Written and Developed by:

Kevin Hodges, M.D., FACEP, EMT-P
Medical Program Director
bfcountympd@gmail.com

Special Thanks to the following for their Contribution

Eric Nilson, EMT-P – Kennewick Fire Department
Troy Stratford, EMT-P – Columbia Basin College, KFD
Stein Karspeck, EMT-P – Richland Fire Department
Tyler Platt, EMT-P – Prosser Memorial Hospital
Michele Crowley, EMT-P – Pasco Fire Department
Scott “Steve” Hawley, AEMT – Benton County Fire Dist. 2
Patricia Kirkham, EMT-P – Benton County Fire Dist. 4
Kellie Stigge, AEMT – Franklin County Fire Dist. 3
James L. Bryan, EMT-P – Hanford Fire Department
Nathan Miller, EMT-P – Kennewick Fire Department
A.J. Fandrich EMT-P – Kennewick Fire Department
Tiffany Cutforth, AEMT – Othello EMS
Ambre MacHugh, AEMT – Franklin County Public Hospital Dist.
Albert Smith, EMT-P – Franklin County Fire Dist. 3
Kele Valles, AEMT – Franklin County Public Hospital Dist.
Nathan Monk, BAS, EMS Administrative Volunteer
Misty Ferrell – MPD Assistant

Please send comments/corrections to mpdasst@gmail.com
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Adams, Benton, Franklin, Yakima Counties

Patient Care Guidelines (Protocols)
(Reviewed June 2019)

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In order to ensure conformance with local guidelines for pre-hospital care in the Mid-Columbia EMS Council area, the designated Medical Program Director (MPD) will implement guidelines, review agency conformance to establish protocols, and develop changes in medical policies as needed. Each MPD or designee is ultimately responsible for setting the standards for pre-hospital care and must be familiar with existing protocols upon designation. If deemed necessary, the MPD should present changes to the Emergency Medical Service (EMS) Council and County Medical Society in a timely manner.

Due to ongoing changes to EMS practices, the MPD or designee must review the current protocols biannually, no later than 24 months after the last review. Petition to the MPD for protocol change consideration may be made, and all changes and review must be accompanied by signed approval of the current MPD at the end of this document.

The MPD is encouraged to designate other local physicians who demonstrate interest and expertise in emergency care as medical directors of ambulance agencies in the Mid-Columbia region. All ambulance agencies that provide Advanced Life Support (ALS) level of care must have a designated Medical Director who ensures compliance with these protocols and is responsible for providing ongoing continuing medical education (CME) for personnel. Each ambulance agency must have a current protocol reference manual available to personnel at all times. The MPD or his/her designee will make every attempt to notify appropriate agencies of changes as they occur. It is the responsibility of each agency to make changes known to personnel.

Each Medical Director (MD) of an ALS ambulance service must develop a monitoring system to ensure protocol compliance, as well as to assure adequate CME for the EMS personnel. This usually includes review by the MD of all ALS runs, schedule staff/CME meetings, as well as periodic review and update of these protocols by EMS personnel.

As EMS Medical Program Director for the Mid-Columbia area, I hereby declare that I have read, understand, and approve of these patient care guidelines.

Adams, Benton, Franklin, Yakima County  
MPD Signature  
June 18, 2019  
Date

Kevin Hodges, M.D  
Medical Program Director  
Adams, Benton, Franklin, Yakima Counties  
June 18, 2019  
Date
Patient Care Guidelines (PCG) are the written guidelines for EMS activities in Benton-Franklin Counties and any communities with which mutual care agreements are active. PCG are mandated by the State of Washington EMS law (RCW) and regulation (WAC). These PCG shall define the scope of practice of all EMS personnel (BLS/ILS/ALS) in Adams, Benton, Franklin & Yakima Counties. All EMS activities are supervised by the County Medical Program Director (MPD), a licensed physician whose EMS authority includes recommending certification/rectification of EMS personnel, training, and the development of written protocols that specify the scope and practice of all EMS personnel in this bi-county area.

These protocols provide EMS providers of all levels a broad range of options in the management of patients at the scene and during transport. Written protocol cannot cover every situation that will be encountered in the field. In most cases, however, the protocols should be followed as written. However, in situations the protocols do not specifically address, or where there is a need for immediate intervention, e.g., patient in extremis, code situations, the EMT should not be encumbered by requirements for immediate approval by Medical Control or destination hospital physician. Clinical judgment should be used to tailor treatment to the patient and the particular circumstances of illness or injury. Patient care procedures for incidents not addressed in these protocols should be performed in accordance with currently accepted standards. In addition, any deviation from the PCG should:

1. Be in the patient’s best interest.
2. Be within the EMS provider’s training and level of certification.
3. Be appropriately documented including procedure and rationale.

EMS personnel performance will be monitored retrospectively through the established County QA/QI process and patient evaluation. Accurate and complete documentation is required.

Question and comments about the PCG should be addressed to the Adams, Benton, Franklin, Yakima Counties Medical Program Director.

June 18, 2019
Adams, Benton, Franklin, Yakima County MPD Signature

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Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
The outcome of patients who suffer cardio respiratory arrest from blunt trauma is uniformly poor. These patients do not benefit from further intervention. Any victim of blunt trauma who presents meeting criteria for blunt-trauma code can be assumed to have sustained a terminal injury. No further resuscitative measures are necessary. Any BLS interventions in progress may be stopped.

