1. Medical Program Director (MPD)

1. The council shall recommend to the Washington State Department of Health (DOH), in accordance with current RCW and WAC, the designation of the Spokane County Medical Program Director.
2. The MPD shall fulfill all of the mandates of that position prescribed by law.
3. The MPD shall, in cooperation with the EMS Council and the EMS and Medical community of Spokane County, develop plans, programs and protocols pursuant to the purposes and objectives of the EMS Council, subject to EMS Council review and comment.
4. The MPD shall manage and administer the office of the MPD and provide ongoing direction to the Administrative Assistant.

Section 2. Office Administrator

1. The EMS Council, in consultation with the MPD, shall select and employ an Office Administrator for the EMS Council and MPD.

2. The Medical Program Director shall provide ongoing direction for the Office Administrator and the EMS Council shall have overall employment responsibility.
3. The Office Administrator shall be the Secretary – Treasurer of the EMS Council and shall provide administrative support to the EMS Council.

ARTICLE VIII

FUNDING

Section 1. Revenue. The revenue required to support the office of the Medical Program Director (MPD) and the operations, programs, services, and activities of the EMS Council shall be provided by fees charged to EMS Council member agencies/groups as determined by the council, and from such other sources as may be available.

Section 2. Budget Proposal

1. The EMS Council Finance committee shall develop an annual budget, to include both revenue and expense for the next calendar year, to be presented to the EMS Council for its initial review at the regular meeting in July.
2. The budget shall provide the reasonable and necessary funding to support the office of the MPD and the operations, programs, services, and activities of the EMS Council.

Section 3. Budget Adoption

1. The EMS Council shall consider, and may amend and revise, the budget proposal as deemed necessary.
2. The EMS Council shall take final action to adopt the budget no later than the regular meeting in September.

Section 4. Notice. The adopted budget and per member costs shall be mailed to all EMS Council members immediately after its adoption so that any dues, fees, or support costs to be borne by the member agencies may be planned and budgeted for.

Section 5. Non-Payment of dues, fees, or support costs. Any EMS Council agency/group identified to be in a state of arrears may be suspended by vote of the EMS Council.

ARTICLE IX

FISCAL YEAR

Section 1. The fiscal year of the EMS Council shall be the calendar year.

ARTICLE X RULES OF ORDER

Section 1. Roberts's rules of order shall govern the conduct of all meetings of the EMS Council.

ARTICLE XI AMENDMENT OF BYLAWS

Section 1. Proposals for Amendments

1. Proposals of amendment of the bylaws may be made by petition of five or more members of the EMS Council.
 - Proposals shall be submitted in writing and shall be specific as to the amendment sought.
2. Periodic review of the by-laws may be requested by council action and amended as seen fit per the notice and approval process in Article XI Section 2 and Section 3.

Section 2. Notice. Proposals for amendment of the bylaws shall be distributed to all members of the EMS Council at least 60 days or two regular meetings prior to the meeting at which the proposals are to be considered for final adoption.

Section 3. Approval. A proposed amendment to the bylaws of the EMS Council shall be discussed and can be modified as to content as an agenda item at two regular scheduled council meetings. The passage of the final proposed amendment shall require the approval of two thirds of the members present and voting at the meeting.

Adopted at the regular meeting of the Spokane County Emergency Medical Services and Trauma Care Council held September 10, 2002. Revised at the regular meeting of the Spokane County Emergency Medical Services and Trauma Care Council held March 10, 2009. Revised at the regular meeting of the Spokane County Emergency Medical Services and Trauma Care Council held September 8, 2009. Revised at the regular meeting of the Spokane County Emergency Medical Services and Trauma Care Council held February 8, 2011. Revised at the regular meeting of the Spokane County Emergency Medical Services and Trauma Care Council held September 11, 2012.

CERTIFICATION MADE EASY

Aside from background checks, the primary reason certifications are delayed is incomplete applications.

Let's see if we can speed up the process:

- ✓ Initial and upgrade certification applicants must provide a copy of a Department of Health course completion.
- ✓ Personal Data Questions go directly to DOH, not to our office
- ✓ Attach a current, legible photograph showing date of birth (DOB) i.e., driver's license photo, passport, or military ID to the application. The photograph must be clear and the information must be legible.
- ✓ ILS and ALS recertification require a physician letter with the application.
- ✓ Initial applications for ILS and PMs trained in Spokane County do not need a physician letter for their initial/upgrade application.
- ✓ ILS and PM certified in Washington State and adding Spokane County as an agency require a physician advisor letter

CLASSIFICATION OF BURNS

Table A.3: Classification of Burns

DEGREE	DEPTH	CAUSE	APPEARANCE	SENSATION
First	Superficial	Sun or flash	Red in color, dry, no blisters, devitalization of superficial epidermis only w/dilation of dermal vessels	Painful, hyperesthetic
Second	Partial thickness	Flash or hot fluid	Mottled appearance, moist, blistered, painful, varying loss of depth of epidermis, hyperesthetic, viable subcutaneous tissue	Painful, hyperesthetic
Third	Full thickness	Flame	Dry, hard, loss of all appendages w/viable subcutaneous tissue	Little pain or anesthetic
Fourth	Underlying-structures	Flame or Electric	Charred, cracked, loss of tissue to muscle or bone	Anesthetic

Fig. A.2

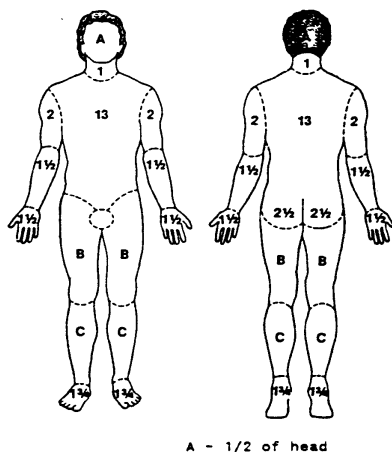


Table A.4
AGE IN YEARS

	0	1	5	10	15	Adult
A-1/2 of head	9.5	8.5	6.5	5.5	4.5	3.5
B-1/2 of 1 thigh	2.75	3.25	4	4.25	4.5	4.75
C-1/2 of 1 leg	2.5	2.5	2.75	3	3.5	3.5

COMMUNITY RESOURCES

AGENCY	PHONE NUMBER	REASONS TO CALL
Adult Protective Services	(509) 323-9400	
Alcohol and Drug (24 Hour)	1-800-562-1240	Resources for individuals seeking help
Child Protective Services	(509) 363-3333	Suspicion of child abuse
Communicable Disease Control	(509) 324-1442	Immunization information, exposure to infectious diseases.
Community Mental Health	(509) 838-4651	Mentally ill patients not serious enough to hospitalize, but in need of professional counseling.
Crime Check (City or County)	(509) 456-2233	Follow-up of criminal cases. Report suspicions of criminal activity.
Critical Incident Stress Management Team	(509) 625-7100	Psychological support for EMS personnel involved in tragic patient care
Domestic Violence Hotline (24 Hour)	(509) 327-9534	
Poison Information Center	1-800-222-1222	Ingestion of substances
Rape Crisis Center	(509) 624-7273	Support for sexual assault victims
Sudden Infant Death Syndrome (SIDS)	(509) 456-0505	Support for parents of SIDS victims
Suicide Crisis Line	(509) 838-4428	

CONDITIONS FOR WHICH FIELD ASSESSMENT OF TEMPERATURE MAY BE BENEFICIAL

- ✓ Major Trauma
- ✓ Return of Spontaneous Circulation post CPA
- ✓ **Pulmonary edema**
- ✓ Extreme agitation
- ✓ Reduced Level of Consciousness
- ✓ Drowning/near drowning
- ✓ Suspected hypo/hyperthermia states
- ✓ Infectious illness

CONVERSION TABLES

Table A.5: Temperature Equivalents

Rectal		Oral		Forehead		Axillary
98°	=	97°	=	97°	=	96°
99°	=	98°	=	98°	=	97°
100°	=	99°	=	99°	=	98°

Rule of Thumb: Rectal temperature 1° higher than an oral or forehead temperature; 2° higher than an axillary temperature.

Table A.6 Liquid Measurements

1 tsp	=	5cc	=	1/6 oz
1 Tbsp	=	15cc	=	1/2 oz
2 Tbsp	=	30cc	=	1 oz
1 Cup	=	240cc	=	8 oz
1 Pint	=	500cc	=	16 oz
1 Quart	=	1000cc	=	32 oz

Table A.7: Linear Measurements

1 mm	=	0.04 in
1 cm	=	0.4 in
2.5 cm	=	1 in
1 m	=	39.37 in

Table A.8: Weight Measurements

1 oz	=	30 gm
1 kg	=	1000 gm
1 kg	=	2.2 lbs
1 lb	=	0.45 kg

Table A.9: Temperature

Centigrade **Fahrenheit**
 $(C^{\circ} \times 9/5) + 32 = F^{\circ}$ $(F^{\circ} - 32) \times 5/9 = C^{\circ}$

0°	=	32°
35°	=	96.8°
36.5°	=	97.7°
37°	=	98.6°
37.5°	=	99.5°
38°	=	100.4°
38.5°	=	101.3°
39°	=	102.2°
39.5°	=	103.1°
40°	=	104°
40.5°	=	104.9°
41°	=	105.8°
41.5°	=	106.7°
42°	=	107.6°

DIABETIC COMA AND INSULIN SHOCK FACT SHEET

SIGNS AND SYMPTOMS	DIABETIC COMA (KETOACIDOSIS)	INSULIN SHOCK (LOW BLOOD SUGAR)
Appearance	Extremely ill	Very weak
Skin	Red and dry	Pale
Mouth	Dry	Drooling
Thirst	Intense	Absent
Hunger	Absent	Intense
Respiratory	Exaggerated air hunger	Normal to shallow
Breath	Acetone	Normal
BP	Low	Normal
Pulse	Rapid	Normal or may be rapid
Mental state	Restless, merging into unconsciousness	Apathy, irritability
Tremor	Absent	Frequent
Improvement	Gradual, 6-12 hours	Immediate, within minutes of carbohydrate administration

DOUBLE LUMEN AIRWAY AND AED SKILLS MAINTENANCE



In order to maintain proficiency in these skills, subsequent to initial training, the EMS provider needs to demonstrate proper use of these devices in a training situation to the satisfaction of his or her Medical Service Officer.

This skills evaluation should be undertaken at least once every six months. The EMS provider is responsible for ensuring that there is a record of this training experience.



DRUG REFERENCE SHEET

SEE NEXT PAGE

DRUGS	INDICATIONS	DOSAGE/ACTIONS
ADENOSINE®	Stable narrow-complex tachycardia (HR>150)	6 mg rapid IV/IO, after 2 minutes may give 2 nd dose of 12 mg; PEDs: 0.1 mg/kg rapid IV/IO. 2 nd dose 0.2 mg/kg
ASPIRIN®	Suspected ACS/AMI	160-325 mg chewable tablet orally
ALBUTEROL/ VENTOLIN®	Asthma, COPD, chronic bronchitis & Toxic smoke inhalation	2.5 mg in 3 ml NS @ 6L, may repeat. PEDs: All ages, 2.5 mg in 3 ml NS @ 6L, may repeat
	Renal failure & Crush injury syndrome	5 mg in 6 ml NS @ 6L, may repeat. PEDs: All ages, 2.5 mg in 3 ml NS @ 6L, may repeat
AMIODARONE/ CORDARONE®	Recurrent VF/Pulseless VT	300mg diluted in 20ml of NS IV/IO. Repeat dose of 150mg diluted in 10ml of NS IV/IO in 3-5 minutes ONE time
	Unstable wide-complex tachycardia (HR>150)	150 mg diluted in 10 ml NS IV/IO over 10 min Repeat q 10 min as needed.
	Stable wide-complex tachycardia (HR>150)	150 mg diluted in 10 ml NS IV/IO over 10 min (REQUIRES MD APPROVAL)
	PEDs VF/Pulseless VT	5 mg/kg IV/IO diluted w/4 ml of NS for q 50 mg. Consider repeat dose of 5 mg/kg IV/IO in 3-5 min Max total dose of 15 mg/kg
	PEDs unstable wide-complex tachycardia	5 mg/kg IV/IO diluted with 4 ml of NS for q 50 mg. Repeat dose of 5 mg/kg over 20-60 minutes
	PEDs stable wide-complex tachycardia	5 mg/kg IV/IO diluted with 4 ml of NS for q 50 mg over 20-60 minutes (REQUIRES MD APPROVAL)
ATIVAN®/ LORAZEPAM	Seizure & Status epilepticus, when midazolam is not available	Dilute 1:1 with NS; administer IV/IO, (IM-don't dilute) 1-2 mg slowly; may repeat 3-5 minutes to a max total dose of 4 mg
		PEDs: Dilute 1:1 with NS and give IV/IO, (IM -don't dilute), PR 0.1 mg/kg q 3 min to a max total dose of 2 mg
ATROPINE	Bradycardia: with hypotension or escape beats	0.5 mg IV/IO q 3-5 min to a max total dose of 0.04 mg/kg or 3 mg; PEDs: IV/IO 0.02 mg/kg, repeat once if needed.
	Organophosphate poisoning	2-6 mg using 1-3 Mark 1 Kit(s); Elderly/Frail/Child: 1-4 mg IV/IO/IM by PEDs Atropen, MDV, or Mark 1
	RSI	Infants: 0.05-0.1 mg/kg IV/IO/IM by PEDs Atropen or MDV. Repeat in 10-30 minutes as needed
BENADRYL®	Anaphylaxis	0.5 mg IV/IO to adult pts prior to 2 nd dose of succinylcholine. PEDs: 0.02 mg/kg IV/IO prior to succinylcholine Rx. Max dose of 0.5 mg
	Mild/Moderate allergic reactions/urticaria and Dystonia	50 mg IV/IO, give IM if unable to establish IV; PEDs:1 mg/kg IV/IO to a max dose of 50 mg
CALCIUM GLUCONATE	Hyperkalemia-w/bradycardia & hypotension or unstable arrhythmia	25-50 mg IV/IM PEDs: 1 mg/kg IV/IO/IM to a max dose of 50 mg
	Calcium channel blocker overdose –w/above signs	20 ml of 10%, IV/IO slowly over 1-2 minutes
	Crush injury syndrome w/EKG evidence of hyperkalemia	20 ml of 10%, IV/IO slowly over 1-2 minutes
	Treatment prior to release of compression	20 ml of 10%, IV/IO slowly over 1-2 minutes
CHARCOAL	Poisoning	20 ml of 10%, IV/IO slowly over 1-2 minutes
CYANOKIT®	Adult cyanide poisoning	50 gm premix solution given orally; PEDs: 1 gm/kg premix solution given orally (BOTH Require MD and/or Poison Control APPROVAL)
	PEDs cyanide poisoning	2 vials of 2.5 gm in 100 ml of NS each (mix well). Administer over 7.5 min each to a total dose of 5 gm PEDs: 70 mg/kg
D50W	Hypoglycemia (B.S.<60), Renal failure w/hypotension & bradycardia	PEDs: Not approved for children (in non-US marketing experience, a dose of 70 mg/kg has been used to treat pediatric patients)
	PEDs/Infant Hypoglycemia (B.S.<60)	50 ml of 50% dextrose (25mg) IV/IO, may be repeated
DOPAMINE	Hypotension not 2° to hypovolemia and cardiogenic shock	iv push, 1 ml/kg, if child <1 year old then dilute with 1:1 NS
EPINEPHRINE	VF/Pulseless VT, Asystole, PEA	Mix 400 mg/250 ml of NS (1600 mcg/ml), give IV/IO infusion at 5 mcg/kg/min titrated to BP. PEDs: Same as adult
	Asthma, Moderate anaphylaxis	1:10,000 1 mg, IV/IO q 3-5 minutes; Double dose for ET admin
	Severe anaphylaxis	1:1,000 0.01 mg/kg up to 0.3 mg, IM q 5 minutes as needed
	PEDs Bradycardia, VF/Pulseless VT, Asystole, PEA	1:10,000 0.01 mg/kg up to 0.3 mg, slow IV/IO q 5 minutes as needed; 1:1,000 0.01 mg/kg up to 0.3 mg IM as needed
	PEDs Moderate anaphylaxis	1:10,000 .01 mg/kg up to 1mg, IV/IO q 3-5 min ET RX, 1:1,000 0.1 mg/kg q 3-5 min diluted with 3 ml of NS, if no IV/IO access
	PEDs Severe anaphylaxis	1:1,000 0.01 mg/kg IM q 5 min to a max dose of 0.3 mg
ETOMIDATE/ AMIDATE®	Sedation for RSI for patients at risk for hypotension	1:10,000 0.01 mg/kg IV/IO q 5 min to a max dose of 0.3 mg
	Sedation for Emergent cardioversion	0.3 mg/kg, IV/IO over 30-60 seconds. PEDs: same as adult.
FENTANYL	Severe pain, persistent chest pain	0.1 mg/kg, IV/IO over 30-60 seconds. PEDs: same as adult.
GLUCAGON/ GLUCAGEN®	Hypoglycemia	0.5-1 mcg/kg, IV/IO/IM may be repeated in 10 min up to max total dose of 3 mcg/kg. PEDs:same as adult, do not give if <2 yrs old
	PEDs hypoglycemia	1 mg, IM/SQ if unable to establish IV and B.S.<60. If pt unresponsive to Glucagon after 10 min or B.S. <35 consider IO for D50 Rx
		0.05mg/kg up to 1 mg, IM/SQ if unable to establish IV and B.S.<60. If unresponsive after 10 min & B.S <35 consider IO for D50 Rx