1. Criteria for blunt trauma code: (All must be present)
   a. Present history of blunt trauma.
   b. Pulseless.
   c. Apneic / agonal respirations
   d. No palpable blood pressure.
   e. No heart sounds OR no electrical activity on monitor (asystole) OR wide-complex ventricular rhythm with rate less than 40/minute (agonal rhythm).

2. For all ALS units, documentation must include a rhythm strip unless obtaining the ECG strip is waived in preference for delivering care at the same scene to other victims of the blunt trauma. In the instance of one victim only, a rhythm strip will be used as part of the criteria for blunt trauma code and will be attached to the MIR.

3. Documentation on the run report must specifically address the above criteria.

An EMS provider may decide to continue resuscitative efforts for any reason. In this case, the documentation is expected to clearly document this decision-making process.

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Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties
Medical Control for any call shall fall under the following designation:

1. In general, the expected destination hospital serves as Medical Control.
2. If the patient meets criteria for ANY protocol-specific designation (strokes, trauma, cardiac), the protocol-designated hospital is Medical Control even if it is not the closest hospital or the ultimate destination hospital.
3. Kadlec Regional Medical Center is the DMCC (Disaster Medical Coordination Center) in the setting of any mass casualty or disaster response. (See also Adams, Benton, Franklin, Yakima County MCI Plan)

Medical Control should be contacted for all medical and trauma patients at these intervals:

1. Enroute to medical or trauma call if likely to require extensive ED resources.
2. Enroute to the hospital with pertinent patient information as described below.

Additional contact with Online Medical Control and/or the receiving hospital may be indicated, especially in complex cases or multi-patient scenes.

If communications have been started with one hospital and the patient is ultimately transported to a different hospital, both the original Medical Control hospital and the receiving hospital should be notified immediately.

Communications between pre-hospital personnel and the supporting hospitals are a vital part of patient care. Transmissions should be succinct and follow the general outline below:

1. Patient’s age and sex.
2. Chief complaint or problem.
3. Level of consciousness and vital signs.
4. Brief pertinent history, physical exam findings and pre-hospital treatment as needed to clarify patient status and stability.
5. An estimated time of arrival (ETA).
6. Any additional information requested by the receiving facility.
PROTOCOL TITLE: CRITERIA FOR ALS TRANSPORT

In service areas with only BLS/ILS providers, a “rendezvous” with an ALS ambulance should be attempted for all patients who would benefit from ALS intervention. For units utilizing mixed ALS/BLS or ALS/ILS providers, this protocol may also be used to determine need to assign the patient and chart to the ALS provider. The following criteria is designed to assist you with the decision making process. When in doubt, default to ALS care.

I. ABNORMAL VITAL SIGNS (ADULTS):

1. Altered mental status
   a. GCS < or = 12.
   b. Associated symptoms/history may include diabetic problems, head injury, overdose, intoxication, seizures, sepsis

2. Hypotension
   a. Systolic BP less than 90 mmHg or MAP less than 65 and/or
   b. Associated symptoms may include chest pain, shortness of breath, syncope (fainting), trauma, GI bleed, anaphylaxis (allergic reaction), severe abdominal or back pain, and acute altered level of consciousness.

3. Bradycardia
   a. Heart rate < 50 per minute with:
   b. Associated symptoms including chest pain, shortness of breath, syncope, hypotension, acute altered level of consciousness.

4. Tachycardia
   a. Heart rate: 100-120 per minute (mild); >120 per minute (significant) with:
   b. Associated symptoms; chest pain, shortness of breath, hypotension, trauma, cyanosis, stridor, wheezing, choking, low oxygen saturation (by oximeter).

5. Respirations
   a. Respiratory rate < 10 or > 29 per minute and/or
   b. Associated symptoms: chest pain, shortness of breath, hypotension, trauma, cyanosis, stridor, wheezing, choking, low oxygen saturation (by oximeter).
PROTOCOL TITLE: CRITERIA FOR ALS TRANSPORT

6. Pulse Oximetry (blood oxygen saturation or SaO₂).

   a. Unreliable when patient not perfusing well or extremely tachycardic.
   b. SaO₂ < 94% in patient without underlying pulmonary disease.
   c. SaO₂ < 90% in patient with emphysema, or other chronic lung disease.
   d. Readings are without supplemental oxygen.
   e. Associated symptoms: altered respiratory rate, chest pain, shortness of breath, hypotension, trauma, cyanosis, stridor, wheezing, choking.

II. ORGAN SYSTEM INVOLVEMENT

1. Neurologic Disease

   a. Acute altered level of consciousness.
   c. Recurrent or ongoing seizure activity.
   e. New spinal cord injury (i.e., paralysis).

2. Cardiac Disease

   a. Cardiac arrest (patient is unconscious and without a pulse).
   b. Chest pain.
   c. Palpitations

3. Respiratory Disease

   a. Respiratory arrest (patient is not breathing).
   b. Symptomatic asthma or emphysema.
   c. Choking or difficulty breathing.
   d. CPAP has been initiated.

4. Gastrointestinal Disease

   a. Significant vomiting of blood (especially if associated with lightheadedness or weakness).
   b. Significant rectal bleeding (especially if associated with lightheadedness or weakness).
   c. Severe abdominal pain.

5. Obstetrics

   a. Active labor – regular uterine contractions with increasing frequency.
   b. History of complicated deliveries.
   c. Abnormal presentation.
   d. Post-delivery complication (i.e., heavy vaginal bleeding).

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Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
e. Newborn complications.

III. TRAUMA

1. Any patient involved in a traumatic incident should be evaluated using the Washington State Trauma Triage Destination Procedures Tool. ALS rendezvous or Helicopter activation should be considered early in any patient meeting Trauma System Activation criteria (T-3)

2. Online Medical Control for every patient meeting Trauma Triage criteria is the highest level trauma center in the trauma system (See T-3). Pediatric trauma (age<14) medical control is the highest level pediatric trauma center in the trauma system.

3. Burns
   a. Burns with possible airway involvement
   b. Burns with associated injuries: electrical shock, fracture, airway
   c. 2nd or 3rd degree burns to face/head
   d. 2nd or 3rd degree burns > 20% of body

PROTOCOL TITLE: CRITERIA FOR ALS TRANSPORT

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Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
Patients who receive treatment and/or transport under these protocols must be treated when life-threatening problems develop. The protocols can at times come into conflict with the ethical issue of the right-to-die of the terminally ill.

The purpose of this protocol is to attempt to clarify EMS personnel’s responsibility to the patient.

1. When EMS personnel respond to a cardiac or respiratory arrest patient, full resuscitation must be initiated with the following exceptions:
   a. The patient’s private physician is present and orders that resuscitation attempts either not be initiated or be terminated.
   b. When history and obvious physical signs are present which indicate that death occurred and resuscitation attempts are inappropriate [i.e., putrefaction, rigor mortis, complete partition of body parts incompatible with life, or dependent lividity (livor mortis)].
      i. If possible, contact On-line Medical Control in this situation.
      1. A four lead ECG may be requested by On-line Medical Control for confirmation of asystole in 2 or more leads.
   c. In the case of blunt trauma, see the Blunt Trauma Protocol (G-3).

2. For those patients suffering from a terminal illness, and who have not reached the point of cardiac and/or pulmonary arrest, and cannot expect to realize any long-term benefit from pre-hospital care, and who have a written DNR order or advance directive:
   a. Do not perform resuscitative measures. (If resuscitation efforts have begun prior to learning of valid documentation, the following measures should be discontinued):
      i. Cardiopulmonary resuscitation.
      ii. Endotracheal Intubation (leave ET tube in place, but discontinue manual ventilation).
      iii. Defibrillation.
      iv. Administration of resuscitative medications.
      v. Positive-pressure ventilation.
   b. The following measures to ensure comfort are expected, as indicated:
      i. Position of comfort.
      ii. Manual airway control and suction.

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PROTOCOL TITLE: DO NOT RESUSCITATE ORDERS

iii. IV line for hydration, antiemetics, anxiolytics, and/or analgesics. (Medications required for comfort)

iv. Oxygen for dyspnea including noninvasive ventilatory measures such as CPAP if desired and indicated.

3. For patients with a Washington State POLST (see form), follow the directives as written, with special attention paid to sections A (Cardiopulmonary Resuscitation) & B (Medical Interventions).

   a. Providers MUST verify:

      i. The form is signed by the patient or Power of Attorney and a medical provider.

4. If any questions exist about presence of life or death or the presence of a viable DNR or POLST, resuscitation should be initiated at a BLS level while a determination of the level of care is determined.

5. If resuscitation appears unlikely after efforts have begun, consultation will be made with Medical Control to determine further action. (See Termination of Efforts in these protocols for further direction, C-10)

6. Once resuscitation has been initiated, treatment will continue and progress from BLS to ALS unless ordered to stop by the physician in charge or until a valid POLST form specifying “Do not attempt resuscitation” is presented.

7. Details of the entire resuscitation effort and physician consultation shall be documented in detail on the Medical Incident Report form.

8. If the patient is transported, a copy of the POLST form should accompany the patient to the ED and be presented to the ED staff.

9. In case of DNR with Comfort-Focused Treatment, every effort should be made to ensure the comfort of the patient. In general, those patients do not wish transfer to an ED. However, if the patient’s comfort issues cannot be reasonably managed at their current location, transport to the ED for comfort measures is reasonable and humane.
## PROTOCOL TITLE: DO NOT RESUSCITATE ORDERS

**HIPAA PERMITS DISCLOSURE OF POLST TO OTHER HEALTH CARE PROVIDERS AS NECESSARY**

### Physician Orders for Life-Sustaining Treatment (POLST)

<table>
<thead>
<tr>
<th>Last Name - First Name - Middle Name or Initial</th>
<th>Date of Birth - Last 4 #SSN (optional)</th>
</tr>
</thead>
</table>

**Medical Conditions/Patient Goals:**

Agency Info/Sticker

### A CARDIOPULMONARY RESUSCITATION (CPR): Person has no pulse and is not breathing.

- **Check One:**
  - [ ] Attempt Resuscitation/CPR
  - [ ] Do Not Attempt Resuscitation/DNAR (Allow Natural Death)

When not in cardiopulmonary arrest, go to part B.