DRUGS	INDICATIONS	DOSAGE/ACTIONS
IPRATROPIUM/ ATROVENT®	Asthma, COPD, wheezing w/toxic smoke exposure	500 mcg (1 unit dose vial) added to 1 vial of Albuterol and given via nebulizer at 6 LPM 02. Do not repeat.
	PEDs: Respiratory distress with wheezing	500 mcg (1 unit dose vial) added to 1 vial of Albuterol and given via nebulizer at 6 LPM 02. Do not repeat.
LASIX®	Pulmonary edema	0.5-1 mg/kg, IV/IO slow push. For patients already taking Lasix, giving double their daily dose may be appropriate. Contra c Fever/Hypotension
LIDOCAINE	Alternative to AMIODARONE in VF/Pulseless VT	1-1.5 mg/kg, IV/IO. For refractory VF: may give additional 0.5-0.75 mg/kg IV/IO,repeat q 5-10 min to a max of three doses or 3 mg/kg PEDs: 1 mg/kg, IV/IO. Maximum total dose of 100 mg,
		Adult & PEDs: Repeat boluses ↓ by 50% in patients: 70 and older, pulmonary edema, hypotensive, liver disease
		0.5-0.75 mg/kg, IV/IO up to 1-1.5 mg/kg, repeat q 5-10 minutes. Max total dose of 3 mg/kg. PEDs: 1 mg/kg IV/IO once
	Alternative to AMIODARONE in recurrent unstable VT	Adult & PEDs: Repeat boluses ↓ by 50% in pts: 70 and older, pulm edema, hypotensive, liver disease
		0.5-0.75 mg/kg, IV/IO up to 1-1.5 mg/kg, repeat q 5-10 minutes. Max total dose of 3 mg/kg
	Alternative to AMIODARONE in stable VT. With MD Approval.	PEDs: same as adult Adult & PEDs: Repeat boluses ↓ by 50% in pts: >70, pulmonary edema, hypotensive, liver disease
	RSI	1 mg/kg, IV/IO. PEDs: same as adult
	Intraosseous infusion for Conscious Pts	20-40 mg of 2 % lidocaine (preservative free) into EZ IO port during intraosseous infusion of initial NS bolus or flush
		PEDs: 0.5 mg/kg of 2 % lidocaine (preservative free) into EZ IO port prior to the initial NS bolus or flush
MAGNESIUM SULFATE	Seizures in severe toxemia of pregnancy	4 gm of 50% solution diluted with 20 ml NS, IV/IO; 4 gm of 50% solution. 4 gm of 50% solution IM (do not dilute)
	VF/Pulseless VT (Hypomagnesia or Torsades)	1-2 gm of 50% solution diluted w/10ml NS, IV/IO; PEDs: 25-50 mg/kg of 50% solution diluted 5-10 ml NS over 10-20 min, IV/IO.
NALOXONE/ NARCAN®	Overdose/Coma	0.4 mg, IV/IO/IM with a dose of 1.6 mg 2 min later if the initial dose is unsuccessful. Double the dose for ETT
		Admin MAD device 2 mg. Up to 10 mg may be required for Darvon, Talwin, Stadol, Nubain, Suboxone, & Fentanyl
NITROGLYCERIN	Chest pain, Pulmonary edema, Suspected Angina/ACS	0.1 mg/kg, IV/IO/IM up to a max dose of 2 mg. Double dose for ET Rx; MAD device: 0.1mg/kg to a max dose of 2 mg
		0.4 mg tablet SL q 5 min up to 3 tablets as long as BP remains >100 mm/Hg systolic. Contraindicated in RV or posterior MI
OXYMETAZOLINE	Epistaxis, facilitate nasotracheal intubation	2-3 sprays in each bleeding nostril or nostril selected for nasotracheal intubation
RACEMIC EPI	Severe pediatric respiratory distress w/Stridor	>2 YR: 0.5 ml (2.25%) diluted in 3 ml NS via nebulizer; <2 YR: 0.25ml (2.25%) diluted in 3 ml NS via nebulizer
ROCURONIUM/ ZEMURON®	Maintain paralysis of intubated Pt's	0.6mg/kg, IV/IO. (may repeat x1)
	Alternative to SUCCINYLCHOLINE – RSI	0.6mg/kg, IV/IO. Contact medical control prior to admin (may repeat x1) (Not recommended for RSI in PEDs.)
SODIUM BICARBONATE	Post-resuscitation hypotension	1 mEq/kg, IV/IO. PEDs: same as adult
	Cyclic antidepressant overdose	If QRS duration >100 msec, then IV/IO bolus 1 mEq/kg Repeat q 10 minutes x3; PEDs: same as adult
	PEA with acidosis	1 mEq/kg, IV/IO. PEDs: same as adult
	Crush Injury	1 mEq/kg IV/IO. Hyperkalemia: Add Sodium Bicarb 1 mEq/kg to 1000 cc NS, admin wide open. PEDs: same as adult
SUCCINYL- CHOLINE/ ANECTINE®	RSI	Pretreat Adult & PEDs with Lidocaine 1 mg/kg up to 100 mg IV/IO, if head injury is suspected
		Pretreat Adults with Atropine 0.5 mg, IV/IO prior to 2 nd dose of succinylcholine
		Pretreat PEDs with Atropine 0.02 mg/kg, IV/IO prior to initial dose of succinylcholine
		Pretreat conscious pts with Versed or if the patient is hypotensive and older than 10 years, administer Etomidate
		SUX: ADULT or PEDs: 1.5 mg/kg, IV/IO. May repeat x1; IM 3 mg/kg to total of 150 mg
VECURONIUM/ NORCURON®	Maintain paralysis of intubated Pts	0.1 mg/kg, IV/IO. May repeat x 1. PEDs: same as adult, do not give if <7 weeks old
	Alternative to SUCCINYLCHOLINE – RSI	0.1 mg/kg, IV/IO. May repeat x 1. PEDs: same as adult, do not give if <7 weeks old (REQUIRES MD APPROVAL)
		Note: Reconstitute powder with 10 ml of Normal Saline (1 ml of NS to each 1 mg of drug)
VERSED®/ MIDAZOLAM	Seizures*, pacing, sedation p intubation, pre-RSI or Cardioversion	1-2 mg, IV/IM q 3 min up to a max dose of 6 mg. PEDs: IV/IM/PR/IO 0.05-0.1 mg/kg q 3 min up to a max dose of 2 mg
	Excited delirium*, severe agitation*	2.5 mg, IV/IM q 3-5 min up to a max dose of 10 mg. PEDs: IV/IM/PR/IO 0.05-0.1 mg/kg q 3min up to a max dose of 2 mg
	Asterisked adult and all PEDs indications	Note: *May be given via MAD to adults at dose of 5 mg. May be given via MAD to PEDs at 0.2 mg/kg to a max dose of 2 mg
ZOFRAN®	Nausea & vomiting	4 mg, IV/IM undiluted, give over 30-300 seconds, may repeat x1 PEDs: same as adult for children >40 kg; 0.1 mg/kg for children <40 kg

EMERGENCY DEPARTMENTS IN SPOKANE COUNTY

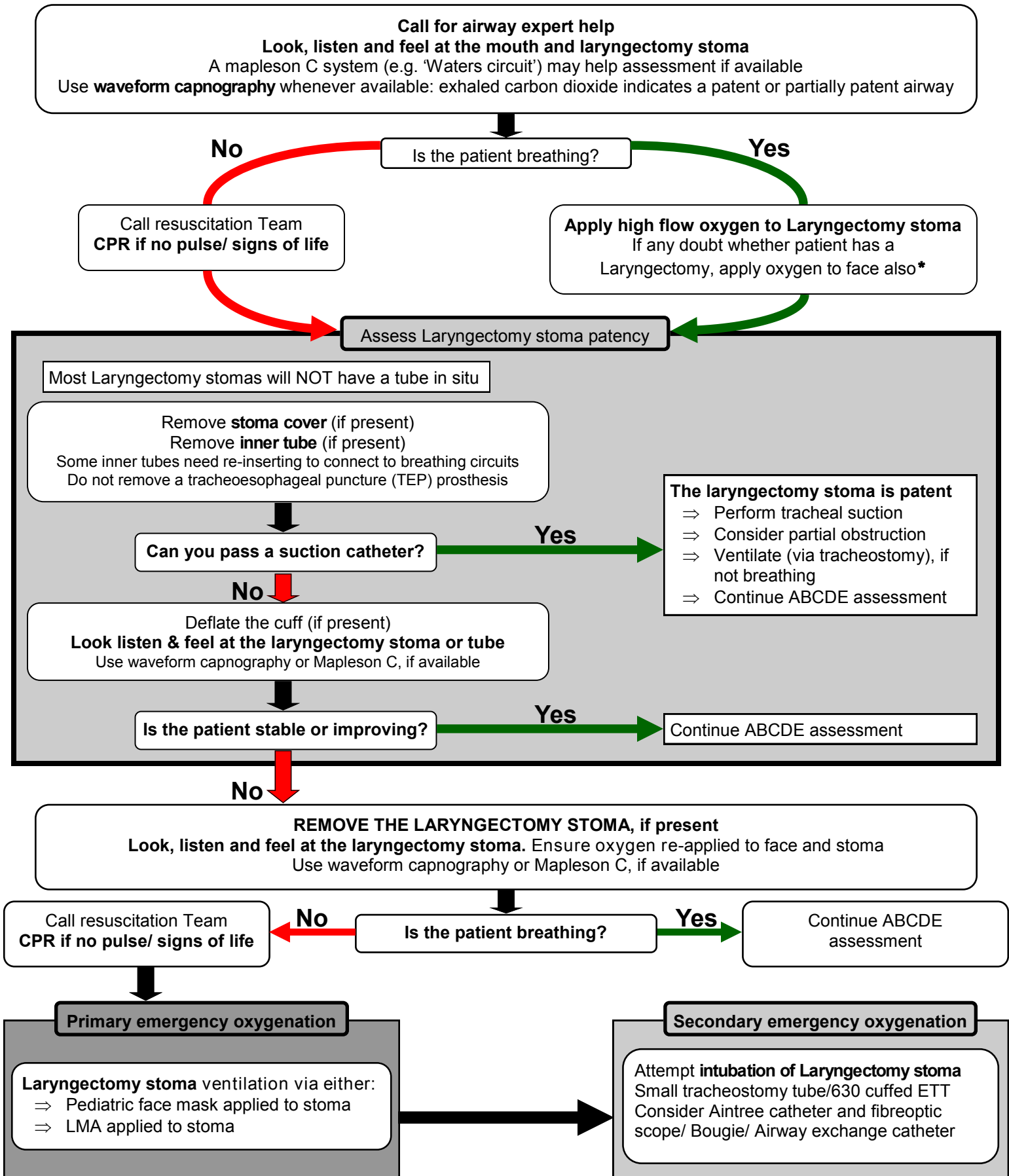
HOSPITAL	PHONE NUMBER	DEDICATED EMS GROUND LINE
Deaconess Hospital	(509) 458-7100 *(509) 473-8350	
Fairchild Clinic	(509) 247-5661	C: 995-8648
Holy Family Hospital	(509) 482-2460 *(509) 482-3951	
Sacred Heart Hospital	(509) 474-3345 *(509) 474-3600	474-4840
Valley Hospital	(509) 473-5177 * (509) 828-9673	473-5495
Veterans Hospital	(509) 434-7000	434-7010

***Call charge nurse to expedite a Trauma, Cardiac,
or Stroke Activation**

EMERGENCY LARYNGECTOMY MANAGEMENT

SEE NEXT PAGE

Emergency Laryngectomy Management



Laryngectomy patients have an end stoma and cannot be oxygenated via the mouth or nose
*Applying oxygen to the face and stoma is the default emergency action for all patients with a tracheostomy

EMERGENCY SUPPORT FUNCTION #8 SPOKANE CITY/COUNTY D.E.M. HEALTH, MEDICAL, AND MORTUARY SERVICES

1. LEAD AGENCIES:

- ✓ Spokane Regional Health District (SRHD)
- ✓ Spokane County EMS and Trauma Care Council
- ✓ Spokane County Medical Examiner
- ✓ Spokane Mental Health

2. SUPPORT AGENCIES:

- | | |
|----------------------------------|----------------------------------|
| ✓ Ambulance/Private | ✓ Law Enforcement |
| ✓ American Red Cross | Agencies/Local/State |
| ✓ Department of Social and | ✓ Medical Centers/Hospitals |
| Health Services | ✓ Medical/Dental Societies |
| ✓ Educational Services Districts | ✓ Volunteer Organizations Active |
| ✓ Fire Departments/Districts | in Disasters |
| ✓ Law Enforcement | |
| Agencies/Federal | |

3. INTRODUCTION:

- A. Purpose: To organize our prehospital and community health resources to reduce the mortality and morbidity resulting from major emergencies or disasters.
- B. Scope:
- I. Scene Security and citizen evacuation.
 - II. Emergency medical response to provide triage, treatment, and transport to the injured.
 - III. The coordination of hospital resources to provide in hospital patient care and additional prehospital support as needed.
 - IV. Community mental health and ministerial services.
 - V. Control and prevention of epidemics.

- VI. Vector prevention and control.
- VII. Provision of potable water and wastewater and solid waste disposal.
- VIII. Emergency medical and public health support to displaced or sheltered persons.
- IX. Victim identification and mortuary services.

4. POLICIES:

- A. EMS response treatment by Spokane County agencies will be provided according to Spokane County and Regional Patient Care Procedures and Protocols.
- B. All EMS agencies from outside Spokane County who are called upon to provide medical assistance within Spokane County should operate under their home county procedures and protocols.
- C. The Spokane Regional Health District (SRHD) will provide guidance to the county agencies and individuals on public health principals including infectious disease control, safe drinking water, food sanitation, personal hygiene, and proper disposal of human waste, garbage, infectious waste, isolation and/or quarantine.
- D. In the event of significant disaster requiring state or federal response ESF-8; Health, Medical, and Mortuary Services will coordinate assistance and resources.
- E. The Multi-Casualty Incident Plan, as approved by the Spokane County EMS and Trauma Care Council, will provide guidance when the number of casualties is beyond the capabilities of the initial responding resources.

5. SITUATION:

- A. Emergency/Disaster Conditions and Hazards
 - I. A significant natural disaster or technological event that overwhelms Spokane County and would necessitate both state and federal public health and medical care assistance. For example, casualty estimates for a major earthquake could range from a few to thousands, depending on the population density;

quality of building construction; and the location, time, magnitude, and duration of the earthquake. The sudden onset of such a large number of victims would stress our medical system necessitating time critical assistance from both the state and federal government. Such a natural disaster would also pose certain public health threats, including problems related to food, disease vectors, potable water, wastewater, solid waste, communicable disease transmission, and mental health effects.

- II. Hospitals, nursing homes, pharmacies, and other medical/health care facilities may be structurally damaged or destroyed. Those facilities that survive with little or no structural damage be rendered unusable or only partially usable because of damage to or reduction of utilities (power, water, sewer), because staff is unable to report to work due to personal injuries, and damage or disruption of communication and transportation systems. Medical and health care facilities that remain in operation and have the necessary utilities and staff will probably be overwhelmed by the walking wounded and seriously injured victims who are transported there in the immediate aftermath of the occurrence. In the face of massive increases in demand and the damage sustained, medical supplies (including pharmaceuticals) and equipment will likely be in short supply. Most health care facilities maintain stock to only meet their short term (24 to 36 hour) normal patient load needs. Disruptions in local communications and transportation systems could prevent timely resupply.
- III. Uninjured persons who require daily medications such as insulin, anti-hypersensitive drugs, and digitalis may have difficulty in obtaining these medications because damage or destruction of normal supply locations and general shortages within the disaster area.
- IV. Although other disasters such as fires and floods do not generate the casualty volume of a major earthquake, there will be noticeable emphasis on relocation, shelters, vector control, and returning water, wastewater, and solid waste facilities to operation.

- V. An emergency resulting from an explosion, toxic gas, or radiation release could occur, that may not damage the local medical system. However, such an event could produce a large concentration of specialized injuries that would overwhelm the local jurisdictions medical system.

B. Planning Assumptions:

- I. A significant natural or technological disaster could overwhelm Spokane County's medical facilities and services requiring emergency coordination of casualties.
- II. The Spokane County Hospitals, clinics, nursing homes, pharmacies, and other medical and health care facilities may be severely structurally damaged, destroyed, or rendered unusable.
- III. A disaster could also pose certain public health threats, including problems related to food, vectors, water, wastewater, solid wastes, infectious disease transmission, and mental health effects.
- IV. Damage to chemical and industrial plants, sewer lines, and water distribution systems and secondary hazards such as fires could result in toxic environmental and public health hazards to the surviving population and response personnel. This would include exposure to hazardous chemicals, and contaminated water supplies, crops, livestock, and food products.
- V. The damage and destruction of a catastrophic natural disaster will produce urgent needs for mental health crisis counseling for disaster victims and response personnel.
- VI. Disruption of sanitation services and facilities, loss of power, and massing of people in shelters may increase the potential for disease and injury.

6. CONCEPT OF OPERATIONS:

A. General

- I. This ESF is the primary responsibility of the Medical Program Director, the Medical Examiner and the Public Health Officer.

They shall coordinate with all agencies having medical responsibilities.

B. Organization

- I. The Incident Command System will be used.

7. RESPONSIBILITIES:

A. Emergency Medical Services

- I. The primary objective of Emergency Medical Services in a disaster is to provide prompt and adequate on-scene emergency medical care to the victims. In addition, EMS shall assist in the:
 - ✓ Identification and coordination of medical resources
 - ✓ Identification of potential sites and support staff for temporary emergency
 - ✓ Emergency care shelters and congregate care facilities
 - ✓ Coordination of medical transportation resources
- II. The Spokane County EMS Multi-Casualty plans will detail operational concepts and responsibilities to ensure the Emergency Medical Services existing in the area will be capable of providing mass casualty emergency medical services during an emergency/disaster.
- III. The provision of basic and advanced life support services shall be provided per the Spokane County EMS Patient Care Procedures and Protocols. Mutual aid between and among emergency medical service providers shall be used to make maximum efficient use of existing local, regional, or interregional assets, resources and services. Response requirements may exceed the capabilities of local Emergency Medical Services System and can be augmented by services and assets provided under mutual aid, if available.
- IV. A representative of the Medical Program Director's office and the jurisdictional fire agencies will jointly perform the EOC function of coordinating the EMS resources.
- V. Transport services will respond according to their established Ambulance Services Plan. (See Attachment #4)

- VI. Hospitals will respond according to their established emergency response plans. (See attachment #4)
- B. Spokane Regional Health District (SRHD)
 - I. SRHD provides coordinated health and sanitation services within the community, including:
 - ✓ Identification of health hazards
 - ✓ Identification and control of communicable diseases
 - ✓ Vector control
 - ✓ Examination of food and water supplies for contamination
 - ✓ Ensure compliance of emergency sanitation standards for disposal of garbage, sewage, and debris
 - ✓ Assist in the assessment of environmental contamination and public health risk from hazardous materials spills
 - ✓ Mental health services, including stress management services for emergency responders
 - ✓ Keep the County Government, Emergency Management, and the public informed regarding health conditions, warnings, and advisement
 - II. A representative of the SRHD will perform the EOC function of coordinating the Public Health Resources.
 - III. The Health Officer provides oversight of sewage treatment.
 - IV. In coordinating public health services and establishing priorities, administrative details shall be accomplished by the Health Officer. Decisions involving medical and technical expertise within the agency's scope of practice shall be the responsibility of the Health Officer.
 - V. Determination of critical priorities in the public health effort will be made in consultation with the Board of Health and state and federal service agencies.
 - VI. SRHD will provide guidance and/or services related vaccinations/prophylaxis for disease prevention.
- C. Mortuary Services
 - I. The Medical Examiner has jurisdiction over bodies of deceased

(RCW 68.08.010). Procedures may vary if an incident falls under the jurisdiction of the FAA, State, or the military.

- II. A representative of the Medical Examiner's Office will perform the EOC function of coordinating the mortuary resources.
- III. Emergency Management will coordinate support to local mortuary services as needed. The funeral directors may assist in the processing of human remains at the discretion of the Medical Examiner.
- IV. If local resources for proper handling and disposition of the dead are exceeded, the State and/or Federal Government may provide supplemental assistance for identification, movement, storage, and disposition of the dead. The Medical Examiner may make a request for such assistance to Emergency Management or to the State Department of Health.

D. Emergency Vital Statistics

- I. Law enforcement agencies provide oversight for missing persons.
- II. The Medical Examiner identifies deceased persons in all of Spokane City/County.
- III. Deaths are registered at the SRHD's Vital Records Office.
- IV. The investigating entity is responsible for family and public notification of deceased persons.

E. Mental Health

- I. Spokane Mental Health will provide oversight for mental health services to the public and/or responders, in coordination with The American Red Cross.

F. Ministerial

- I. Spokane County Ministerial Group, Volunteer Organizations Active in Disasters, and The American Red Cross will work in conjunction with the Spiritual Response Team to address all ministerial duties.

8. RESOURCES REQUIREMENTS:

- A. See Comprehensive Emergency Management Plan

9. REFERENCES:

- A. Multi-Casualty Plan
- B. Hospital Emergency Response Plan
- C. Mental Health Disaster Intervention Plan
- D. Ambulance Services Plan
- E. Mortuary Services Plan

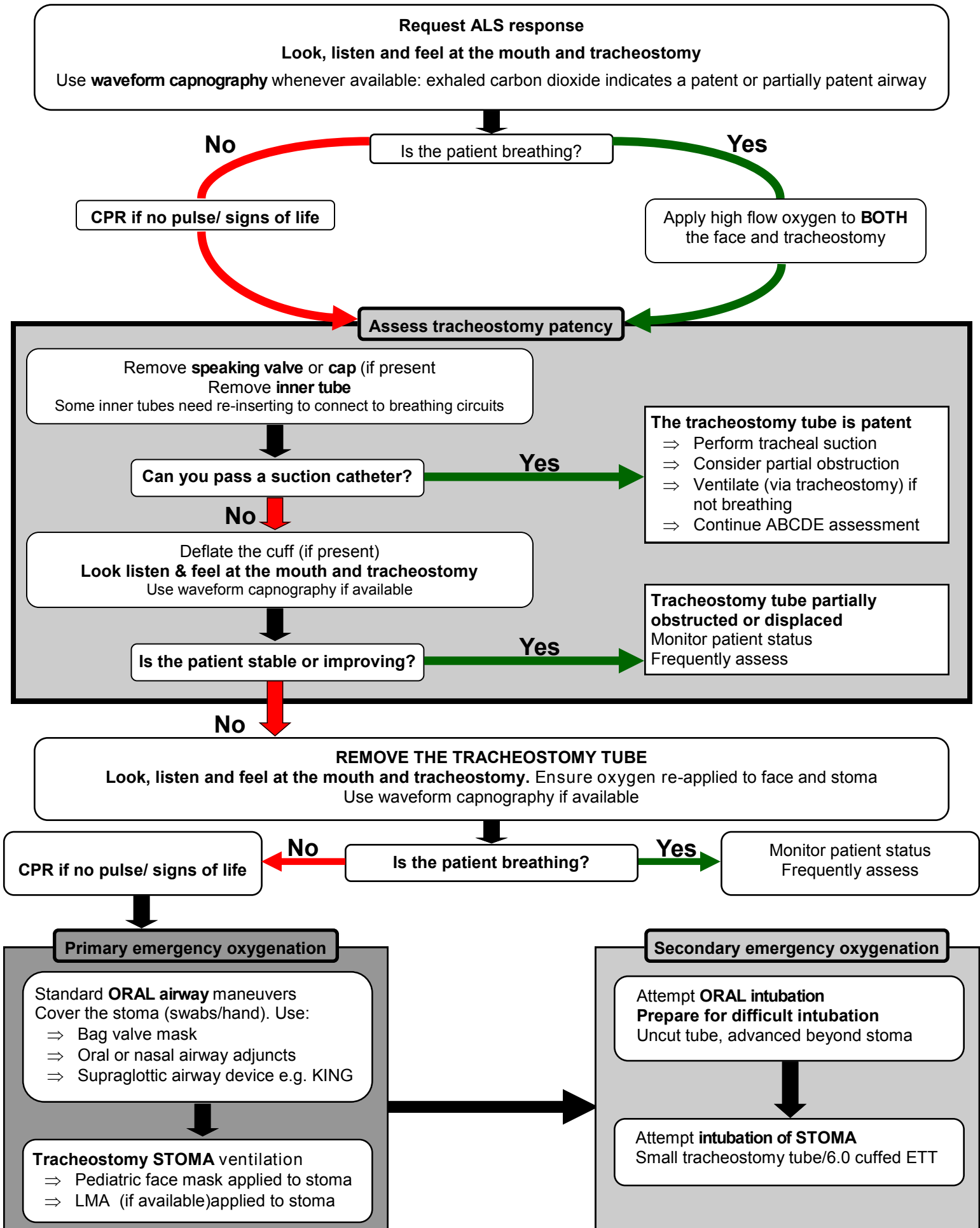
10. TERMS AND DEFINITIONS:

- A. See Comprehensive Emergency Management Plan

EMERGENCY TRACHEOSTOMY MANAGEMENT

SEE NEXT PAGE

Emergency Tracheostomy Management-Patent upper airway



HELICOPTER SAFETY REFERENCE

LANDING ZONE (LZ) SELECTION:

Figure A.3: LZ Selection

Size: ✓ Daytime: 75'x 75' minimum ✓ Nighttime: 100'x 100' minimum	LZ Surface: ✓ Relatively smooth and flat (< 7°) ✓ Clear of obstacles, trees, and loose debris
Identify obstacles, Look for: ✓ Poles ✓ Wire ✓ Obstacles that may interfere with landing	Mark the LZ: ✓ Overhead emergency light bars ✓ Flares, with caution ✓ Portable strobe lights or beacons ✓ Automobile headlights on dim, turned off when helicopter approaches LZ Mark and requested by pilot. ✓ Mark obstacles and poles with overhead wires with spotlights

COMMUNICATIONS: As ETA approaches, call Northwest MedStar on designated frequency and provide pilot with location of obstacles, direction and speed of wind and surface information.

DIRECTING HELICOPTER TO THE SCENE:

- ✓ Advise pilot when you hear and/or see aircraft
- ✓ Give pilot scene direction relative to helicopter, e.g., "We are at your (meaning the helicopter's) three o'clock position" or "We are north of your position"
- ✓ Advise pilot when the aircraft is directly overhead
- ✓ Give brief patient update to medical crew

SAFETY:

Figure A4: Helicopter Landing Do's and Don'ts

Do's	DON'TS
➔ Wear hearing protection. ➔ Keep all personnel back 200 feet from an approaching or departing aircraft. ➔ Secure loose clothing. ➔ Protect yourself and the patient from rotor wash. ➔ Be aware of the possibility of a significant wind chill factor. ➔ Assign tail rotor guards to both sides at the 3 o'clock, 9 o'clock, and within eye contact of the pilot, to keep onlookers and other personnel away from tail rotor. ➔ Assist Northwest MedStar crew with loading as directed.	⊘ Do not approach the aircraft unless directed by the MedStar crew . ⊘ Do not approach from the rear of the aircraft, near the tail rotor. Maintain visual contact with pilot, at all times. ⊘ Never approach the aircraft if the rotors are still moving. ⊘ Do not approach from the uphill side of a sloped landing zone. ⊘ Do not smoke or run within 200 feet of the aircraft. ⊘ Do not bring any vehicle within 75 feet of the aircraft. ⊘ Do not use any part of the aircraft as a handhold.

HELPFUL LINKS

[Access Washington](#)

[American Trauma Society](#)

[BLS Practical Skills Evaluation Guidelines](#)

[Centers for Disease Control and
Prevention](#)

[Emergency Preparedness and Response](#)

[Injury Prevention & Control: Data &
Statistics](#)

[Certification](#)

[Check Provider Credentials](#)

[EMT Practical Evaluation Addendum Skill
Sheets](#)

[EMT Practical Evaluation Skill Sheets](#)

[FEMA](#)

[National Program for Playground Safety](#)

[National Youth Violence Prevention
Resource Center](#)

[RAMSES:](#)

Login: RAMSES

Password: 119119

[Society of Trauma Nurses](#)

[Spokane Community College PM-EMT
Class Information](#)

[Spokane City Website](#)

[Spokane County Website](#)

[Washington State Department of
Health](#)

[Washington State DOT Highway Cameras
& Weather](#)

Washington State & County EMS

[Kitsap County EMS & TC Council](#)

[Skagit County EMS](#)

[Stevens County EMS & Trauma Care
Council](#)

[Walla Walla County EMS](#)

[Yakima County Dept. of EMS](#)

[Washington State Fire Fighters
Association](#)

INTERPRETATION OF STEP 3 OF THE STATE OF WASHINGTON PREHOSPITAL TRAUMA TRIAGE (DESTINATION) PROCEDURE



Step 3 of the **State of Washington Prehospital Trauma Triage (Destination) Procedure** requires integration of the patient's clinical condition, with the potential for significant injury, based upon how the injury was caused, as well as additional factors that increase the likelihood of injury severity. This requires the EMS provider to apply judgment integrating the patient's clinical condition with the potential for significant injury, secondary to the mechanism, the environment, and other patient conditions which increase the likelihood of trauma.

For example, being in a bicycle accident by itself does not define significant trauma. A car rollover, historically, has been a major cause of injury, but, given improvements in vehicle safety, results in major trauma less often. A very cold day does not mandate transfer of a minor injury patient to a trauma center provided the patient has not suffered major environmental exposure. Extremes of age represents a statistical increased risk that an injury may be more serious, but, by themselves, do not define significant trauma.

EMS providers in the State of Washington strongly encourage the inclusion of "gut feeling of medic" in determining which patient qualifies as a Step 3 patient. Truly, for the purpose of the prehospital triage of Step 3 patients, the "gut feeling of the medic" which is slang for well-trained EMS provider judgment, is essential to the triage of all these patients.



LEVELS OF TRAUMA, STROKE, AND CARDIAC HOSPITALS IN SPOKANE COUNTY

TRAUMA FACILITIES:

Hospital	Trauma Lv 2	Trauma Lv 3	Ped Trauma LV 2
Providence Sacred Heart Medical Center	✓		✓
Providence Holy Family Hospital		✓	
Deaconess Hospital Rockwood Health System		✓	
Valley Hospital Rockwood Health System		✓	

STROKE FACILITIES

Hospital	Stoke Lv 1	Stroke Lv 2	Stroke LV 3
Providence Sacred Heart Medical Center	✓		
Providence Holy Family Hospital		✓	
Deaconess Hospital Rockwood Health System		✓	
Valley Hospital Rockwood Health System			✓

CARDIAC FACILITIES

Hospital	Cardiac Lv 1	Cardiac Lv 2
Providence Sacred Heart Medical Center	✓	
Providence Holy Family Hospital		✓
Deaconess Hospital Rockwood Health System	✓	
Valley Hospital Rockwood Health System		✓

MPD CONTROLLED SUBSTANCE MANAGEMENT GUIDELINES

SEE NEXT PAGE

**WASHINGTON MEDICAL PROGRAM DIRECTOR
CONTROLLED SUBSTANCE MANAGEMENT GUIDELINES
September 2011**

Purpose

Washington Administrative Code (WAC) 246-976-920 (3)(c) states the Medical Program Director (MPD) must "Establish policies for storing, dispensing, and administering controlled substances. Policies must be in accordance with state and federal regulations and guidelines". This document provides Washington State MPD's with guidelines for accountability and minimum requirements for controlled substances in accordance with Federal DEA Rules. This includes security, drug inventory, and documentation of usage, replacement and return of controlled substances.

Introduction

The possession and administration of controlled substances is governed by the U.S. Department of Justice Drug Enforcement Administration. The Source of Federal Rule is the Code of Federal Regulations (Title 21 CFR, Part 1300-1399) and the Controlled Substance Act. The Washington State Board of Pharmacy adheres to DEA guidelines.

The CFR and Federal Register can be found at:

www.gpoaccess.gov/cfr/index.html

The Practitioner's manual may be found at: www.DEAdiversion.usdoj.gov.

All practitioners that manufacture, distribute, or dispense controlled substances are required to register with the DEA. The requirement of registration is waived for any agent or employee of a person who is registered to engage in any group of independent activities. (Title 21.0 CFR 1301.22) The MPD must have a DEA registration if the MPD uses a system where the MPD is the sole physician authorizing the purchase and storage of controlled medications. The MPD must have a separate registration for each site that controlled substances are distributed. All EMS agencies and providers working under that MPD's protocols are considered to be agents of the MPD or Physician advisor, and therefore need not register.

The MPD may delegate the responsibility for purchase and storage of controlled medications to an MPD delegate Supervising Physician. Agency's that have a supervising physician willing to register with the DEA and order the controlled substances for the agency may do so. In this instance, the supervising physician must have a separate registration for each site the agency distributes controlled substances. The supervising physician must be a delegate of the MPD. Medications ordered by the supervising physician must comply with the county MPD's protocol formulary. The supervising physician shall provide the agency with a controlled substance policy that meets or exceeds the standards of the county MPD's controlled substance policy. The DEA holds that the ordering physician (supervising physician, in this case) is responsible for the controlled medications.

Inventory

There are several approaches to stocking and re-stocking controlled substances for use by EMS. Regardless of the method, there must always be an inventory of the controlled substances. This inventory is the direct responsibility of the registered ordering physician (MPD, supervising delegate physician). Schedule II medications must be ordered on the DEA form 222. Inventory of schedule II medications must be kept separate from schedule III-V inventory. Prescription forms may not be used to order schedule medications for use or stock by EMS agencies. Prescription forms are to be used for end patient use only. There are several methods an MPD may use to order controlled medications for EMS use. They include:

- The MPD may create a business relationship with a specific hospital or local pharmacy. This is done by providing your DEA registration number and contact information.
- For schedule II medications, the MPD must provide the hospital or pharmacy a properly filled out DEA form 222 for each purchase. It is imperative that the MPD maintain a complete record of all controlled medication orders.
- For schedule III -V medications, the MPD or delegate may use an invoice,, call or FAX the pharmacy and place the order to be picked up by a specific agency. A copy of the controlled medication invoice needs to be kept by the MPD/delegate and the agency.

Security Requirements

It is often cited that controlled substances need to be secured with a double lock. There are no rules or regulations that require a double lock for storage of controlled substances that are used by a practitioner for treating patients in the course of usual business.

From the Practitioners Manual: Title 21 CFR Section 1301.71 (a) requires that all registrants provide effective controls and procedures to guard against theft and diversion of controlled substances. The following is a list of factors used to determine the adequacy of security controls.

1. The location of the premises and the relationship such location bears on security needs.
2. The type of building and office construction.
3. The type and quantity of controlled substances stored on the premises.
4. The type of storage medium. (Safe, Vault, or Steel cabinet).
5. The control of public access to the facility.
6. The adequacy of registrant's monitoring system (alarms, detection systems).
7. The availability of local police protection.

Practitioners are required to store stocks of Schedule II through V controlled substances in a securely locked, substantially constructed cabinet. Each EMS Agency must determine what

level of security is necessary. A reasonable minimum is to keep them secured (locked cabinet) within a vehicle that is also secured or under appropriate surveillance. Although not required at this time; Many agencies are switching to security systems that use individual access codes..

Use of Controlled Medications

- a. After use of class II-V controlled substances the following shall be documented:
 - i) Medication administered;
 - ii) Amount administered;
 - iii) Amount wasted;
 - iv) Patient name and address (MIR# with patient # may be used);
 - v) Date administered;
 - vi) Initials of person(s) administering medication;
 - vii) Attending physician (E.D. physician who receives the patient at time of transport).
- b. Any amount of a controlled substance that is wasted must be witnessed by at least two people and recorded.
- c. After use, the entire stock of controlled substance *that was accessed* shall be counted by two personnel and counts documented.

Record Keeping

Records for Schedule II controlled Substances must be maintained separately. Records for Schedule III-V medication records may be maintained in a single document/log, and they must be readily retrievable from all ordinary records.

A perpetual /daily/shift audit of all controlled medications must be completed. The daily/shift audit must be kept for a period of two years. These inventories must remain onsite and be readily retrievable. Daily/shift inventories are used to monitor schedule II-V controlled medication. Daily inventory of schedule II medications must be done on a separate audit form (for example: Fentanyl, Morphine, both schedule II, on one inventory sheet). Valium, ativan, medazolam, all Schedule III-V substances can be recorded on one inventory sheet. The log/inventory sheet will document the following:

- Date;
- Inventory type: Shift, open/close of business, Bi annual,
- Name of medication;
- Amount on hand;
- How supplied (vial, tubex, ampoule);
- Patient name (if MIR used, Patient #);
- Attending physician (E.D. physician who receives the patient at time of transport);
- Amount used;

- Amount wasted;
- Initials of person administering controlled substance (O.K. to use daily shift initial space);
- Initials of person witnessing usage or wastage;
- Initials of oncoming and off going shift personnel.

The administration of all controlled substances must be documented. Documentation includes:

- Patient name and address (MIR # and Patient # may be used);
- Date of administration;
- Name of controlled substance;
- Amount administered;
- Amount wasted, if any;
- Attending physician name (E.D. Physician who receives the patient at time of transport); and
- Initials of the person administering the controlled substance;
- Witness initials. Usually 2nd crew member.

In addition to daily inventory A formal complete inventory of controlled substances on hand must be done at least once every 2 years. A complete and accurate written, typewritten, or printed record must document controlled substances on hand. Per DEA regulations this audit must be kept for two (2) years. The audit should specify that it is the Bi-annual audit, date, and audit results. Please note that this audit is separate from the daily audit. A copy of this audit should be in a secure area, available for examination at any time.

Accountability

- a) At the start of every shift, all controlled substances shall be examined for evidence of tampering, expiration dates, and count.
 - i) Counts shall be reconciled against the last count.
 - ii) Any discrepancy or evidence of tampering shall be immediately reported according to agency/MPD protocol.
 - iii) Theft, loss, or apparent tampering of controlled substance needs to be reported to the DEA within 1 business day. This may be done by FAX or email. Once the DEA has been notified DEA Form 106, "Report of theft or loss", needs to be completed. The DEA allows the agency 30 days to send the form 106 Medication that appears to have been tampered with must be secured for DEA investigation. Report loss, theft or tampering to the Seattle DEA office:

DEA Office of Diversions Control
400 S 2nd Avenue West
Seattle, WA 98119

Replacement

Controlled substances should be replaced according to agency policy and County MPD Protocol. It is recommended that agencies, in collaboration with the MPD/Supervising Physician, establish minimum and maximum inventory levels. This will help avoid unplanned shortages and excessive inventory that may expire before use.

Out of Service

Units that are taken out of service must have their controlled substances secured and accounted for according to agency/MPD policy.

Storage

- a) Only Controlled substances shall be stored in the Controlled substance cabinet.
- b) Controlled substances must be stored in a secure fashion appropriate to location.
- c) Controlled substances shall be stored with the ability to examine for tampering, expiration dates, and counts.
- d) Storage and handling of pharmaceuticals in ambulances and aid vehicles must be in compliance with the manufacturers' recommendations per WAC 246-976-300.

Access

- a) Access to controlled substances shall be limited to EMS personnel who are authorized to utilize the medications in the course of usual patient care. Access is also granted to those responsible for inventory.
- b) All access shall occur in the presence of two personnel.

Documentation

- a) Every use of controlled substance shall be documented in the patient care record as well as the controlled substance log.
- b) Every access to the controlled substances, whether for shift change count and examination or during restocking shall be documented with a beginning and ending count.
- c) All documentation shall have two signatures (May use initials).
- d) All documents shall be securely stored for a minimum of two years.

Storage

- a) Replacement inventory must be stored in a locked cabinet in an environment that is consistent with manufacturer's recommendations for storage.
- b) Access shall be limited to authorized personnel.
- c) There must always be two personnel present when accessing controlled medications.

Facility Replacement

- a) After receiving replacement inventory, the following shall be verified by two people:
 - i. Medication;
 - ii. Amount received;
 - iii. Date received;
 - iv. Current count;
 - v. Inspection of entire inventory for tampering and expiration dated.
- b) If the replacement inventory was damaged or appears to be tampered with during shipment an agency supervisor shall be notified immediately and proper DEA notification shall be made.