### B MEDICAL INTERVENTIONS: Person has pulse and/or is breathing.

- **Check One:**
  - [ ] FULL TREATMENT - primary goal of prolonging life by all medically effective means.
    - Includes care described below. Use intubation, advanced airway interventions, mechanical ventilation and cardioversion as indicated. **Transfer to hospital if indicated. Includes intensive care.**
  - [ ] SELECTIVE TREATMENT - goal of treating medical conditions while avoiding burdensome measures.
    - Includes care described below. Use medical treatment, IV fluids and cardiac monitor as indicated. Do not intubate. May use less invasive airway support (e.g. CPAP, BIPAP). **Transfer to hospital if indicated. Avoid intensive care if possible.**
  - [ ] COMFORT-FOCUSED TREATMENT - primary goal of maximizing comfort.
    - Relieve pain and suffering with medication by any route as needed. Use oxygen, oral suction and manual treatment of airway obstruction as needed for comfort. **Patient prefers no hospital transfer: EMS consider contacting medical control to determine if transport is indicated to provide adequate comfort.**

### 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
- [ ] Guardian with Health Care Authority
- [ ] Spouse/Other as authorized by RCW 7.70.065
- [ ] Health Care Agent (POA/HC)

**PRINT — Physician/ARNP/PA-C Name**

- [ ] Signature (mandatory)

**Date (mandatory)**

**Phone Number**

**PRINT — Patient or Legal Surrogate Name**

**Date (mandatory)**

**Phone Number**

**Patient or Legal Surrogate Signature** (mandatory)

**Encourage all advance care planning documents to accompany POLST**

### June 18, 2019

**Date**

Kevin Hodges, M.D

Medical Program Director
Adams, Benton, Franklin, Yakima Counties
**PROTOCOL TITLE: DO NOT RESUSCITATE ORDERS**

<table>
<thead>
<tr>
<th>Patient Name (last, first, middle)</th>
<th>Date of Birth</th>
<th>Phone Number</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Name of Guardian, Surrogate or other Contact Person</th>
<th>Relationship</th>
<th>Phone Number</th>
</tr>
</thead>
</table>

### D NON-EMERGENCY MEDICAL TREATMENT PREFERENCES

**ANTIBIOTICS:**
- [ ] Use antibiotics for prolongation of life.
- [ ] Do not use antibiotics except when needed for symptom management.

**MEDICALLY ASSISTED NUTRITION:**
- [ ] Trial period of medically assisted nutrition by tube. (Goal: ____________)
- [ ] No medically assisted nutrition by tube.
- [ ] Long-term medically assisted nutrition by tube.

**ADDITIONAL ORDERS:** (e.g. dialysis, blood products, implanted cardiac devices, etc. Attach additional orders if necessary.)

<table>
<thead>
<tr>
<th>Physician/ARNP/PA-C Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient or Legal Surrogate Signature</td>
<td>Date</td>
</tr>
</tbody>
</table>

### DIRECTIONS FOR HEALTH CARE PROFESSIONALS

**Completing POLST**
- Completing a POLST form is always voluntary.
- Treatment choices documented on this form should be the result of shared decision-making by an individual or their surrogate and medical provider based on the person's preferences and medical condition.
- POLST must be signed by a physician/ARNP/PA-C and patient, or their surrogate, 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 valid in all care settings including hospitals until replaced by a new physician's orders.

The POLST is a set of medical orders. The most recent POLST replaces all previous orders.

The POLST does not replace an advance directive. An advance directive is encouraged for all competent adults regardless of their health status.

An advance directive allows a person to document in detail his/her future health care instructions and/or name a surrogate decision maker to speak on his/her behalf. When available, all documents should be reviewed to ensure consistency, and the forms updated appropriately to resolve any conflicts.

**Review of this POLST Form**

<table>
<thead>
<tr>
<th>Review Date</th>
<th>Reviewer</th>
<th>Location of Review</th>
<th>Review Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>No Change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Form Voided</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>New Form completed</td>
</tr>
</tbody>
</table>

**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.

For more information on POLST visit www.wsm.org/polst.

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Kevin Hodges, M.D  
Medical Program Director  
Adams, Benton, Franklin, Yakima Counties  
June 18, 2019  
Date
PROTOCOL TITLE: DOCUMENTATION

All patient contacts shall be documented on an MPD-approved form. The report is the medical legal document of the assessment and management of the patient. The importance of the completeness and accuracy of the report cannot be overemphasized. A complete and accurate document will assist with appropriate treatment after care of the patient has been transferred. This is a legal record and may be called upon as evidence in any court of law.

The narrative section of the EMS Medical Incident Report form will be completed using the following S.O.A.P. charting format:

S – SUBJECTIVE and SCENE information:
[Unit] responded to [call type]
Patient is [age] year old [gender] with [pertinent past medical history] complaining of [chief complaint].
[HPI History of the present illness] – this is where you put a few sentences describing the events today as relayed by the patient/family/bystanders. This should include a readable narrative of events leading to the 911 call. This should also include pertinent negatives. This may include useful information using mnemonics such as “OPQRST” or some elements of “SAMPLED”.
[PMHx Past medical history] Additional PMHx goes here, may include past surgical history if relevant.
Medications:
Allergies:

O- OBJECTIVE information:
[Age] y/o [gender] with brief description of general appearance, location and position upon arrival. This may include appearance of the scene if relevant.
[Physical Exam] Should follow a reasonable and intuitive pattern such as:
Head to toe
Primary exam, Secondary exam
Systems based (HEENT, Cardiac, Pulmonary, GI… etc)
Focused exam (on main problem area), brief rest of exam
Exam findings must have specificity; location (proximal/distal), deviation (medial/lateral), rotation, swelling, dislocation, status of controlled or uncontrolled bleeding, etc.