Disposal of Waste and Out-Dated Controlled Substances

- a. Vials, ampoules, injections intended for single patient use that have been opened or partially used may be wasted. Use and Wastage of controlled medications must be documented on the patient care report and the controlled substance log.
- b. Outdated or unusable schedule II-V medications must be disposed of by transferring them to a registrant who is authorized to receive such materials. These registrants are referred to as "Reverse Distributors." See appendix A-3 for a complete list of Reverse Distributors. Schedule II controlled substances should be transferred via the DEA form 222. Schedule III-V compounds may be transferred via invoice. The MPD or supervising physician should maintain copies of the records documenting the transfer and disposal of controlled substances for two years. This requirement does not include those medications that were wasted after a single patient use. Agent or agency records must be kept for two years. Patient care records and agency controlled medications logs document proof of use or disposal.

Federal Requirements For Dispensing Physicians

This document serves as an informational reminder of the recordkeeping and security requirements for physicians that dispense/administer controlled substances. The proper handling of controlled drugs is a major responsibility that should not be taken lightly.

Each DEA registrant type (manufacturer, distributor, pharmacy, physician, etc.) is required to comply with specific recordkeeping requirements. These records provide DEA Investigators with the ability to conduct audits of certain controlled substances. The Code of Federal Regulation (CFR) citations are provided -- and can be read in their entirety on our website (www.deadiversion.usdoj.gov)

Registration Requirements

Every person who manufactures, distributes, dispenses, imports, or exports any controlled substance -- shall obtain a DEA Registration. CFR 1301.11(a)

A separate registration is required to each principal place of business where controlled substances are distributed and/or dispensed by a person. CFR 1301.12(a)

Dispensing Physician

Recordkeeping

All required records must be maintained for at least 2 years -- for inspection and copying by DEA. CFR 1304.04(a)

Inventory Requirements

Inventories are records of all controlled substances on hand on a certain date. Inventories must be kept at registered location, indicate close or beginning of business (COB/BOB), and contain: CFR 1304.11(a)

- The name of the substance
- The finished form of the substance (10mg tab)
- The # of units in each container (100 tab bottle)
- The # of containers (Four 100-tab bottles)

Initial Inventory -- Taken when you first engage in dispensing. CFR 1304.11(b)

Biennial Inventory -- Taken at least once every two years. CFR 1304.11(c)

Acquisition Records

Must keep a complete and accurate record of controlled substances received.
CFR 1304.21(a)

Must record the date of receipt on the invoice. CFR 1304.21(d)

CII acquisition records must be on DEA Forms-222. CFR 1305.03

CIII-V acquisition records (invoices) must contain: CFR 1304.22(b)

- Name, address, and DEA # of purchaser
- Date, name of drug, strength, and quantity

A prescription may not be issued to obtain office stock. CFR 1306.04(b)

Dispensing Records

General dispensing records must be maintained in a log (kept at registered location) which contains: CFR 1304.22(c)

- The Name of the Substance
- Each Finished Form (10mg tab) & The Number of Units
- Name & Address of the Person to whom it was Dispensed
- Date of Dispensing
- Number of Units Dispensed
- Written or Typewritten Name or Initials of the Dispenser

Theft or Loss – DEA must be notified (in writing) within one business day of discovery. A DEA Form-106 must be completed. CFR 1301.76(b)

Returns & Drug Disposal – Must maintain records of drugs which are returned to Distributors – or sent for destruction through DEA licensed Reverse Distributors. These are distribution records (CII = DEA Form-222 / CIII-V = Invoices)

DEA Registrants are only allowed to acquire controlled substances from other DEA registered entities. **** Do not accept medication from patients ****

Security

CII-V drugs must be kept in a securely locked, substantially constructed cabinet. CFR 1301.75(b)

All registrants shall provide effective controls and procedures to guard against theft and diversion of controlled substances. CFR 1301.71(a)

DEA Registered Reverse Distributors



ARIZONA

Environmental Pharmaceuticals, LLC – (480) 659-9611

CALIFORNIA

EXP Pharmaceutical Services Corporation – (800) 350-0397 or (510) 476-0909

Far West Returns – (530) 872-1758

Veolia Es Technical Solutions, LLC – (626) 945-6003

COLORADO

Regents of University of CO – (303) 724-0982

FLORIDA

Pharma Mate, Inc., dba Returnco – (727) 861-1100

Pharmacy Returns Logistics – (386) 935-0876

PharmaLink, Inc. – (727) 669-8187

Pharmatech Services Inc – (813) 749-7113

Pro-Med Returns, Inc. – (352) 688-5530

Rx Reverse Distributors, Inc. – (772) 388-1212

SAI Transport – (863) 858-7110

GEORGIA

Burke Horton, Inc., dba The Rx Exchange – (687) 306-1866

Maximum Rx Credit, Inc. – (770) 985-2136

Strong Pharmaceutical Services – (800) 778-7664 or (770) 409-1500

ILLINOIS

Inventory Management Corp. – (630) 941-1937

Pharma Logistics, Ltd. – (888) 729-7427 or (847) 837-1224

Pharmaceutical Returns Services – (800) 215-5878 or (630) 892-8740

Progressive Returns, Inc. – (773) 622-9584

Qualanex – (847) 775-7256

INDIANA

Stericycle, Inc. – (317) 860-1200

IOWA

National Pharmaceutical Returns, Inc. – (800) 470-7725 or (515) 252-7722

KENTUCKY

Infectious Disease Control, Inc. – (502-647-8989

MICHIGAN

Drug and Laboratory Disposal, Inc. – (800) 685-9824 or (269) 685-9824

EQ Detroit Inc. – (313) 347-1350

U S Industrial Technologies Inc. – (734) 462-4100

MINNESOTA

EZ Pharmacy Returns, LLC – (800) 440-0613

DEA Registered Reverse Distributors



NEW YORK

Devos, Ltd. dba Guaranteed Returns – (800) 473-2138 or (631) 689-0191
OMEGA 2000, Inc. – (718) 665-4666
Reliable RX Returns – (631) 589-4249

NORTH CAROLINA

ALMAC Clinical Services Inc – (919) 479-8853
DCM Ventures, Ltd. dba RXNET Services – (336) 273-5112
Healthcare Waste Solutions dba BMWNC – (704) 821-4766
Medcycle – (336) 510-4970
Pharmaceutical Dimensions – (336) 664-5287
Republic Environmental Systems – (704) 391-2805

OHIO

Achieva Group Returns, Inc. – (513) 474-9900
Chemtron Corporation – (440) 933-6348
Heritage – WTI – (330) 3895-7336

OKLAHOMA

Total Returns – (580) 276-3056

PENNSYLVANIA

Chesapeake Waste Solutions, Inc. – (717) 653-8882
Johnson Matthey, Inc. – (610) 292-4300
Merck Sharp & Dohme, Corp. – (215) 652-2425

SOUTH CAROLINA

Advanced Environmental Options, Inc. – (864) 488-9111

TENNESSEE

Pharmaceutical Credit Corp. – (615) 373-4262
Reliable Pharmaceutical Returns, LLC – (615) 361-8856
Return Solutions, Inc. – (865) 675-1355

TEXAS

Med-Turn, Inc. – (817) 868-5300
Sharps Compliance Inc. – (903) 693-2525

UTAH

Clean Harbor Aragonite, LLC – (435) 884-8100
MD Returns – (801) 562-2498
National Products Sales – (801) 972-4132

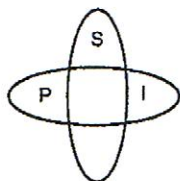
WASHINGTON

P.S. Industries, Inc. – (206) 749-0739

WISCONSIN

Capital Returns, Inc. – (800) 950-5479 or (414) 967-2800
Veolia ES Technical Solutions, LLC – (262) 255-6655
Walgreen Co dba Walgreens – (847) 315-4412

April 2011



P.S. Industries Inc.
1100 Second Avenue, Suite B1
Seattle, WA 98101
Ph (206) 749-0739, Fax (206) 783-1644
psi@laffertyrx.com

PROCEDURE

P.S. Industries Inc. procedures for the legal reporting, environmentally safe transfer and secure disposal of your controlled substances are as follows:

1. First, complete the P.S. Industries Inc. "Request for Disposal Form-41 or Form-51". You can access these forms at psireturns.com. Record the pharmacy/clinic or authorized registrant (DVM, MD, etc.) DEA number, clinic/facilities name, address, city, state and ZIP code in the spaces provided. The registrant or their authorized agent must print and sign their name, date and record their telephone number. Lot Numbers and Expiration Dates are optional but, must be recorded for those products in which you want to get financial credit back from the pharmaceutical manufacturers if available. The request for financial credit is the clinics/pharmacies responsibility.
2. Package the drugs in the smallest box that will hold the amount of inventory you have to send back. Please do not send back "patient specific" scheduled drugs. It is not permitted under federal law. Please place liquids in a plastic "zip-lock" type bag to prevent leakage. Please package Schedule II, III, IIIN, IV and V drugs together. Ship Legend and OTC products in a separate box. **DO NOT SEND THE INVENTORY AT THIS TIME.**
3. Review the completed "Request for Disposal Forms" for accuracy. Print a copy of the forms(s) and sign; enclose signed copy with the box(s) being shipped. If using the psireturns.com website, a copy will automatically be emailed to PSI. Alternately, you can Fax or Mail a copy to ***P.S. Industries Inc., 5312 17th Ave NW, Seattle, WA 98107***
4. When PSI receives and enters your Form(s) into our system, we will send you (by return mail) procedures for shipping your drugs to PSI, a DEA Form-222 if required, PSI shipping label with the "Job Number" listed and a Form-41 for your records. Be sure to carefully read the "Procedures" for shipping back the drugs; especially the instructions on completing the DEA form 222 properly if needed.
5. Attach the shipping label with Job Number listed and ship the boxed inventory to P.S. Industries at the registrant address – ***1100 Second Ave, Suite B1, Seattle, WA 98101.*** We offer two shipping options: United Parcel Service or United States Postal Service, Registered Mail, Return Receipt. Once securely destroyed, PSI will mail you a certified copy of Form-41. Keep this certified record for two years.

THANK YOU FOR YOUR BUSINESS,
Michael Lafferty R.Ph.

P.S. Industries Inc.
5312 17th Ave. NW
Seattle, WA 98107-3815
Ph (206) 749-0739
Fax (206) 783-1644
psi@jaffertyrx.com

Pricing Schedule Clinics

Destruction & Disposal of Pharmaceuticals

Legend and OTC Products (Please note, destruction of any pharmaceutical products must be documented and listed to be compliant with EPA regulations.)

From 1 through 10 Lines (minimum): \$90.00

Each additional Line (per line): \$2.00

(Please note, we can combine patient cards as one line item as long as the medications are the same in each card)

Disposal Fee:	1-10 pounds	\$30.00
	11-20 pounds	\$60.00
	Over 20 pounds	\$3.00/lb

Controlled Substances (CII – CV) (Please note, all scheduled drugs need to be listed with Name, Strength, Form, Qty and NDC number and sent to PSI **before** actual product can be picked-up or shipped to be compliant with DEA regulations.)

From 1 through 10 Lines (minimum): \$110.00

Each additional Line (per line): \$2.50

Each DEA Form 222 (10 lines): \$14.00
(Please note, rewrites of DEA Form 222 is \$28.00)

Disposal Fee:	1-10 pounds	\$30.00
	11-20 pounds	\$60.00
	Over 20 pounds	\$3.00/lb

P.S. Industries Inc.

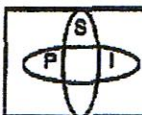
Example:

SCHEDULE II, INVENTORY

National Drug Code #	Full Pkg		Partial Pkg.			Drug Name / C.S.Content / Form
PLEASE print clearly NDC #	Qty	Pkg Size	Qty	Partial Count	Pkg Size	(Optional Product Lot # and Exp Date) Product, strength and tab/cap etc.
00024-0325-02	1	10	1	3	10	DEMEROL 50mg/ml carpject 10
00054-4650-25			1	25	100	ROXICET 5/325mg Tab, 100
00590-0135-65	1	250	1			PERCODAN 4.5/325 tab's. 10X25
00364-3024-26			1	3	5	COCAINE 10% 4ml bottles 5/bx
00024-0332-06			1	45ml	480ml	DEMEROL 50mg/5ml Sol 480ml
00364-2450-55	1	20ml	1			MORPHINE 25mg/ml vial 20ml
00364-2450-55			1	7ml	20ml	MORPHINE 25mg/ml vial 20ml
00378-9121-98	1	5	1	2	5	FENTANYL 25mcg/h Patch 5
00093-0024-01			1	8	100	OXYCODONE SR 10mg Tab 100

SCHEDULE III, IIIN, IV, V, INVENTORY

National Drug Code #	Full Pkg		Partial Pkg.			Schedule	Drug Name/CS amt./Form
PLEASE print clearly NDC #	Qty	Pkg Size	Qty	Partial Count	Pkg Size	III, III N, IV and V	(Optional Lot # and Exp Date) Drug name, stgh & tab/cap. vl
00045-0511-60			1	46	100	III	Hydrocodone/APAP 5/325mg tab 100's
00364-0795-01	1	100	1			IV	Lorazepam 2mg tab 100's
00677-0934-01	1	100	1	80	100	IIIN	Fluoxymesterone 10mg tab 100's
00074-3213-02	1	5	1			IV	Diazepam 5mg/ml VL, 5/bx
00074-3213-02			1	6ml	10ml	IV	Diazepam 5mg/ml VL, 5/bx
59079-0101-01	2	100ml	1	34ml	100ml	III	Euthasol 390mg/ml 100ml
00856-9050-93	2	5ml	1	3.6ml	5ml	III	Telazol 100mg/ml Vial 5ml
00856-9050-93			1	2.8ml	5ml	III	Telazol 100mg/ml Vial 5ml



SCHEDULE II REQUEST FOR DISPOSAL FORM

D.E.A. No. _____

Date: _____

Business Name: _____

Address: _____

City: _____ State: _____ Zip code: _____

Authorized Registrant

Telephone: () _____

Fax: () _____

Signature: _____ Date: _____

(Print Name Legibly)

DO NOT SEND INVENTORY AT THIS TIME

National Drug Code # Please print clearly NDC Number	Full Pkg		Partial Pkg			Drug Name/CS amount /Form (Optional Lot # and Expiration Date) Drug Name, Strength & tab, cap or VL, etc.
	Qty	Pkg Size	Qty	Partial Count	Pkg Size	
			1			
			1			
			1			
			1			
			1			
			1			
			1			
			1			
			1			
			1			

SEND THE COMPLETED FORM TO:
Telephone (206) 749-0739
FAX (206) 783-1644

Registrant Address:
1100 Second Ave., Suite B1
Seattle, WA 98101-3425

P.S. Industries Inc.,
1100 Second Ave. Suite B1
Seattle, WA 98101-3425
Phone (206) 749-0739, Fax (206) 783-1644

Company: _____

Address: _____

Phone #: _____

Date: _____

Legend / OTC Drug Inventory Listing

Drug Name & Strength	Quantity	Sample/Stock Package Size
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

PANDEMIC INDEX OF SEVERITY FOR TRIAGE (PIST)

Figure A.5: Pandemic Index of Severity for Triage

Points	Indications
4	Fever > 100°F (without the use of antipyretics) or > 99°F (with the use of antipyretics)
6	Respirations > 30
13	Pulse oximetry < 90 %
13	Systolic BP < 90 with associated signs of hypotension
3	Pulse > 125
7	Altered mental status
3	Age (3 points if ≤ 25)
3	Pregnancy
2	Significant comorbid illness (stroke, CHF, asthma, diabetes, COPD, suppressed immune system, kidney disease and neuromuscular disorders)
Total:	

ADMISSION TO HOSPITAL: SCORE > 12 OR

- ✓ Toxic appearance or rapid decompensation (especially important in patients < 25 and pregnant women).
- ✓ Patients whose level of disability or medical complexity (e.g., on dialysis, quadriplegia, dementia, etc.) would overwhelm the ability of assigned staff to provide basic care for other patients at Alternate Care Centers.

ADMISSION TO ALTERNATE CARE CENTER: SCORE > 12 AND

- ✓ Needs closer monitoring and nursing care (for example; IV fluids, IV antibiotics, etc.)

- ✓ Unable to care for self
- ✓ No hospital beds available.

DISCHARGE TO HOME:

- ✓ Poor prognosis and unlikely to benefit from hospitalization
- ✓ Score < 12 and able to care for self or has caregiver and able to return if symptoms worsen.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

- ✓ Respiratory masks
- ✓ Antiseptics
- ✓ Bleach for household surfaces

ISOLATION: Keep separated from other family members as much as possible, use hand washing, and dispose of tissues in plastic bags. Wear respiratory mask when outside the home. Patient should remain isolated from other persons for at least 24 hours after fever breaks. If healthcare providers should become infected, they should remain isolated from other persons for at least 7 days after the onset of symptoms. 911 EMS: the ability of EMS to deliver patients to a non-hospital will require changes in current state statutes, which may come about in the context of a declaration of emergency.

¹⁰There must be a local or state declaration of an emergency under the provisions of RCW 38.52. A local declaration must be made by the local executive and EMS providers are registered as emergency workers under state law (38.52) and under the direction of the Spokane Regional Health District Officer, a physician delegate to the Spokane County MPD.

PARAMEDIC REQUIREMENTS FOR PRACTICING IN SPOKANE COUNTY

CATEGORIES:

1. Paramedic new to our Spokane County EMS system
2. Paramedic having previously practiced in Spokane County and has been absent from our Spokane County EMS system for the past 3 years
3. Paramedic having previously practiced in Spokane County and has been absent from our EMS system more than 1 year, but < 3 years
4. Paramedic having previously practiced in Spokane County and has been absent from our system < 1 year
5. Paramedic has previously practiced in Spokane County and is now serving in an EMS administrative or non-practicing position
6. Paramedic new to Spokane County and is now serving in an EMS administrative or non-practicing position

Table A.10: Spokane County EMS Integration Activities:

1,2	Under paramedic supervision, ride for 24 hours as an observer or second paramedic with an ambulance company.
1,2	Under paramedic supervision, ride for 24 hours as an observer with a Fire Department paramedic response.
1,2	Under paramedic supervision, ride for 40 hours as a second paramedic with employing EMS agency and assuming all patient care responsibility.
3	Under paramedic supervision, ride for 24 hours as a second paramedic with employing EMS agency and assuming all patient care responsibility.
6	Under paramedic supervision, ride for 8 hours as an observer with a fire department response unit and 8 hours as an observer with an ambulance company paramedic response unit

Table A.11: Documentation/Information to be submitted

1-6	Letter from EMS Agency Physician Advisor evaluating knowledge of Spokane County EMS protocols, Patient Care Procedures, and proficiency with invasive procedures.
1,2,3	Evaluation (training checklist or letter) from ambulance company supervising paramedic.
1,2,3	Evaluation form (training checklist or letter) from Fire Department supervising paramedic.

PEDIATRICS AT A GLANCE

PEDIATRIC PATIENTS: Individuals who have not reached their 12th birthday or appear to be under 40 kg (88 lbs).

AVERAGES FOR AGE

Table A.12

	Pulse	B.P. Systolic	Respiration	Wt. kg	Wt. lb
Premature	140	50-60	>60	1-2	2.2-4.4
Newborn	110-150	60-90	30-60	3-4	6.6-8.8
1 year	100-140	75-100	25-40	10	22
2 Years	90-100	75-100	25-40	16	35
6 Years	80-100	85-100	22-30	20	44
10 Years	70-110	90-110	14-22	40	88
Adolescent	60-100	100-120	12-20	50-70	110-154

Table A.13

	E.T. Tube Sizes	E.T. Length
Premature	2.5	6+ wt.
Newborn	3	6+ wt.
6 Months	3.5	11
18 Months	4	11
3 Years	4.5	13
5 Years	5	14
6 Years	5.5	15
8 Years	6	17
12 Years	6.5	19
16 Years	7	20-24
Adult	8-9	22-24

Table A.14

Pediatric Fluid:	TKO fluid= NS
Pediatric Fluid Challenge:	20 ml/kg NS rapidly IV. May repeat initial dose x2
Pediatric Cardioversion:	0.5-1 joules/kg
Pediatric Defibrillation:	2 joules/kg, then 4 joules/kg

PIT CREW



The Pit Crew concept of resuscitation is intended to organize EMS responder's efforts most likely arriving at different times and from different agencies to rapidly and effectively prioritize and provide critical elements associated with successful resuscitation. By learning the possible roles an EMS responder may be requested to provide, the responder should be able to rapidly integrate themselves into a resuscitation.

What this Reference is **NOT**:

The Pit Crew concept is not intended to require that an EMS agency respond to every cardiac arrest with 5-6 EMS personnel.

Depending upon the design of the local EMS system and the resources available, a single individual may be the only responder initially available. However, if more resources are recruited to the scene, the understanding of these positions will help ensure their efficient integration into the resuscitation. Whether it is one, two, or more responders, the goal of this concept is to facilitate each responder's knowledge of what roles and priorities will increase the chances of a successful resuscitation.



TEAM FOCUSED CPR PROTOCOL: A COORDINATED APPROACH TO CARDIAC ARREST

- ✓ Begin continuous CPR compressions
- ✓ Push Hard (≥ 2 in.) Push Fast (> 100 -120/min)
- ✓ Change compressors every 2 minutes
- ✓ (Limit changes/pulse checks ≤ 5 seconds)

Position 1-Compressor

- ✓ Assess responsiveness
- ✓ Initiate chest compressions if needed
- ✓ Alternate compressor with position 2

Position 2-AED/Monitor

- ✓ Applies AED or Manual Defibrillator
- ✓ Operates AED/Defibrillator as appropriate
- ✓ Applies 15 L O₂ via NRB
- ✓ Alternates chest compressions with position 1

Position 3-Airway

- ✓ Assembles and applies equipment for airway and ventilations
 - OPA, BVM, KING, etc.
- ✓ Ventilate at 8-10 breaths

Position 4-Team Lead

- ✓ May function as *team leader*
- ✓ Check off sheet
- ✓ Code timer

ALS Integration

- ✓ One Paramedic
 - Communicates/interfaces with providers performing CPR
 - Establishes IV/IO
 - Administers medications as appropriate
- ✓ Two Paramedics
 - Sets up and operates manual defibrillator
 - Advanced airway, if necessary and resources allow



Position 4:

- ✓ Timer
- ✓ Check-off sheet



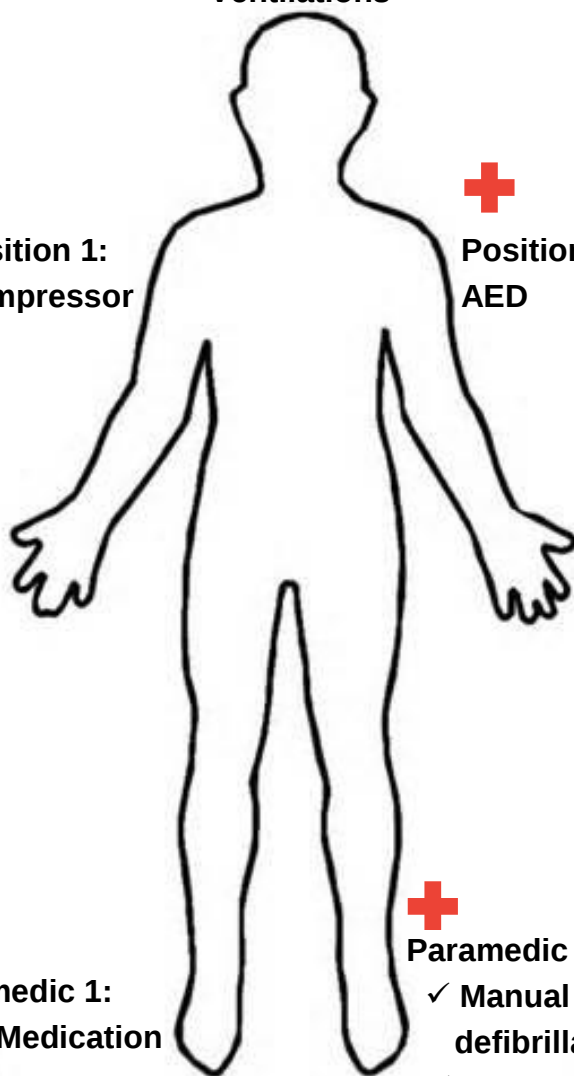
Position 3: Ventilations



Position 1: Compressor



Position 2: AED



Paramedic 1: IV/IO Medication



Paramedic 2: ✓ Manual defibrillator ✓ Assist PM 1

PRE/POST CARDIAC ARREST CHECKLIST

Pre-ROSC Cardiac Arrest Checklist

- ☐ **Immediately start compressions only CPR. Make room to work!**
- ☐ **Hook up Quick Look Patches** (see second pearl). **Place NRB or BVM as appropriate.**
- ☐ O₂ cylinder, with oxygen, is attached to airway adjunct. If BVM is used, 1 modest breath every 8 seconds without interrupting compressions (see third pearl).
- ☐ Code Team Leader is verbally identified. In charge of code; follows checklist.
- ☐ Defibrillations occurring at 2 minute intervals for shockable rhythms. Team leader gives 15 second warning to change compressors and charge defibrillator.
- ☐ One provider is dedicated to operating the AED/Monitor and administering defibrillations as appropriate.
- ☐ One provider is assigned to initiate IV/IO access and administer medications as requested by Code Leader.
- ☐ Metronome confirmed continuous compressions are ongoing at **100-120** beats/minute, if available.
- ☐ ETCO₂ waveform is present and value is being monitored. Oxygen saturation is being monitored
- ☐ Underlying causes, including H's and T's (see Pearls), have been considered and treated early in arrest.
- ☐ Family is receiving care and is proximal to patient.
- ☐ Officer or delegate begins collecting patient information.

PEARLS:

- Efforts should be directed at high quality and continuous compressions with limited interruptions and early defibrillation when indicated. Consider early IO placement, if available and difficult IV anticipated.
- If no CPR or ineffective CPR is being executed on arrival, perform 2 minutes of high quality CPR. If high quality CPR is in process on arrival and a shockable rhythm is present, begin defibrillation without delay.
- **DO NOT** hyperventilate: Ventilate 8-10/minute. Do not interrupt compressions for ventilations.
- Do not interrupt compressions to place endotracheal tube. Consider King first, to limit interruptions.
- Success is based on proper planning, execution, and a team based approach. Procedures require space and patient access.

• H's and T's:

- | | | |
|----------------------------|-----------------------------|----------------------|
| ✓ Hypovolemia | ✓ Hypo/Hyperthermia | ✓ Thrombosis (MI) |
| ✓ Hypoxia | ✓ Hypo/Hyperglycemia | ✓ Thromboembolism |
| ✓ Hydrogen ions (acidosis) | ✓ Tablets/Toxins/Tricyclics | (Pulmonary Embolism) |
| ✓ Hypo/Hyperkalemia | ✓ Tamponade | ✓ Trauma |
| | ✓ Tension pneumothorax | |

POST ROSC CARDIAC ARREST CHECKLIST

- ☐ Finger on pulse; maintain for 10 minutes. DO NOT MOVE the patient during this time. Use femoral or brachial/radial artery.
- ☐ Obtain VS and 12 lead.
- ☐ If STEMI evident. Call cardiac post arrest with STEMI” to hospital.
 - SHMC adult charge nurse **474-7145**
 - SHMC Pediatric charge nurse **474-3607**
 - Deaconess charge nurse **473-8350**
- ☐ If hypotensive, administer Normal Saline 1-2 L. If rales present, titrate Dopamine to maintain SBP ≥ 90 .
- ☐ Continuous visualization of cardiac monitor rhythm.
- ☐ Check O2 supply and pulse Ox to titrate to SaO2 94-96%.
- ☐ Assess CO2 (should be > 20 with good waveform).
- ☐ Do not try to obtain a normal ETCO2 by increasing respiratory rate.
- ☐ Assess for and treat arrhythmias.
- ☐ Evaluate for post resuscitation airway placement (e.g. ETT), if not already in place.
- ☐ If intubated or King, apply C-Collar before moving.
- ☐ When patient is moved, perform Continuous Pulse Check and continuous monitoring of cardiac rhythm (use femoral or brachial/radial artery).
- ☐ Mask is available for BVM in case advanced airway fails.
- ☐ Document patient medications on County MIR.
- ☐ Once in ambulance, confirm pulse, breath sounds, SaO2, ETCO2, and cardiac rhythm.

PEARLS:

- Recommended Exam: Mental Status, Neck, Skin, Lungs, Heart, Abdomen, Extremities, Neuro
- Continue to search for potential cause of cardiac arrest during post resuscitation care.
- Hyperventilation is a significant cause of hypotension and recurrence of cardiac arrest in the post resuscitation phase and must be avoided at all costs.
- Initial end tidal CO₂ may be elevated immediately post resuscitation but will usually normalize. While goal is 35-45 mmHG, avoid hyperventilation.
- Transport to facility capable of managing the post arrest patient, including hypothermia therapy, cardiac catheterization and intensive care service: follow the Cardiac Arrest Destination Plan.
- Most patients immediately post resuscitation will require ventilator assistance.
- The condition of post resuscitation patients fluctuates rapidly and continuously, and they require close monitoring. Appropriate post resuscitation management may require consultation with medical control.
- Common causes of post resuscitation hypotension include hyperventilation, hypovolemia, pneumothorax, and medication reaction to ALS drugs.
- If the patient re-arrests after or during completion of the "Post ROSC Cardiac Arrest Checklist" it does not obligate the EMS responders to a specific additional time frame to remain on scene rather, it should prompt a reassessment of the patient to ensure that we have done, and are continuing to do, everything that increases the chance of a successful resuscitation.
- If re-arrest occurs during ground ambulance transport the vehicle should be stopped, if safely possible, so as to allow for more effective CPR and provider/ patient safety. If the resuscitation fails and medical control concurs in the termination of resuscitation, all efforts should cease. The ambulance should continue (Code Green) to the receiving hospital for assistance with the deceased patient's remains and family notification.

RECOMMENDED GUIDELINES FOR THE SCOPE OF AED TRAINING OF SITE SPECIFIC PERSONNEL

Although high quality specific training of appropriate personnel best ensures the successful use of an automated external defibrillator, the intention of Public Access Defibrillation (PAD) is simply to make it widely available. There have been numerous examples of untrained citizens successfully operating the device that reflect the simplicity and safety of its use. Specific responsibility for the training and operation of AEDs should be established wherever resources permit. However, widespread awareness level training that briefly identifies the indications for use of the device and its location should not be impeded by the desire for a more formal system of response.

GENERAL TRAINING GUIDELINES:

1. All employees should receive awareness level training that describes the location of the AED(s), their purpose, how to initiate the delivery of the AED by trained personnel, and the importance of simultaneously contacting 911.
2. A specific employee category(s) should be trained in the operation of the AED and tasked with the delivery of the device to the patient. Personnel currently required to be certified in First Aid may well be an appropriate group to focus on for initial AED training. Whatever group is targeted for this training should be selected on factors including the following:
 - ✓ The employee category should demonstrate a willingness to undertake initial training as well as periodic refresher training regarding AED operations
 - ✓ The employee category should be onsite the greatest amount of time during hours when the need for an AED is most likely.
 - ✓ The employee category should be familiar with the physical plant and how most rapidly to access various locations.
 - ✓ The employee category should be accessible via cell phone, pager, or similar communication devices as well as have access for outgoing communications to ensure the timeliness of a 911 response.

REVISED TRAUMA SCORE (R.T.S.)

R.T.S. = Respiratory Value + Systolic Blood Pressure Value + Glasgow Coma Scale

Table A.15: Respiratory Score

Respiratory Rate	Score
10-29	4
>29	3
6-9	2
1-5	1
0	0

Table A.16: Systolic Blood Score

Systolic Blood Pressure	Score
>89	4
76-89	3
50-75	2
1-49	1
0	0

GLASGOW COMA SCALE

Table A.17: Eye Opening Score

Eye Opening	Score
Spontaneous	4
To voice	3
To pain	2
No response	1

Table A.18: Motor Response Score

Motor Response	Score
Obeys commands	6
Locates pain	5
Withdraws	4
Flexion to pain	3
Extension to pain	2
No response	1

Table A.19: Verbal Response Score

Verbal Response (under 2)	Score
Oriented	5
Confused	4
Inappropriate, persistent crying	3
Agitated, restless	2
No response	1

Table A.20: Verbal Response Under 2 Score

Verbal Response (Under 2)	Score
Oriented	5
Confused	4
Inappropriate	3
Incomprehensible	2
No response	1

STOMA/TRACHEOSTOMY MANAGEMENT-ADULT & PEDIATRIC

INTRODUCTION: The majority of patients needing either a Laryngectomy stoma or tracheostomy tube as their primary airway require constant vigilance and effort in maintaining patency. Cardio-respiratory arrest most commonly results from an obstruction within the stoma or tracheostomy. Obstructions may be due to thick secretions/mucous plug, blood clot, foreign body, or kinking or dislodgement of the tube or stoma. Early recognition and prompt application of appropriate care are required to re-establish airway patency and provide adequate oxygenation/ventilation.

WARNING SIGNS: Early warning signs of obstruction include Tachypnea, tachycardia, and desaturation. Cyanosis, bradycardia and apnea are late signs, do not wait for them to develop before intervening.

INDICATIONS: Endotracheal suctioning is necessary to remove mucous, maintain a patent airway, and avoid blockages. Indications can include:

- ✓ Audible or visual signs of secretions in or around the stoma or tube
- ✓ Signs of respiratory distress
- ✓ Suspicion of blocked or partially blocked stoma or tube
- ✓ Weak or ineffective cough
- ✓ Increases in required ventilation pressures (in ventilated patients)
- ✓ Request by patient for suction

COMPLICATIONS: Complications resulting from prehospital treatment can include:

- | | |
|----------------------|---|
| ✓ Airway obstruction | ✓ Subcutaneous and mediastinal emphysema |
| ✓ Aspiration | ✓ Respiratory and cardiovascular collapse |
| ✓ Blocked tube | ✓ Dislodged tube |
| ✓ Bleeding | ✓ Tracheo-esophageal fistula |
| ✓ Tracheal trauma | ✓ Infection |
| ✓ Pneumothorax | |

CONSIDERATIONS:

- ✓ Tracheal suctioning should be carried out regularly for patients with a stoma/tracheostomy. The frequency will vary between patients and is based on individual assessment.
- ✓ Tracheal damage may be caused by suctioning. This can be minimized by using the correct appropriate sized suction catheter and only suctioning within the tracheostomy tube.

TRACHEOSTOMY TUBE SIZE (MM)	RECOMMENDED SUCTION CATHETER SIZE (Fr)
3 mm	6
3.5 mm	8
4 mm	8
4.5 mm	10
5 mm	10
6 mm	10-12
7 mm	14
7.5 mm	14-16
8 mm	14-16
9-10 mm	16

- ✓ The pressure setting for tracheal suctioning (suction machine pressure for small children 50-100 mmHg, for older children and adults, 100-200 mmHg) to avoid tracheal damage.

PROCEDURE

1. Explain the procedure to the patient.
2. Maintain appropriate PPE throughout procedure
3. Slightly elevate the patient's head and shoulders.
4. Assemble needed equipment and power on suction device.
5. Instill only a small volume of sterile normal saline into the tracheostomy tube if needed for thick or dry secretions. Excessive use of saline is not recommended.

6. Only use saline if the mucous is very thick, hard to cough up, or difficult to suction. Use 1-2 ml for each instillation.
7. Using aseptic technique, carefully insert catheter into the tracheal tube or stoma. Do not apply suction, while gently advancing until resistance is felt. This will usually be 4 to 5 inches for an adult. Withdraw the catheter about 2 cm before starting suction.
8. Place thumb over opening in catheter to create suction and use a circular motion (twirl catheter between thumb and index finger) while withdrawing the catheter to allow mucous to be removed from all areas. **Avoid suctioning longer than 10 seconds.** Suction normal saline from a container if needed to clear catheter.
9. Allow the patient to rest and breathe, then repeat suction, if needed, until clear. Allowing 30 seconds between suction attempts. After 3 suction attempts, the patient should be allowed to rest for 5-10 minutes before resuming suctioning.
10. Oxygenate and ventilate as needed. If equipment is available, monitor patient's SPO₂, ETCO₂, and cardiac rhythm before, during, and after the procedure.

SKIN CARE: It is important to routinely clean the skin around the opening of the tracheostomy (stoma) following suctioning. This will help prevent skin irritation and the buildup of secretions. Gently remove any secretions surrounding the stoma using cotton-tipped applicators, damp washcloth, or moistened paper towels. Avoid using facial tissue or any material that has been cut, which can create particles that can irritate the airway. Cover the stoma with a dry 4x4 gauze dressing, folded, if necessary.

TIE CHANGES: If used, tracheostomy tubes are secured using either twill or Velcro® type ties. Have two persons available due to risk of tracheostomy tube dislodgment when attending to tie changes.

TWILL TIES PROCEDURE:

1. Leave the old ties in place. Pull on the end of the twill tie through either neck flange hole. Adjust the ends of the tie until one is 3 to 4 inches longer than the other side.

2. Bring both ends of the tie around the neck and insert the longer end of the tie through the other neck flange hole.
3. Pull the tie snug. Place one finger between the tie and the neck. Tie the two ends together using a square knot. Do not use a bow.
4. Cut the ends of the ties leaving only 1 to 2 inches.
5. Carefully cut and remove soiled ties.

VELCRO® TIES

1. Follow manufacturer's directions for measuring and applying the tie.
2. Use fingers to hold both sides of the neck plate of the tracheostomy tube in place. Release 1 side of the Velcro® fastener.
3. Insert and secure the Velcro® strip in the same neck plate hole.
4. With fingers still holding both sides of the neck plate, remove the old Velcro® tie from the other side.
5. Insert and secure the clean Velcro® strip into the neck plate. Remove the old Velcro® tie from the other side.
6. Adjust the clean ties to fit your neck. You should be able to fit 1 to 2 fingers between the tie and neck.