[VS] – At least one set of vital signs or interpretation of vital signs (e.g. “tachycardic at 120, otherwise normal”). May put in as many as necessary to give a good picture of the hemodynamic status of the patient.
[Test results] – ECG interpretations (with at least three data points)
Rhythm strip interpretations (with at least three data points) Blood glucose, etc.

Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties
PROTOCOL TITLE: DOCUMENTATION

A - ASSESSMENT:
[Diagnoses] – These are your working diagnoses for the patient. You may have several diagnoses but MUST have at least one. Be as specific as you are comfortable being. For example, “Acute myocardial infarction” or “Acute Coronary Syndrome” or “PE”. You may also use the patient’s chief complaint as a diagnosis, (i.e. “Chest pain”), or combine the two ideas, “Chest pain, suspect MI”. Remember that all cardiac arrest charts MUST have “cardiac arrest” as one of the diagnoses.

Note: Your assessments should clearly flow from your subjective and objective parts of the chart. Further, your assessments should be supported in the rest of the chart. (E.g. If you put “Polysubstance abuse” as a diagnosis, it should be clear in the chart that the patient was using multiple substances).

P - PLAN:
This is a narrative of what happened during the call. What interventions were performed? Why were they performed? (For example; 8 mg Zofran for nausea & vomiting.) What were we thinking? This is the appropriate place to document your medical decision making. This may include statements such as, “Repeat neuro assessment showed decreasing mental status to GCS 6 so decision to intubate to protect airway.” Any deviation from protocol should be narrated here as well such as, “Blood glucose not repeated by EMS due to value from patient’s machine just prior to arrival.” Or, “Splinting and bandaging not completed at time of arrival to ED due to short transport time.” If you obtained approval from an E.D. Physician, this should also be documented.
The result of the treatment (improved, increased BP, no change, etc.)
Final documentation here should be to whom you transferred patient care.

[Name of person completing the chart], [certification level], [date & time signed] (unless otherwise already specified in EMR format.)
[Co-signature of lead paramedic, if applicable]

NOTE:

1. Document completely, instructions received via radio from Online Medical Control. Document the name of physician giving the order(s).

2. Document patient refusal of treatment, if it occurs (See G-10).

3. Document any rationale for any deviation from written protocol (See G-2).

Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties

June 18, 2019
Date
4. Both a verbal report and written and or electronic report shall be provided to the supervising physician and/or designee at the time of patient transfer. If the written report cannot be provided at the time of patient transfer, a copy shall be completed within a reasonable time frame that shall not exceed six (6) hours after the patient has been delivered to the hospital.

5. If an agency is not using Image Trend, fax or fax server to transmit MIRs to the hospital is acceptable if security can be assured.
PROTOCOL TITLE: INFECTIOUS DISEASE PROPHYLAXIS

Washington Administrative Code, WAC 296-305-02501 requires that all EMS departments shall have a written infection control plan. WAC 246-976-020-085 requires that all EMS personnel shall meet initial training requirements and annual updates in infectious disease prevention with special emphasis on HIV/AIDS and Hepatitis B, to meet the requirements of the RCW 70.24.270.

Under these requirements, the providers will receive four (4) hours initial blood born pathogen training and annual updates thereafter.

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

1. Treat all patient contacts as potentially infectious.

2. Handle sharp items with extreme caution – Needles, scalpel blades and other sharp objects should be treated as potentially infective once they have been used. Place disposable items into puncture resistant containers located as close as possible to the area of use. Do not recap, bend, or purposefully break needles.

3. Wear protective gear when in contact with blood, body secretions, and tissue specimens as a safeguard, all blood, body secretions and tissue specimens should be treated as if they were contaminated. Emergency medical personnel shall wear protective disposable gloves with all patient contact both during treatment and when cleaning up. Safety glasses are to be worn when spattering is likely and disposable masks should be worn when signs of rash and fever indicate a communicable disease that may be spread through oral or respiratory secretions (chicken pox, measles, meningitis, whooping cough, TB).

4. Wash thoroughly as soon as possible after contact with blood or body secretions. Use an antiseptic soap and running water and rinse thoroughly. When running water is not available, scrub with germicidal toilette or foam, and follow with soap and water wash as soon as possible. When practical, wash thoroughly before and between patient contacts. Change clothing soiled with blood or body secretions. Disposable gowns are recommended when spattering likely.

5. Use ventilation device (BVM, pocket mask etc.), for cardiopulmonary resuscitation.

6. Personnel suspecting exposure to an infectious disease, or if the mouth, eyes or an unprotected cut are directly exposed to blood or body secretions, or if a needle stick injury has occurred the affected personnel shall wash thoroughly, follow departmental procedure, and inform their supervisor.

7. In Adams,Benton,Franklin,Yakima Co. all EMS personnel are required to be current on their, HEP-B and Tetanus vaccinations. It is strongly recommended that all EMS personnel have an annual Flu shot and a TB test.

Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties

June 18, 2019
Date
PROTOCOL TITLE: INTER-FACILITY TRANSPORT

Inter-facility transport will occur at BLS, ILS and ALS levels within the following general categories:

1. Transfer between hospitals for admission for services not available at originating hospital.
2. Transport and return of patient to facility.
3. Transport from hospital to extended care facility.
4. Transport of patient between other facilities at patient’s request.