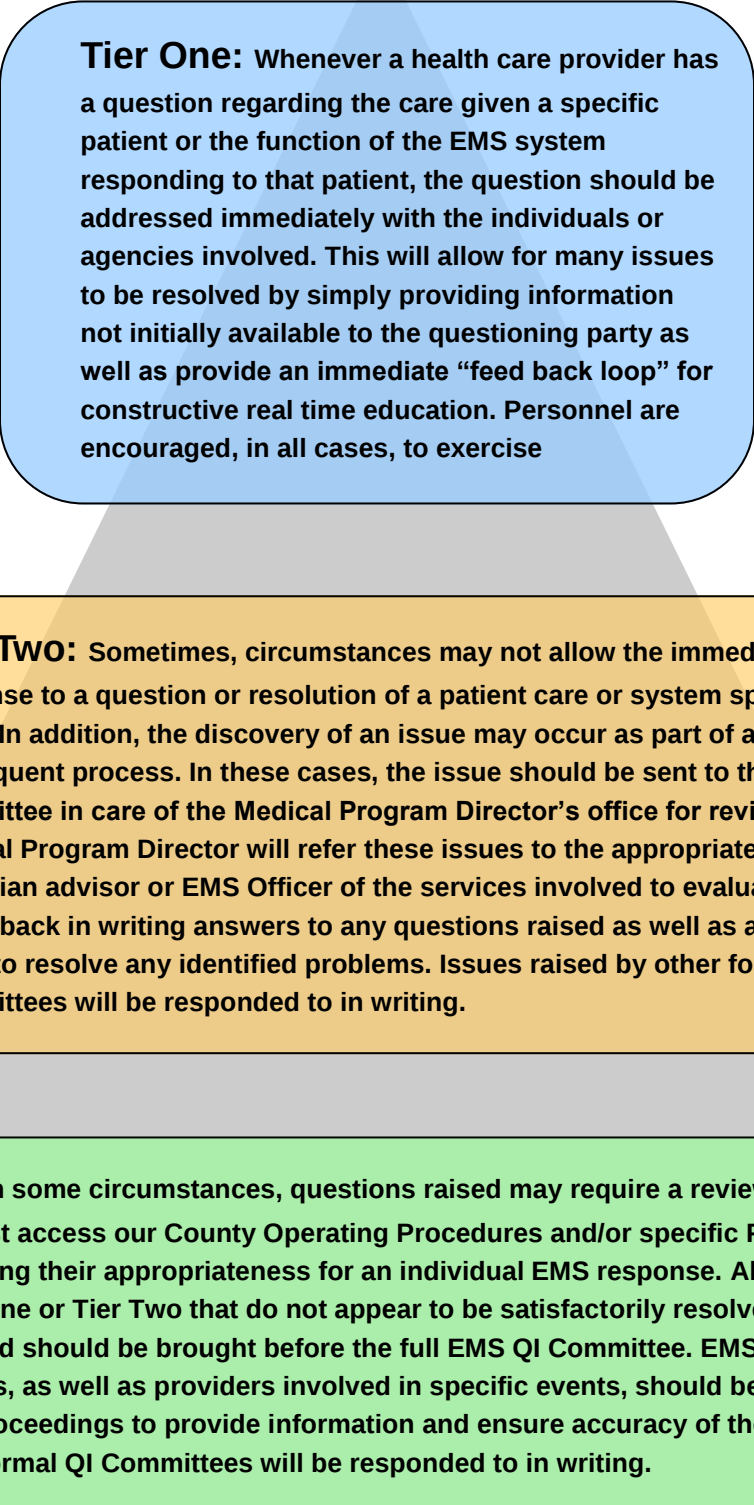
TIERED RESPONSE TO EMS PATIENT CARE CONCERNS AND SYSTEM ISSUES



In order to more rapidly address patient care concerns and/or EMS operating procedures, it is recommended that a tiered approach be used (**see figure A.6 on next page**). This will allow for a more immediate resolution of minor issues as well as a progressive and thorough evaluation of potentially greater issues regarding individual patient care events and/or EMS system performance.



Fig. A.6: Tiered Response



Tier One: Whenever a health care provider has a question regarding the care given a specific patient or the function of the EMS system responding to that patient, the question should be addressed immediately with the individuals or agencies involved. This will allow for many issues to be resolved by simply providing information not initially available to the questioning party as well as provide an immediate “feed back loop” for constructive real time education. Personnel are encouraged, in all cases, to exercise

Tier Two: Sometimes, circumstances may not allow the immediate response to a question or resolution of a patient care or system specific issue. In addition, the discovery of an issue may occur as part of a subsequent process. In these cases, the issue should be sent to the QI Committee in care of the Medical Program Director’s office for review. The Medical Program Director will refer these issues to the appropriate physician advisor or EMS Officer of the services involved to evaluate and report back in writing answers to any questions raised as well as actions taken to resolve any identified problems. Issues raised by other formal QI Committees will be responded to in writing.

Tier Three: In some circumstances, questions raised may require a review by the full EMS QI Committee to best access our County Operating Procedures and/or specific Patient Care Protocols regarding their appropriateness for an individual EMS response. Also, issues dealt with within Tier One or Tier Two that do not appear to be satisfactorily resolved and issues that may have recurred should be brought before the full EMS QI Committee. EMS Officers of the involved agencies, as well as providers involved in specific events, should be invited to attend the committee proceedings to provide information and ensure accuracy of the facts. Issues raised by other formal QI Committees will be responded to in writing.

WASHINGTON STATE DEPARTMENT OF HEALTH EMS AND TRAUMA CONTACT INFORMATION

OFFICE OF COMMUNITY HEALTH SYSTEMS LEADERSHIP

Office Director	Janet Kastl	360-236-2801
EMS Section Manager	Dolly Fernandes	360-236-2858
Research and Data Analysis Section Manager	Kathy Schmitt	360-236-2869
Rural Health Systems Section Manager	Kris Sparks	360-236-2805
EMS Section Supervisor	Mike Lopez	360-236-2841

EMS PREHOSPITAL EDUCATION ASSISTANCE

Training Program Approval and Technical Assistance	Dane Kessler	360-236-2842
EMS Training Course Applications	Debra Galvan	360-236-2838
EMS Training Course Technical Assistance	Dane Kessler	360-236-2842
National Registry of EMT (NREMT) Technical Assistance	Mike Lopez Dane Kessler	360-236-2841 360-236-2842
Senior EMS Instructor (SEI) Approval, Reapproval, Assistance	Debra Galvan Dane Kessler	360-236-2838 360-236-2842
OTEP Program Technical Assistance	Dane Kessler Mike Routley	360-236-2842 360-236-2851

PREHOSPITAL MEDICAL DIRECTION & CLINICAL CARE

Medical Program Director (MPD) Technical Assistance	Mike Lopez	360-236-2841
MPD Protocol Guidance	Mike Lopez	360-236-2841
MPD Protocol Review and Approval	Mike Lopez Mike Routley	360-236-2841 360-236-2851
BLS Protocol Development and Revision	Mike Lopez Mike Routley	360-236-2841 360-236-2851

PREHOSPITAL EMS AGENCY TECHNICAL ASSISTANCE

Technical Assistance with Agency Licensure	Mike Routley	360-236-2851
Technical Assistance with Licensure Requirements	Mike Routley	360-236-2851
Alternate, if Mike Routley Unavailable	Mike Lopez	360-236-2841 360-236-2851
Prehospital Trauma Participation Grant Assistance	Eric Dean	360-236-2844

REGIONAL EMS & TRAUMA COUNCIL TECHNICAL ASSISTANCE

Rural Health Section Manager	Kris Sparks	360-236-2805
East, South Central, Southwest, West Regions	Norm Fjosee	360-236-2875
North, Northwest, Central, North Central Regions	Scott Hogan	253-395-6799

PREHOSPITAL EMS LICENSING & CERTIFICATION ASSISTANCE (HSQA OFFICE OF CUSTOMER SERVICE)

The Office of Customer Service manages the intake and processing of personnel certification, recertification, reciprocity, reissuance and personal status change applications.

They also manage the intake and processing of EMS agency licensing, relicensure, and trauma verification applications.

Credentialing Manager	Diane Young	360-236-4666
Licensing & Certification Supervisor	Jennifer Herbrand	360-236-2841
Licensing & Certification Lead	Andie Wagner	360-236-4964
Certification Application Processing & Assistance	Danielle Dooley	360-236-4669
Recertification Application Processing & Assistance	Kay Normand	360-236-4935
Online Recertification Technical Assistance	Kay Normand	360-236-4935
Reciprocity Application Processing & Assistance	Danielle Dooley	360-236-4669
EMS Agency Licensure Processing & Assistance	Danielle Dooley	360-236-4669
EMS Service Vehicle Licensure Processing & Assistance	Danielle Dooley	360-236-4669
Agency Change Application Processing & Assistance	Kay Normand	360-236-4935

DESIGNATION OF TRAUMA SERVICES

Designation of Trauma Services	Mary Rotert	360-236-2874
Designation Application Technical Assistance	Mary Rotert Mike Lopez	360-236-2874 360-236-2841
Trauma Clinical Care Guidelines	Mary Rotert Mike Lopez	360-236-2874 360-236-2841
Trauma Designation Policy Questions	Mary Rotert Mike Lopez	360-236-2874 360-236-2841
Designated Trauma Service Quality Improvement		
Technical Assistance	Mary Rotert	360-236-2874
Trauma Fund Technical Assistance	Eric Dean	360-236-2844

EMS & TRAUMA STAKEHOLDER COMMITTEES

Staff Support to the EMS and Trauma Steering Committee	Dolly Fernandes	360-236-2858
Staff Support to Prehospital Technical Advisory Committee	Mike Lopez	360-236-2841
MPD Workgroup	Mike Lopez	360-236-2841
EMS Education Workgroup	Dane Kessler	360-236-2842
Air Medical Workgroup	Mike Routley	360-236-2851
Clinical Standards Workgroup	Mike Lopez	360-236-2841
Staff Support to Hospital Technical Advisory Committee	Mary Rotert Mike Lopez	360-236-2874 360-236-2841
Staff Support to Trauma Medical Directors Committee	Mary Rotert Mike Lopez	360-236-2874 360-236-2841
Staff Support to Cost Technical Advisory Committee	Eric Dean	360-236-2844
Staff Support to Outcomes Technical Advisory Committee	Kathy Schmitt	360-236-2869

APPENDIX D: REFERENCE FORMS

ABANDONED BABIES ACT

THE LEGAL PROCESS: A baby who is transferred to a hospital employee or to a fire station worker will be placed in the legal custody of the Department of Social and Health Services (DSHS).

LEGAL RIGHTS OF PARENTS: A parent who transfers custody of a newborn baby to qualified personnel at a hospital or fire station does not abandon the baby and does not commit any crime.

Once the baby is transferred, DSHS starts a lawsuit (called a “dependency action”) in juvenile court. A juvenile court judge will decide that the baby has no parent who can care for him/her. The judge will give custody of the baby to DSHS so that the baby can be placed in a foster home and so that DSHS has legal authority to make decisions about the baby’s health, safety and welfare. Most often the baby will be placed with foster parents who want to adopt a child.

The parent of a child who is in the custody of DSHS has legal rights. You continue to have these rights, if you take advantage of them, even though you have transferred custody of your baby, until the juvenile court makes a permanent decision about the child’s welfare. If you decide you want to take advantage of these rights you should contact DSHS as soon as possible so that you can begin to participate in the juvenile court case involving your baby. If you do participate in the legal action, your rights would include the following:

- ✓ **The right to a hearing within 72 hours** (excluding Saturdays, Sundays and holidays) from the time your child is taken into custody.
- ✓ **The right to an attorney** to represent you throughout the juvenile court proceeding. If you cannot afford an attorney, the court will appoint one to represent you at no expense to you.
- ✓ **The right to request a case conference** to decide what services you and your child should receive.
- ✓ **The right to be offered or provided all necessary services** that are reasonably available, to assist you in correcting any parenting deficiencies so that your child can be returned to you in the near future.

- ✓ **The right, in some cases, to make an adoption plan for the child,**
subject to court approval, including selecting the adoptive parents.

LEGAL PROCESS FOR THE CHILD: The child will have his or her basic needs met by DSHS and the foster parents.

In placing the child, DSHS must place the child with a relative, if a relative is known, available, and qualified. If a relative is not known or is not available, the child will be placed in a foster home.

Please be aware that under Washington law, DSHS must try to locate the child's parents. This is necessary to provide notice to the child's parents regarding the legal proceedings. It does not mean that the hospital or fire department will not protect the anonymity of a parent leaving a newborn. These attempts would take place after CPS has received the child from the hospital or fire department. If the identity of the child's parents is not known, then DSHS will publish a notice in a newspaper in the county where the child is transferred letting the parents know about the juvenile court lawsuit and the date and time of any court hearing. If the parents do not go to the hearing, then the parents' rights to the child may be terminated. *(This means the child and the parent are no longer legally related and you will no longer have any rights to be involved in the child's case or in the child's life.)* The child would then be placed for adoption.

POLICY: This station, in conjunction with the State of Washington, recognizes that prenatal and post-delivery health care for newborns and their mothers is especially critical to their survival and well-being. Therefore, Emergency Medical Services (EMS), i.e., fire stations, are designated as an "appropriate location" under Washington law for a parent to transfer her newborn in lieu of leaving the newborn in an unsafe place. The parent who transfers the newborn *(less than 72 hours old and not appearing to have been intentionally harmed, see below)* to a qualified person at a fire station is not subject to criminal liability. The qualified person who receives the newborn shall attempt to protect the anonymity of the parent who transfers the newborn, while providing the parent an opportunity to render family medical history of parents and newborn. The qualified person shall provide referral information about adoption options, counseling, medical and emotional aftercare services, domestic violence, and legal rights to the parent seeking to transfer the newborn. The fire station, its employees, volunteers, and medical staff are

immune from any criminal or civil liability for accepting or receiving a newborn under these conditions. (*See References below*).

Nothing in this policy is to be construed as inconsistent with our department's overall policies to provide needed care for an infant, child, or other patient of any age. The fire department's primary concern is the safety of any infant, child or adult patient.

PURPOSE: To ensure the safety of newborn children left by a parent with a qualified person at a fire station, pursuant to the Newborn Safety Act (the Act), RCW 13.34.360.

REFERENCES:

1. Under the Act, a parent of a newborn who transfers the newborn to a qualified person at an appropriate location is not subject to criminal liability for abandonment or similar crimes.
2. Related fire department policies/administrative guidelines:
 - ✓ Reporting to Protective Services
 - ✓ Confidentiality and Privacy
 - ✓ Media Relations
 - ✓ Safety/Security

DEFINITIONS:

Appropriate Location:

- ✓ The emergency department of a hospital licensed by the state of Washington, during the hours of operation
- ✓ A fire station during its hours of operation and while fire personnel are present.

Newborn: A live human being less than 72 hours old.

Qualified Person: Any person that the parent transferring the newborn reasonably believes is a bona fide employee, volunteer, or medical staff member of the fire department and who represents, to the parent, that he or she can and will summon appropriate resources to meet the newborn's immediate needs. This could be any fire department employee.

Dear Birth Parent(s):

Thank you for bringing your baby to a safe place. You have taken the first step in making sure that your child will be well taken care of. We know that this has been a difficult decision for you, and we will do what we can to give your child the best possible care.

This packet has information to help you find care for yourself and to learn what your choices are right now. The baby will be at the hospital for at least one day. Child Protective Services will find a foster care home. More information about the foster care and adoption process is included in this packet, along with phone numbers for the hospitals and Child Protective Services.

Please look at the information about what to expect after having a baby. If you are unable to visit your own medical provider, come to the hospital or seek medical care through one of the resources listed in this packet. Tell the medical provider that you transferred your baby under the “Safety of Newborn Children” law and they will not report you to law enforcement.

Please help us by providing some health information. This information is important for your child’s care now and in the future. This information will be used only for this purpose. It will not be used to identify you or find you. Only answer questions you feel comfortable answering.

Mail the forms in the addressed/stamped envelope provided in this packet. If you want to send additional information in the future, every effort will be made to get the information into the child’s record. Information should be sent to:

Adoptions Program Manager
Children’s Administration
Department of Social and Health Services
PO Box 45710
Olympia, WA 98504-5710

Thank you for coming to a safe place with your baby.

MEDICAL AND SOCIAL HISTORY FORM

This form is intended to provide you an opportunity to anonymously provide information about your newborn and his/her family medical history. This information can be very helpful for your child's future medical care.

TRANSFER INFORMATION				
<i>Date Newborn Transferred:</i>		<i>Hospital / Fire Station:</i>		<i>ID Band Number:</i>
DELIVERY INFORMATION				
Date and time of birth	Date:		Time:	
Place of birth	☐ Hospital	☐ Home	Other:	
Delivered by (If not hospital delivery)	☐ Midwife	☐ Mother	☐ Father/family/friend	
Position at birth	☐ Head first	☐ Bottom first	Other:	
Cried at birth	☐ Right away	☐ Delayed, but soon	Other:	
Baby moving arms/legs at birth?	☐ Yes		☐ No	
Baby's coloring at birth	☐ Pink around mouth and pink hands and feet	☐ Pink around mouth, bluish hands and feet	☐ Bluish around mouth	☐ Other:
Placenta (afterbirth) delivered within 10-15 minutes after baby?	☐ Yes ☐ No			
LABOR INFORMATION				
Date/time mother's water broke	Date:		Time:	
What color was the fluid?	☐ Clear	☐ Greenish or brownish	☐ Other	
Any odor to the fluid?	☐ Yes (describe)		☐ No	
Date/time contractions (labor pains) started	Date:		Time:	
PREGNANCY INFORMATION				
How far along was the pregnancy?	In Months			
Mother's age	☐ Under 17 years old ☐ 17-35 years old ☐ Over 35 years old			
Prenatal care?	☐ Yes		☐ No	
Other pregnancies?	# of pregnancies: _____ Born alive: _____ Premature births (more than 3 weeks early): _____		Low birth weight (under 5½ lbs): _____ Stillborn: _____ Miscarried/abortions: _____	
Complications of this pregnancy? (Bleeding before labor, high blood pressure, high weight gain, infections, morning sickness more than 3 months, etc.)	Describe:			
Complications of past pregnancies?	Describe:			
Substance use during pregnancy	☐ Alcohol: _____Drinks/day for _____Months of pregnancy	☐ Tobacco: _____Packs/day for _____Months of pregnancy	☐ Prescription drugs: Names: _____	☐ Other drugs (street drugs) Names: _____

PARENTS' MEDICAL HISTORY INFORMATION			
Personal or family history of • Diabetes • High blood pressure • Heart disease • Lung disease (<i>asthma, etc.</i>) • Allergies	Mother: ☐ ☐ ☐ ☐ ☐ <i>(List allergies and reactions):</i>	Father: ☐ ☐ ☐ ☐ ☐ <i>(List allergies and reactions):</i>	Don't know: ☐ ☐ ☐ ☐ ☐
• Sexually transmitted diseases (<i>HIV, herpes, gonorrhea, etc.</i>) • Depression or other mental illness • Glaucoma or other eye problems • Cancer • Hearing problems • Hemophilia or bleeding problems • Cystic fibrosis • Muscular dystrophy • Huntington's disease • Down syndrome/other mental retardation	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Personal or family history of birth defect (<i>heart, cleft lip/palate, etc.</i>)	☐ Mother <i>(Please describe)</i>	☐ Father <i>(Please describe)</i>	☐ Don't know <i>(Please describe)</i>
Ethnic background (<i>this can sometimes provide important health information</i>) • African American • European (Ashkenazi) • Jewish • Italy/Greece/Middle East • Latino/Hispanic/Puerto Rican • Native American • Southeast Asia/Taiwan/China/Philippines • Pacific Islander • Caucasian • Other	Mother: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Father: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	Don't know: ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
Any other medical or family history information that you think might be important in your baby's future?			