As a general rule, it is the responsibility of the transferring facility to insure 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 standing orders. If a physician attends the patient during transfer, he or she will direct all care regardless of standing orders. If a registered nurse attends the patient, he or 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 desire to defer emergency care in some situations to the paramedic.

The responsibility for transfer to another facility resides with the transferring facility. Patients will not be transferred to another facility without first being stabilized to the extent possible based on the capabilities of the transferring facility. Stabilization includes adequate evaluation and initiation of treatment to assure that transfer of a patient will not, within reasonable medical probability, result in material deterioration of the condition, death, or loss or serious impairment of bodily functions, parts, or organs, except in situations where not transferring the patient is more likely to result in death or serious harm. Evaluation and treatment of patients prior to transfer to include the following:

1. Establish and assure an adequate airway and adequate ventilation.
2. Evaluation and management of a patient in labor.
3. Initiate control of hemorrhage.
4. Stabilize and splint the spine or fractures, when indicated.
5. Establish and maintain adequate access routes for fluid administration.
6. Initiate adequate fluid and/or blood replacement.
7. Determine if the patient’s vital signs (including blood pressure, pulse, respiration, oximetry, and urinary output, if indicated) are sufficient to sustain adequate perfusion.

It is also the transferring facility’s responsibility to establish the need for BLS, ALS, or Critical Care transport.

Kevin Hodges, M.D Date June 18, 2019
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
PROTOCOL TITLE: INTER-FACILITY TRANSPORT

For an ALS response not meeting the above criteria, the following may apply:

1. You may initiate pre-hospital protocols and guidelines including the establishment of intravenous lines, airway control, etc.

2. You may refuse to transfer the patient until the facility has complied with the above evaluation and/or treatment. Should you decide this is necessary, contact Medical Control for concurrence and consultation, or contact the MPD directly.

If a BLS transport is requested and it is the judgment of the BLS crew that the patient needs to be transported by an ALS ambulance, it is mandated that dispatch is contacted and an ALS crew dispatched. Under no circumstances should a BLS crew transport a patient if, in their judgment, this is an ALS call. (Exception: mass casualty incidents and initiation of transport en route to meeting an ALS unit.)

Transporting personnel should be provided with a verbal or succinct written report (from either the physician or attendant RN) about the patient’s condition, to include:

1. Present medical illness, including pertinent current medications.

2. Reason for transfer.

3. Pertinent medical history, including allergies.

4. Medications to be administered in transfer.

5. Patient’s code status.

In the event of either an ALS, or BLS crew onboard and an emergency occurs en route that is not anticipated prior to transport, pre-hospital protocols and guidelines will immediately apply. The destination facility should be contacted as soon as possible to inform them of changes in the patient’s condition, and for concurrence of any orders, as appropriate.

Responding to an Urgent Care, Clinic, or other medical facility with a provider on-site

Establish whether or not the patient has been evaluated by a provider

1. If the patient has not had a medical screening examination by a physician or PA-C, or ARNP, then proceed per normal protocols and transport destination guide.

2. If the patient has received a medical screening examination by a physician (MD or DO), PA-C, or ARNP, the medical provider on scene will dictate the transport destination. The provider may defer transport and treatment decision to the EMS crew or may ask for information or opinions of the EMS crew prior to the provider making the decision. If a medical provider has made a decision on destination, that decision must be honored by the EMS crew regardless of State or local EMS destination protocols.

Date: June 18, 2019

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
INTER-FACILITY TRANSPORT

Factors to consider:

- If a provider has arranged a destination and accepting provider already, deviation from this destination can cause significant medical and legal complications and should only be considered in the direst of medical circumstances (e.g. unstable and uncontrolled airway)

- Patient/family preference should generally play a large part in the initial destination decision.

- Recent procedure or history with a specific facility (e.g. Patient with chest pain had a cath two weeks ago at Trios, should typically go to Trios)

- All parties – EMS, medical provider, and patient/family, should be in agreement on destination prior to loading patient for, or otherwise initiating transport.

- In cases of disagreement between the patient and the medical provider regarding destination, the EMS crew should allow those two parties to decide on a destination prior to leaving the facility.

Any deviation from this guideline or from the transport protocols should be reported to the MPD.

Note: See also IFT protocol/appendix for advanced transfusion protocols for use by paramedics who have successfully completed the MPD-approved training program.
PROTOCOL TITLE: REFUSAL OF TREATMENT AND/OR TRANSPORT

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

A competent adult has the right to refuse treatment.

When a competent adult refuses treatment, you must inform the patient of the risks and consequences and reasonable alternatives involved in refusing care, and be sure the patient understands you.

After you have explained, and are sure that they fully understand the risks and consequences, you must have the patient sign a MPD approved refusal form. In addition to a signed refusal form any patient contact must include a completed MIR which should include the patient’s chief complaint, physical assessment, at least one set of vital signs, proposed treatment, and pertinent patient history.

If the patient refuses to sign the form, obtain a signature from someone that has witnessed the patient’s refusal. The witnessed should be someone other than yourself or your crew member.

When the wishes of the patient and the recommendations of the EMS crew conflict, contact Online Medical Control and fully document all your actions.

Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties

*MSE (Medical Screening Evaluation)
Includes: Hx, PE, VS, BG, ECG or 12 Lead as appropriate
**PROTOCOL TITLE: REFUSAL OF TREATMENT AND/OR TRANSPORT**

Patient denies injury and declines evaluation. EMS suspects no significant injury.
- Refusal / medical chart not required

Patient declines evaluation/transport but EMS suspects significant illness or injury.
- Determine Capacity to Refuse Care
  - Attempt full *MSE
    - MSE Completed
      - EMS no longer suspects significant injury.
    - Patient Refuses MSE
      - EMS still suspects significant injury.

Patient requests evaluation by EMS. MSE shows no acute findings or life threats.
- Present
  - Refusal / medical chart not required
  - Present Options:
    - Transport by private amb.
    - Transport by POV or taxi
    - Go to an Urgent Care
    - Contact Personal Care Physician
    - Enlist help from family / friend

*Refusal or treatment and/or transport*

G10

- Patient Refuses MSE
  - Transport under Implied Consent
    - Explain patient does not meet criteria for ALS transport and may be held financially responsible.
  - Patient Refuses MSE
    - Patient does not desire transport.
    - Explain risks of refusing care and benefits of transport or alternatives.
    - Transport under Informed Consent.

- Patient Refuses MSE
  - Patient wishes to be transported
    - Patient Refuses MSE
      - Patient does not desire transport.
      - Make a genuine attempt to convince patient to be treated and/or transported.
      - Explain risks of refusing care and benefits of transport or alternatives.

- Patient Refuses MSE
  - Patient Refuses MSE
    - Patient Refuses MSE
      - Make a genuine attempt to convince patient to be treated and/or transported.
      - Explain risks of refusing care and benefits of transport or alternatives.

- Patient Refuses MSE
  - Patient Refuses MSE
    - Patient Refuses MSE
      - Make a genuine attempt to convince patient to be treated and/or transported.
      - Explain risks of refusing care and benefits of transport or alternatives.

When the wishes of the patient and the recommendations of the EMS crew conflict, contact Online Medical Control.

Have patient read and sign refusal form. Document patients stated plan, and events of patient contact according to protocol in PCR.

*MSE (Medical Screening Evaluation)*

Includes: Hx, PE, VS, BG, ECG or 12 Lead as appropriate
PROTOCOL TITLE: RESPONDING TO A MEDICAL FACILITY W/ A PROVIDER ON-SITE

Responding to an urgent care, clinic, or other medical facility with a provider on-site

Establish whether or not the patient has been evaluated by a provider.

1. If the patient has not been evaluated by a physician or PA-C, or ARNP, then proceed per normal protocols and transport destination guide.

2. If the patient has been evaluated by a physician, PA-C, or ARNP, the medical provider on scene will dictate the transport destination. The provider may defer transport and treatment decision to the EMS crew or may ask for information or opinions of the EMS crew prior to the provider making the decision. If a medical provider has made a decision on destination, that decision must be honored by the EMS crew regardless of State or local EMS destination protocols.

Factors to consider:

- If a provider has arranged a destination and accepting provider, deviation from this destination can cause significant medical and legal complications and should only be considered in the direst of medical circumstances (e.g. unstable and uncontrolled airway)

- Patient/family preference should generally play a large part in the initial destination decision.

- Recent related procedure or history with a specific facility (e.g. Patient with chest pain had a cath two weeks ago at Trios, should typically go to Trios)

- All parties – EMS, medical provider, and patient/family, should be in agreement on destination prior to loading patient for, or otherwise initiating transport.

- In cases of disagreement between the patient and the medical provider regarding destination, the EMS crew should allow those two parties to decide on a destination prior to leaving the facility.

Any deviation from this guideline or from the transport protocols should be reported to the MPD.
When a physician, or other medical provider (PA-C, ARNP) is in attendance, on-scene at a location other than a medical facility (e.g. Good Samaritan at a MVC), the EMS team will attempt to comply with the provider’s instructions for the patient, including transport destination. Online Medical Control may be contacted if needed. Assisting providers should be made aware that the EMS unit is already operating directly under the Online Medical Control Physician.

The provider at the scene should be provided with the following options:

1. Request to talk directly to the Online Medical Control Physician to offer advice and assistance.

2. Offer assistance to the ALS team with another pair of eyes, hands or suggestions, leaving the ALS team under Medical Control.

3. Take total responsibility for the patient with the concurrence of the Medical Control Physician. If the physician elects this option he/she must also accompany the patient in transport.

If during transport the patient’s condition should warrant treatment other than that requested by the private provider, Medical Control may be contacted for information and guidance.
Schedule 2 medications are those medications that are classified as controlled substances by the U.S. Food and Drug Administration. The purchase, storage, dispensing, and record keeping of Schedule 2 medications will be handled in the following manner:

RECORD KEEPING: Each EMS agency authorized to obtain and dispense Schedule 2 medications will maintain appropriate orderly records. Copies of these records will be provided to the County MPD at his/her request.

Upon written request, the EMS agency will provide the Adams,Benton,Franklin,Yakima County Medical Program Director and/or the agency’s medical advisor the original records, when by his/her judgment an audit is necessary. The following information should be supplied with the audit request.

1. Names of all personnel who have access to Schedule 2 medications.
2. Name of the designated control person.
3. Name and FDA physician control number.

CONTROL: The EMS agency will designate one individual who will be responsible for record keeping and security of the controlled substance. This individual will be responsible for reporting any discrepancies to the County Medical Program Director.