Descriptions and Characteristics of Birth Family				
	Mother	Father	Sibling of Newborn	Other – Identify Relationship
Height				
Weight				
Age <i>(at time of newborn's birth)</i>				
Build/Bone Structure				
Complexion color <i>(fair, medium, dark, olive, light brown)</i>				
Hair color				
Hair texture				
Eye color				
Right or Left handed				
Blood type				
Education <i>(to date)</i>				
Glasses worn? If yes, what for what condition?				
Acne? Age at onset? Treatment?				
Distinguishing characteristics <i>(e.g., birthmarks, scars, tattoos)</i>				
Occupation				
Talents / hobbies / skills				
Family Religion				
Addictions <i>(Drug, Alcohol, Tobacco, etc.)</i>				
Deceased • Age • Cause of Death				

PARENTAL MESSAGE TO THE NEWBORN

Dear Parent:

Please take this time to write a message to your newborn. We will pass this message on to the child's social worker so that your child may someday read it.

<i>Date Newborn Transferred:</i>	<i>Hospital / Fire Station:</i>	<i>ID Band Number:</i>
----------------------------------	---------------------------------	------------------------

Parent's Message To Newborn:

This history is a thoughtful gift, and will accompany your child.

After filling out this form, please mail to: "Newborn Safety"

Adoptions Program Manager
Children's Administration
Department of Social and Health Services
PO Box 45710
Olympia, WA 98504-5710

HELPFUL INFORMATION

If you change your mind or have questions about the baby,
call the Division of Children and Family Services at:

1-800-562-5624

Explain that you transferred your baby under the Safety of Newborn Children Law.
Provide the date that you transferred your child and the location of the transfer
(*hospital or fire station / city*). You may be asked to provide the child's bracelet

Statewide Numbers

Adoption Agencies Statewide Listing

- Department of Social and Health Services: 1-800-562-5628
www.dshs.wa.gov

Domestic Violence

- Washington State Domestic Violence Hotline: 1-800-562-1240

Substance Abuse Services

- 24 Hour Drug and Alcohol Helpline: 1-800-562-6025

Medical Assistance / Crisis / Counseling

- Healthy Mothers / Healthy Babies 1-800-322-2588
- Safe Place For Newborns 1-877-440-2229
- Parent Trust for Washington Children 1-800-932-HOPE

Local numbers

Domestic Violence

- Alternatives to Domestic Violence 326-1190

Substance Abuse Services

- 24 Hour Drug and Alcohol Helpline: 1-800-562-6025

Medical Assistance (Mother)

- Spokane Regional Health District 324-1519

Counseling / Crisis

- Community Mental Health 838-4651

AFFILIATE INTENT TO COVER

A Special Event is any activity outside of the normal place of business for the affiliate. This form should be completed and submitted to the EMS agency having jurisdiction at least 2 weeks prior to the event.

Date of submission _____ Date of event _____

Name of affiliate Agency _____

Name & phone number of contact from affiliate agency _____

Time of coverage for event: Start _____ Stop _____

Name of event _____

Location(s) of event _____

Name and contact phone number for event supervisor _____

List specific locations and times where services will be provided _____

Overview of event _____

Communication plan: Specifically, what method will be used to contact 911 _____

1. Affiliate Agency proof of insurance on file with Spokane County EMS: ____Yes ____No
2. Affiliate Agency current business license or alternative state/federal paperwork on file with Spokane County EMS. ____Yes ____No
3. All personnel working under the affiliate agency DOH approval for this even event have current Washington State certification. ____Yes ____No
4. All personnel have current knowledge of Spokane County Protocols and East Region Patient Care Procedures. ____Yes ____No
5. Indicate numbers and levels of certification that will be providing service at the event.
FR____ EMT____ ILS____ PM____ Other____
6. List equipment and supplies available on site for use by EMS Personnel.

Affiliate agency representative signature _____

Jurisdictional Agency Review ____Yes ____No Date _____

Jurisdictional Agency Representative Name _____ Signature _____

Copy sent to affiliate agency. ____Yes ____No Date _____

BLOOD DRAW DIRECTIONS

DIRECTIONS TO TAKE BLOOD TEST

The undersigned states that _____ is either:

- ☐ Unconscious
- ☐ Has had a Search Warrant issued for blood to be drawn
- ☐ Is under arrest/in custody for the crime of vehicular homicide as provided in RCW 46.61.520 or vehicular assault as provided in RCW 46.61.522.
- ☐ Is under arrest/in custody for the crime of driving while under the influence of intoxicating liquor or drugs as provided in RCW 46.61.502 and/or RCW 46.20.308.

The undersigned directs Spokane County EMS to administer a blood test without the consent of the individual so unconscious or so arrested.

OFFICER _____ DATE _____

COUNTY FIELD TRAINING LETTER

Re: John Smith

The above individual is/will be affiliated with our EMS agency. They will not work independently until they have successfully completed the following:

- ✓ Our Field Training and Evaluation Program
- ✓ Additional Spokane County requirements as identified in the “Paramedic Guideline for Practicing in Spokane County”
- ✓ A review of protocol knowledge and procedural skills by the physician advisor and documented in the recommended format.
- ✓ EMS Office acknowledgement of receipt of documentation that each of these requirements are successfully completed.

Sincerely,

Joe Jones, EMS Officer

EMS AWARD NOMINATION FORM

2012 NOMINATION APPLICATION SPOKANE COUNTY EMS AWARDS

(Please limit recommendation to service during 2011 only)

AWARD TITLE (Check One)

BLS Responder	EMS Agency	ALS Responder
Special Services	Dispatcher	Funniest Moments
Instructor	Affiliate	

Nominee
(Last Name)
(First Name)

EMS
Agency _____ Address _____ Zip _____ Phone _____

Description of individual's qualifications/accomplishments or funniest moment during 2011 (Attach additional sheets/articles, etc. if necessary) **PLEASE PRINT OR TYPE**

[illegible]

Submitted by _____ **Phone** _____

Please complete and mail to:
Spokane County EMS & Trauma Care
808 West Spokane Falls Blvd
Spokane, WA 99201

Deadline is April 30, 2012

EMT PHYSICIAN ADVISOR LETTER

(Date)

James M. Nania, MD, FACEP
Medical Program Director
808 W. Spokane Falls Blvd
Spokane, WA 99201

Re: EMR/EMTs Beginning Practice in Spokane County

Dear Dr. Nania,

In accordance with WAC 246-976-161 last updated dated March 22, 2011
and as requested by the Spokane County EMS & Trauma Care Council
Medical Program Director, (Name), has personally met with me and has
demonstrated the following:

_____Competency concerning the Spokane County Operating Procedures

_____Competency concerning the Spokane County Protocols

_____Proficiency in procedural skills within the scope of practice of the
EMS providers level of certification

Only the original of this letter with my original signature should be accepted.

Thank you.

William Jones, MD
Medical Service Officer or Physician Advisor

INFECTIOUS DISEASE EXPOSURE FORM

SEE NEXT PAGE FOR FORM

SPOKANE COUNTY EMS *POTENTIAL* INFECTIOUS DISEASE EXPOSURE FORM

1. SECTION TO BE COMPLETED BY EMPLOYEE (PLEASE PRINT)

SUBMITTING AGENCY	AGENCY INCIDENT RUN #	DATE OF OCCURENCE	TIME OF OCCURENCE
EMPLOYEE NAME, -LAST	FIRST	MIDDLE	IDENTIFICATION NUMBER
DATE OF EXPOSURE	TIME OF EXPOSURE	LOCATION OF INCIDENT	LEOFF I OR LEOFF II
☐ REPORT ONLY	☐ RECEIVED FIRST-AID	☐ VISITED ER / PHYSICIAN	☐ HOSPITALIZATION

Exposure Type: ☐ Human ☐ Animal (Species: _____) ☐ Other (e.g., sewage) _____

Body Fluid Exposure To (* - Circle if visibly contaminated with blood):

☐ Blood ☐ Vomit* ☐ Saliva* ☐ Urine* ☐ Feces* ☐ Sweat* ☐ Respiratory Secretions

☐ Other* _____

What was the Exposure Route?

☐ INHALATION ☐ Coughing ☐ Sneezing ☐ Confined proximity (duration: _____)

☐ INGESTION..... ☐ Splash / Spray ☐ Hand-to-mouth contact

☐ PERCUTANEOUS ☐ Hollow-bore Needle ☐ Solid Needle ☐ Medical Sharp ☐ Other Sharp ☐ Bite

☐ MUCOCUTANEOUS ... ☐ Nasal ☐ Oral ☐ Ocular ☐ Uro-Genital/Anal

☐ CUTANEOUS ☐ Non-intact Skin ☐ Intact Skin but Large Fluid Volume

What part of the body was exposed?:

Describe the extent of exposure (include exposure duration and decontamination):

Describe the procedure / activity being performed at the time of exposure:

What personal protective equipment (PPE) was in use at the time of exposure?:

Describe the medical device being used, including type and brand:

Describe controls or work practices in use at the time of the exposure:

Suggested training or condition changes that would prevent a recurrence:

EMPLOYEE SIGNATURE

2. SECTION TO BE COMPLETED BY MEDICAL EVALUATOR / MD (PLEASE PRINT)

HEALTH CARE PROVIDER	PROVIDER’S LOCATION	PROVIDER’S NAME	PHONE NUMBER
☐ NON-SIGNIFICANT EXPOSURE	☐ SIGNIFICANT EXPOSURE (complete the section 3 below)	EVALUATION DATE	EVALUATION TIME

☐ Post-Exposure Prophylaxis Indicated ☐ Post-Exposure Prophylaxis Not Indicated

☐ The employee named above has been informed of the results of the evaluation for exposure to blood and/or other potentially infectious materials.

☐ The employee named above has been told about health conditions that could result from exposure to blood or other potentially infectious materials which require further evaluation, follow-up and/or treatment.

☐ A follow-up appointment(s) is required [location(s), date(s) & time(s)]: _____

SOURCE INFORMATION:

☐ Source has known or probable infectious disease ☐ Voluntary Consent Testing initiated

☐ Court ordered compelled testing ☐ Spokane Regional Health District contacted for compelled testing

HEALTHCARE PROVIDER SIGNATURE / TITLE

3. HOSPITAL INFECTION CONTROL

☐ Hospital infection control investigation completed ☐ Spokane Regional Health District Contacted (when appropriate)

Other Responding Agencies Notified _____

(See [HIPAA warning on back of this form](#))

SIGNATURE / TITLE

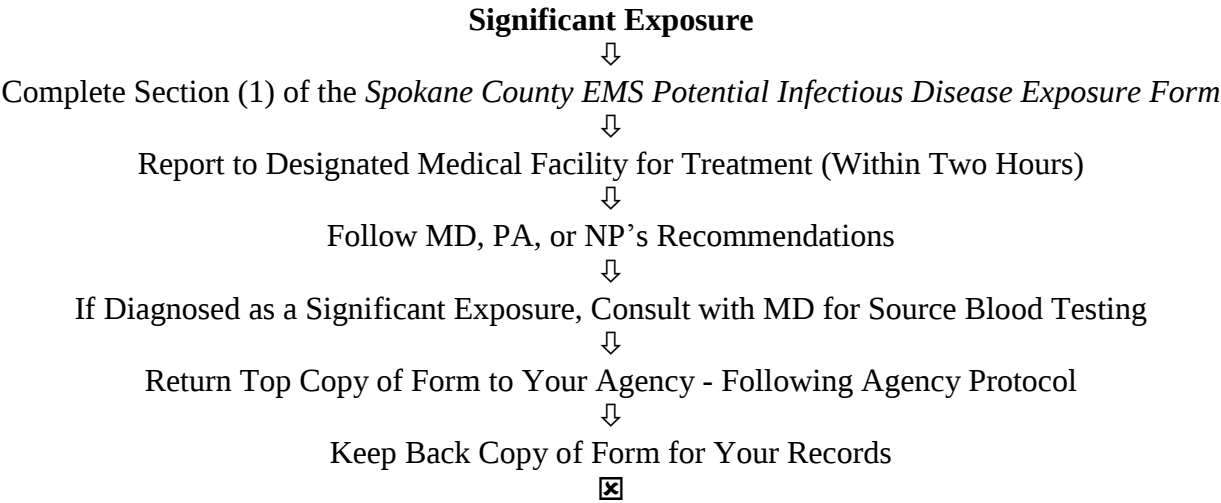
4. AGENCY FORMAL REVIEW PROCESS (SIGNATURES REQUIRED)

☐ Information transferred onto Needlestick Log ☐ Corrective action implemented, as warranted

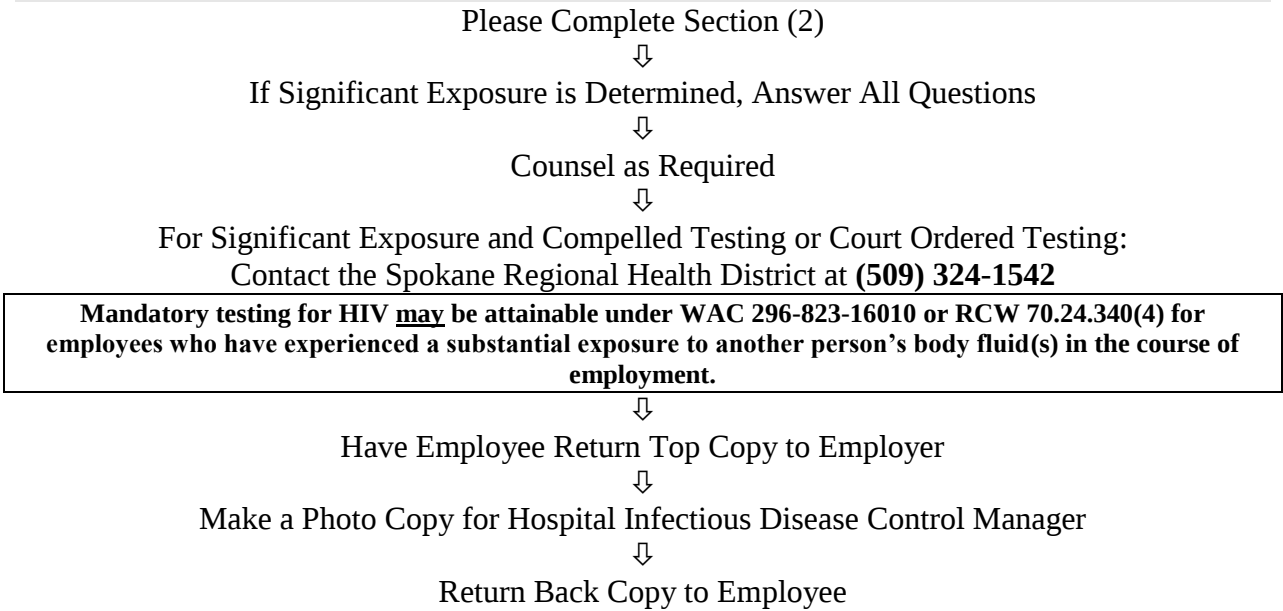
SUPERVISOR NAME & BADGE #	DATE	PHONE	COMMENTS
SHIFT OR UNIT SUPERVISOR	DATE	PHONE	COMMENTS
AGENCY DIRECTOR	DATE	PHONE	COMMENTS

POTENTIAL INFECTIOUS DISEASE EXPOSURE ALGORITHM

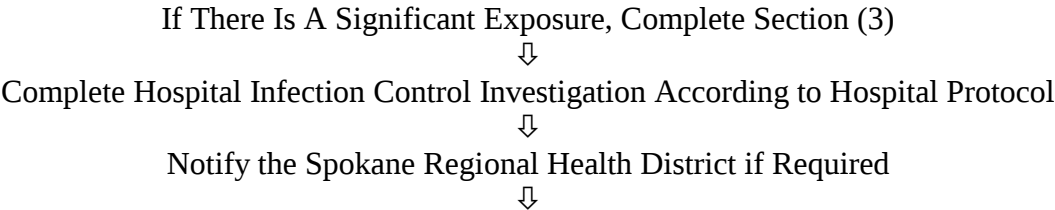
EMPLOYEE:



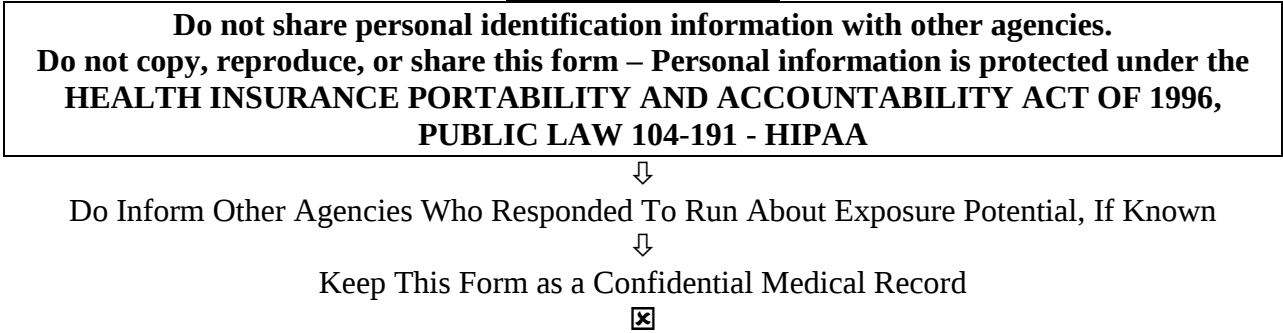
MEDICAL EVALUATOR/MD:



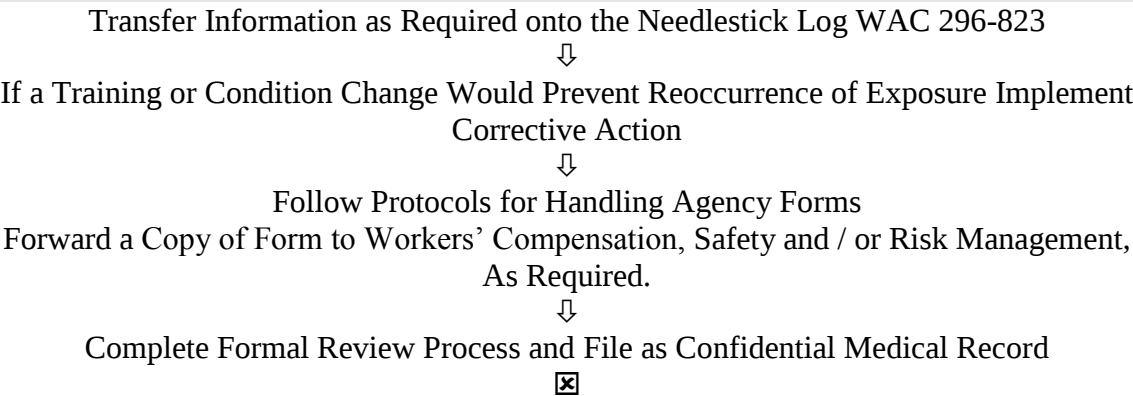
HOSPITAL INFECTION CONTROL:



HIPAA WARNING



AGENCY FORMAL REVIEW PROCESS:



NON-TRANSPORT OF PATIENT FORM

CALL IDENTIFICATION

Patient Name _____ Age _____

Call location _____ Date _____ Time _____ Unit# _____ Agency Run # _____

PATIENT ASSESSMENT Chief Complaint _____

VITAL SIGNS

BP _____ Pulse _____ Resp _____

Oriented to: _____ Person _____ Place _____ Time _____ Situation _____

GENERAL ASSESSMENT

DISPOSITION

____ Patient transported by private vehicle.

____ Released in care or custody of self.

____ Released in care or custody of relative or friend. _____

Name

____ Released in care or custody of other agency. _____

Agency Name

Name of Responsible Individual

PATIENT INSTRUCTIONS

____ Patient instructed to call 9-1-1 or follow up with his/her physician if condition persists or worsens.

Patient signature _____ Print patient name _____ Date _____ Time _____

Surrogate signature _____ Print surrogate name _____ Date _____ Time _____

Witness signature _____ Print witness signature _____ Date _____ Time _____

EMS personnel signature _____ Print EMS Personnel Name _____ Date _____ Time _____

PARAMEDIC OTEP RECERTIFICATION

Name: _____ Agency _____ Date _____

Initial Recertification at the level? ____Yes ____No

Annual Requirements

Year 1 is: (mm/dd/yy-mm/dd/yy) _____

Year 2 is: (mm/dd/yy-mm/dd/yy) _____

Year 3 is: (mm/dd/yy-mm/dd/yy) _____

3 Year Certification Period

Infectious Disease

Date _____

Trauma

Date _____

Pediatrics

Date _____

OTEP Medical Year 1

Class _____ Date _____

OTEP Medical Year 1

Class _____ Date _____

OTEP Medical Year 1

Class _____ Date _____

OTEP Trauma Year 1

Class _____ Date _____

OTEP Trauma Year 1

Class _____ Date _____

OTEP Trauma Year 1

Class _____ Date _____

OTEP Medical Year 2

Class _____ Date _____

OTEP Medical Year 2

Class _____ Date _____

OTEP Medical Year 2

Class _____ Date _____

OTEP Trauma Year 2

Class _____ Date _____

OTEP Trauma Year 2

Class _____ Date _____

OTEP Trauma Year 2

Class _____ Date _____

OTEP Medical Year 3

Class _____ Date _____

OTEP Medical Year 3

Class _____ Date _____

OTEP Medical Year 3

Class _____ Date _____

OTEP Trauma Year 3

Class _____ Date _____

OTEP Trauma Year 3

Class _____ Date _____

OTEP Trauma Year 3

Class _____ Date _____

1. Please attach documentation for all the classes above.
2. Please attach documentation for Tubes and/or and IV Sticks*.
3. Please attach Physician Advisor letter.

I hereby affirm and declare that the information provided above is true and correct.

Applicant Signature: _____ Date: _____

I have personally reviewed all documentation and certify that this individual has completed all the required OTEP for recertification

Applicant Signature: _____ Date: _____

PARAMEDIC PHYSICIAN ADVISOR LETTER

(Date)

James M. Nania, MD, FACEP
Medical Program Director
808 W. Spokane Falls Blvd
Spokane, WA 99201

Dear Dr. Nania,

In accordance with WAC 246-976-161 and as requested by the Spokane County EMS & Trauma Care Council Medical Program Director, (Name), has personally met with me and has demonstrated the following:

____ Competency concerning the Spokane County Operating Procedures

____ Competency concerning the Spokane County Protocols

____ Proficiency in intraosseous infusion

____ Proficiency in adult and pediatric airway management

____ Proficiency in IV starts

Please consider this letter as my endorsement for certification at the ILS/PM level in Spokane County. Only the original of this letter with my original signature should be accepted.

Thank you.

William Jones, MD
Physician Advisor
Agency

PATIENT REFUSAL OF TREATMENT/TRANSPORT

CALL IDENTIFICATION

Patient Name _____ Age _____

Call location _____ Date _____ Time _____ Unit# _____ Agency Run # _____

PATIENT ASSESSMENT Chief Complaint _____

VITAL SIGNS BP _____ Pulse _____ Resp _____

Oriented to: _____ Person _____ Place _____ Time _____ Situation _____

GENERAL ASSESSMENT

PATIENT INFORMED

- ____ Medical Treatment/ambulance transport needed
 ____ Further harm could result without medical evaluation/treatment
 ____ Transport by other than ambulance could be hazardous in light of patient's illness/injury

SPECIFIC EMS SERVICE REFUSED

- ____ Patient refused treatment
 ____ Patient refused ambulance transport
 ____ Patient refused ambulance transport to appropriate facility

PATIENT DISPOSITION

- ____ Transported by private vehicle.
 ____ Released in care or custody of self.
 ____ Released in care or custody of relative or friend. _____

Name

- ____ Released in care or custody of other agency. _____

Agency Name

Name of Responsible Individual

PATIENT INSTRUCTIONS

- ____ Patient instructed to call 9-1-1 or follow up with his/her physician if condition persists or worsens.

The following statement should be read to the patient:

The evaluation and / or treatment provided to you by the EMS providers is not a substitute for medical evaluation and treatment by a doctor. By signing this, you indicate that you understand the nature of the proposed care and transportation and that you fully comprehend the potential consequences of this refusal. And that you further attest that you are capable and authorized to make said refusal, that you do forever release and give up any claim, demand, or action against all Emergency Medical Services personnel and their agents and do hereby covenant and agree to hold such persons harmless from any claim, demand, loss, or action for any alleged act or omission in the care or transport in compliance with this refusal. This release is binding on your heirs, executors, and assigns.

_____ Patient signature	_____ Print patient name	_____ Date	_____ Time
_____ Surrogate signature	_____ Print surrogate name	_____ Date	_____ Time
_____ Witness signature	_____ Print witness signature	_____ Date	_____ Time
_____ EMS personnel signature	_____ Print EMS Personnel Name	_____ Date	_____ Time

PHYSICIAN ORDERS FOR LIFE-SUSTAINING TREATMENT

SEE NEXT PAGE

Physician Orders for Life-Sustaining Treatment

Last Name - First Name - Middle Initial

Date of Birth

Last 4 #SSN

Gender

M F

FIRST follow these orders, **THEN** contact physician, nurse practitioner or PA-C. The POLST is a set of medical orders intended to guide emergency medical treatment for persons with advanced life limiting illness based on their current medical condition and goals. Any section not completed implies full treatment for that section. Everyone shall be treated with dignity and respect.

Medical Conditions/Patient Goals:

Agency Info/Sticker

A

Check One

CARDIOPULMONARY RESUSCITATION (CPR): Person has no pulse and is not breathing.

- ☐ CPR/Attempt Resuscitation ☐ DNAR/Do Not Attempt Resuscitation (Allow Natural Death)

Choosing DNAR will include appropriate comfort measures and may still include the range of treatments below. When not in cardiopulmonary arrest, go to part B.

B

Check One

MEDICAL INTERVENTIONS: Person has pulse and/or is breathing.

- ☐ **COMFORT MEASURES ONLY** Use medication by any route, positioning, wound care and other measures to relieve pain and suffering. Use oxygen, oral suction and manual treatment of airway obstruction as needed for comfort. **Patient prefers no hospital transfer: EMS contact medical control to determine if transport indicated to provide adequate comfort.**
- ☐ **LIMITED ADDITIONAL INTERVENTIONS** Includes care described above. Use medical treatment, IV fluids and cardiac monitor as indicated. Do not use intubation or mechanical ventilation. May use less invasive airway support (e.g. CPAP, BiPAP). **Transfer to hospital if indicated. Avoid intensive care if possible.**
- ☐ **FULL TREATMENT** Includes care described above. Use intubation, advanced airway interventions, mechanical ventilation, and cardioversion as indicated. **Transfer to hospital if indicated. Includes intensive care.**

Additional Orders: (e.g. dialysis, etc.) _____

C**SIGNATURES:** The signatures below verify that these orders are consistent with the patient's medical condition, known preferences and best known information. If signed by a surrogate, the patient must be decisionally incapacitated and the person signing is the legal surrogate.**Discussed with:**

- ☐ Patient ☐ Parent of Minor
☐ Legal Guardian ☐ Health Care Agent (DPOAHC)
☐ Spouse/Other:

PRINT — Physician/ARNP/PA-C Name

Phone Number

X Physician/ARNP/PA-C Signature (**mandatory**)

Date

PRINT — Patient or Legal Surrogate Name

Phone Number

X Patient or Legal Surrogate Signature (**mandatory**)

Date

- Person has: ☐ Health Care Directive (living will) ☐ Living Will Registry
☐ Durable Power of Attorney for Health Care

Encourage all advance care planning documents to accompany POLST

SEND ORIGINAL FORM WITH PERSON WHENEVER TRANSFERRED OR DISCHARGED

HIPAA PERMITS DISCLOSURE OF POLST TO OTHER HEALTH CARE PROVIDERS AS NECESSARY

Other Contact Information (Optional)

Name of Guardian, Surrogate or other Contact Person	Relationship	Phone Number	
Name of Health Care Professional Preparing Form	Preparer Title	Phone Number	Date Prepared

D ADDITIONAL PATIENT PREFERENCES (OPTIONAL)

ANTIBIOTICS:

- ☐ No antibiotics. Use other measures to relieve symptoms. ☐ Use antibiotics if life can be prolonged.
☐ Determine use or limitation of antibiotics when infection occurs, with comfort as goal.

MEDICALLY ASSISTED NUTRITION:

Always offer food and liquids by mouth if feasible.

- ☐ Trial period of medically assisted nutrition by tube. (Goal: _____)
☐ Long-term medically assisted nutrition by tube.

ADDITIONAL ORDERS: (e.g. dialysis, blood products, etc. Attach additional orders if necessary.)

 Physician/ARNP/PA-C Signature

Date

DIRECTIONS FOR HEALTH CARE PROFESSIONALS

Completing POLST

- Must be completed by health care professional.
- Should reflect person's current preferences and medical indications. Encourage completion of an advance directive.
- POLST must be signed by a physician/ARNP/PA-C to be valid. Verbal orders are acceptable with follow-up signature by physician/ARNP/PA-C in accordance with facility/community policy.

Using POLST

Any incomplete section of POLST implies full treatment for that section.

This POLST is effective across all settings including hospitals until replaced by new physicians's orders.

The health care professional should inquire about other advance directives. In the event of a conflict, the most recently completed form takes precedence.

SECTION A:

- No defibrillator should be used on a person who has chosen "Do Not Attempt Resuscitation."

SECTION B:

- When comfort cannot be achieved in the current setting, the person,

including someone with "Comfort Measures Only," should be transferred to a setting able to provide comfort (e.g., treatment of a hip fracture).

- An IV medication to enhance comfort may be appropriate for a person who has chosen "Comfort Measures Only."
- Treatment of dehydration is a measure which may prolong life. A person who desires IV fluids should indicate "Limited Additional Interventions" or "Full Treatment."

SECTION D:

- Oral fluids and nutrition must always be offered if medically feasible.

Reviewing POLST

This POLST should be reviewed periodically whenever:

- (1) The person is transferred from one care setting or care level to another, or
- (2) There is a substantial change in the person's health status, or
- (3) The person's treatment preferences change.

A person with capacity or the surrogate of a person without capacity, can void the form and request alternative treatment.

To void this form, draw line through "Physician Orders" and write "VOID" in large letters. Any changes require a new POLST.

Review of this POLST Form

Review Date	Reviewer	Location of Review	Review Outcome
			☐ No Change ☐ Form Voided ☐ New form completed
			☐ No Change ☐ Form Voided ☐ New form completed

SEND ORIGINAL FORM WITH PERSON WHENEVER TRANSFERRED OR DISCHARGED

Photocopies and FAXes of signed POLST forms are legal and valid. May make copies for records

OVER ►

PRELIMINARY FIELD MEDICAL

SEE NEXT PAGE

Spokane County Emergency Medical Services Preliminary Field Medical Report

Location _____ ☐ Home Date _____ Time _____

Name _____ DOB _____ Age _____ M F MD _____

C hief Complaint _____ Other Agencies @ Scene: SPD • SVPD • SCS • WSP • _____

H istory of Current Illness _____

S igns / Symptoms _____

A llergies _____

M edications _____

P ast Med Hx _____

L ast P.O. _____ **E** vents Prior _____

A ssessment _____

Agency / Unit	Time	Position	BP	Pulse	RR	Sats	O ₂ / Device	Lungs	CO ₂	Rhythm	Temp	Glucose	Cap Refill	Pupils	GCS
													>2 <2		
													>2 <2		
													>2 <2		

Agency / Unit	Time	Position	BP	Pulse	RR	Sats	O ₂ / Device	Lungs	CO ₂	Rhythm	Temp	Glucose	Cap Refill	Pupils	GCS
													>2 <2		
													>2 <2		
													>2 <2		

Agency / Unit	Time	Position	BP	Pulse	RR	Sats	O ₂ / Device	Lungs	CO ₂	Rhythm	Temp	Glucose	Cap Refill	Pupils	GCS
													>2 <2		
													>2 <2		
													>2 <2		

Glasgow Coma Scale	
Eye	4 Spontaneous
	3 To Voice
	2 To Pain
	1 No Response
Verbal	5 Oriented
	4 Confused
	3 Inappropriate
	2 Incomprehensible
Motor	1 No Response
	6 Obeys Command
	5 Locates Pain
	4 Withdraws Pain
	3 Flexion Pain
	2 Extension Pain
	1 No Response

Rx / Treatment	Medications	Dose + Route

Rx / Treatment	Medications	Dose + Route

Rx / Treatment	Medications	Dose + Route

Motor Vehicle Accident	
Air bag deploy	Y / N
Seat Belt	Y / N
Long Extrication	Y / N
Fatality @ scene	Y / N
Blood Loss:	Sm Mod Lg

IV Fluids	18 20 22 R L

IV Fluids	18 20 22 R L

IV Fluids	18 20 22 R L

Stroke	
Face:	
Arms:	
Speech:	
Time onset:	

CardioPulmonary Arrest	
Witnessed	Y / N
Citizen CPR	Y / N
Initial Rhythm	
Time 1st Defib	
ROSC	Y / N

T ransport / Destination _____

Deaconess • Holy Family • Sacred Heart • Valley • VA
White = Initial Responder Yellow = Transport Pink = Hospital

QUICK CLOT MEMO

Law enforcement first responders have recently acquired Quick Clot wound dressings. This product contains a granular matrix that promotes blood clotting and maybe helpful in controlling bleeding from external wounds. Also contained in the small kit most frequently worn on law enforcement's belt are a tourniquet and a pair of surgical gloves.

At this time, there is insufficient evidence to recommend the use of this product by our EMS responders. However, it is possible that EMS providers may be called to treat patients to whom these dressings have been applied. In general, the dressings should be left in place if they appear adequate to control external bleeding. Additional pressure dressings and other appropriate techniques should be used to supplement the Quick Clot dressing if ongoing bleeding persists.

In the rare case where it appears the dressing has been applied inappropriately or that there is significant vascular bleeding beneath the applied dressing, it may be removed so as to allow better focused application of direct pressure dressings and improve bleeding control.

James M. Nania, MD, FACEP
Medical Program Director
Spokane County EMS & Trauma Care Council

RECOMMENDATION FOR FOLLOW-UP TO A POSSIBLE INFECTIOUS DISEASE EXPOSURE*

Incident #: _____ **Date:** _____

Dear Citizen,

Thank you for providing assistance to this patient at the time of their emergency, illness, or injury. It is possible that, in the course of assisting this patient, you may have been exposed to an infectious disease.

Although the likelihood of contracting infectious disease by rendering emergency medical care is small, we recommend you contact the Spokane Regional Health District, 324-1542, as soon as possible.

They will provide medical advice regarding what, if any, steps should be taken by you to document this potential exposure and evaluate whether any treatment would be indicated which might reduce the potential of contracting an illness in this circumstance.

Again, thank you for your actions in this emergency.

* EMS agencies should have this on business card size to give to the citizen. Please check cards for correct phone number and change to number above if incorrect.

SPOKANE COUNTY EMS KING AIRWAY INSERTION EVALUATION

SEE NEXT PAGE

Spokane County EMS King Airway Insertion Evaluation

Student/Provider being evaluated

Date

KING LT(S)-D INSERTION INSTRUCTIONS	Poss Pts	Pts Awarded
1. Using the information provided, choose the correct KING LT(S)-D size, based on patient height.		
2. Test cuff inflation system by injecting the maximum recommended volume of air into the cuffs (refer to Sizing Information chart). Remove all air from cuffs prior to insertion.		
3. Apply a water-based lubricant to the beveled distal tip and posterior aspect of the tube, taking care to avoid introduction of lubricant in or near the ventilatory openings.		
4. Have a spare KING LT(S)-D ready and prepared for immediate use.		
5. Pre-oxygenate.		
6. For EMS/Non-Operating Room Applications: Ensure gag reflex is not intact.		
7. Position the head. The ideal head position for insertion of the KING LT(S)-D is the "sniffing position". However, the angle and shortness of the tube also allows it to be inserted with the head in a neutral position.		
8. Hold the KING LT(S)-D at the connector with dominant hand. With nondominant hand, hold mouth open and apply chin lift unless contraindicated by C-spine precautions or patient position.		
9. With the KING LT(S)-D rotated laterally 45-90° such that the blue orientation line is touching the corner of the mouth, introduce tip into mouth and advance behind base of tongue. Never force the tube into position.		
10. As tube tip passes under tongue, rotate tube back to midline (blue orientation line faces chin)		
11. Without exerting excessive force advance KING LT(S)-D until base of connector aligns with teeth or gums.		
12. For EMS/Non-Operating Room applications: Fully inflate cuffs using the maximum volume of the syringe included in the EMS kit. SEE ADDITIONAL INFORMATION IN THE INSTRUCTIONS FOR USE HANDOUT.		
13. Attach the bag valve mask to the 15 mm connector of the KING LT(S)-D. While gently bagging the patient to assess ventilation, simultaneously withdraw the airway until ventilation is easy and free flowing (large tidal volume with minimal airway pressure)		
14. Depth markings are provided at the proximal end of the KING LT(S)-D which refer to the distance from the distal ventilatory openings. When properly placed with the distal tip and cuff in the upper esophagus and the ventilatory openings aligned with the opening to the larynx, the depth markings give an indication of the distance, in cm, to the vocal cords.		
15. Confirm proper position by auscultation, chest movement and verification of CO2 by capnography.		

Spokane County EMS King Airway Insertion Evaluation

KING LT(S)-D INSERTION INSTRUCTIONS	Poss Pts	Pts Awarded
16. Readjust cuff inflation to 60 cm H ₂ O (or to just seal volume).		
17. Secure KING LT(S)-D to patient using tape or other accepted means. A bite block can also be used, if desired. DO NOT COVER THE PROXIMAL OPENING OF THE GASTRIC ACCESS LUMEN OF THE KING LTS-D.		
18. <u>KING LTS-D Only</u> : The gastric access lumen allows the insertion of up to a 18 Fr diameter gastric tube into the esophagus and stomach. Lubricate gastric tube prior to insertion.		
Points	18	
REMOVAL OF THE KING LT(S)-D		
1. Once it is in the correct position, the KING LT(S)-D is well tolerated until the return of protective reflexes		
2. KING LT(S)-D removal should always be carried out in an area where suction equipment and the ability for rapid intubations are present.		
3. For KING LT(S)-D removal, it is important that both cuffs are completely deflated.		
Points	3	

Comments:

Performance: (circle outcome of review)	PASS	FAIL
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Evaluator signature	Date
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Notes:
See the King LT(S)-D Airway Instructions for use for additional information

THANK YOU FOR YOUR OFFER OF ASSISTANCE

Please be advised that this EMS team is operating under the authority of Washington State Law and protocols that were developed and approved by me as Medical Program Director. The EMS team performs their functions at the scene under the guidance of EMS Medical Control. If you, as a physician at the scene, decide you must intervene in the patient's care, then you are responsible for any and all care given, and must accompany the patient to the hospital in the ambulance and sign the Medical Incident Report.

James M. Nania, MD, FACEP
Medical Program Director
Spokane County, Washington