PURCHASE: Purchase of Schedule 2 medications must be on a Federal Narcotics form DEA 222, which contains the name and address of the EMS agency, as well as the name and FDA physician control number of the Medical Program Director.

Copies of the DEA 222 indicating the source and date of purchase must be maintained by the EMS agency and the EMS/MPD administrative office for the purpose of inventory, should a problem arise.

STORAGE IN-HOUSE: Storage will be in a locked container that inhibits forced entrance. That container will be stored in a cabinet that is also locked.

Keys to the storage facility will be in control of the paramedic on duty. If no paramedic is on duty, the highest-ranking individual on duty at that facility will be responsible for the keys and for maintaining the appropriate records.

STORAGE IN THE FIELD: Schedule 2 medications will be handled in one of two ways in the field:

1. The paramedic may carry them in a container that slips on/over the belt and has a cover sufficient to keep the medications from freely falling out; or
2. They may be stored in a locked container that inhibits forced entrance, with that container being stored in a cabinet or compartment on the apparatus that is also
locked. Keys to the apparatus storage will remain in control of the duty paramedic on the apparatus.

**DAILY DRUG RECORD:** Each agency is responsible for maintaining a mechanism to track who is responsible for controlled medications at all times and the amount of medications that are in said person’s control. This should be a daily record so discrepancies can be found quickly.

1. Off-duty paramedic signature.
2. On-duty paramedic signature.

**DISPENSING:** Control and dispensing of Schedule 2 medications is the sole responsibility of the paramedic. They will be responsible for properly recording the following information on the patient’s MIR form and in the agency’s record book:

1. Date.
2. Agency Run Number.
3. Amount of medication dispensed and wasted in mg.
4. Signature of paramedic dispensing medication, and witness of the wasting of medication.

**DESTRUCTION:** Destroying outdated or contaminated Schedule 2 medications will be witnessed by two individuals. Both must sign in the appropriate section of the Schedule 2 medication logbook.

1. Medication lot number.
2. Expiration date.
3. Date destroyed.
4. Two signatures:
   a. Paramedic destroying the medication.
   b. Witness.
5. Reason for destruction.
PROTOCOL TITLE: SUDDEN INFANT DEATH SYNDROME (SIDS)

The goal of field EMS care in the case of Sudden Infant Death Syndrome (SIDS) is to provide resuscitation treatment to the infant, if indicated, as well as supportive care to the family until other resources can be mobilized.

Discuss transport decision with Medical Control.

1. If no signs of obvious death:
   a. Verify cardiopulmonary arrest.
   b. Refer to appropriate Pediatric Cardiopulmonary Arrest protocol.

2. If signs of obvious death; disfiguration of face with “squashed nose”; frothy, blood-tinged mucous around infant’s mouth or nostrils; livor mortis (pooling of blood in dependent body areas may appear as blotching); rigor mortis.
   a. Do not initiate resuscitation procedures unless family refuses to acknowledge the infant’s death.
   b. Acknowledge the parent’s and family’s feelings of grief, and provide calm, authoritative guidance.
   c. Consider activation of the Critical Incident Stress Debriefing (CISD) Team after the incident.
   d. Observe scene carefully and document:
      i. Location and position of child.
      ii. Objects immediately surrounding the child.
      iii. Behavior of all individuals present.
      iv. The explanations provided.
      v. Emesis in mouth or foreign body present.

3. Assess for and consider possible abuse mechanism. If suspected, notify CPS by telephone immediately following completion of the call. Document notification time and CPS representative taking report or time voice message is left.

   1-866-ENDHARM (1-866-363-4276)

I. Triggers

1. Activation of the EMS Viral Respiratory Disease, Pandemic SOPs is made by Agency Administrators in consultation with the Public Health Officer.

2. Communications.
   a. 9-1-1 Operations/Dispatch.
      i. Activate their pre-determined applicable criteria based dispatch protocol and advise emergency responders of positive symptom(s) patients.
   b. Situation Reports.
      i. The Public Health Officer and the Agency Administrators will ensure situation reports are provided to emergency responder agencies to distribute to stations/personnel.
   c. Shift Briefings – All EMS agencies will provide ongoing shift briefings to include:
      i. Status of outbreak including last 24 hour activity
      ii. Hospital status
      iii. PPE, Infection Control
      iv. Status of EMS Pandemic SOP

II. Worker Safety/Infection Control

1. Personal Protective Equipment (PPE):
   a. Enhanced PPE Procedures:
      i. All Patient Contact – standard precautions or PPE including: gloves, NIOSH approved mask, and eye protection. http://www.cdc.gov/swineflu/masks.htm
      ii. Patients with respiratory/GI symptoms – PPE outlined above, plus: disposable gown/overalls and shoe covers; cover patient with surgical face mask.
      iii. Change in response configuration to minimize personnel exposure at each call.
      iv. Every job regardless of Pt. Contact – PPE including: NIOSH approved mask, eye protection, regular hand washing, and cleaning of work surfaces (minimum prior to each shift/staff change)
2. Vaccination / Antiviral Therapy:
   
a. Emergency Responder Points of Distribution (POD) – Agency administrators in consultation with the County Health Department will consider/coordinate activation of the Emergency Responder PODs for appropriate vaccination/antiviral therapy.

b. Staff Entry Control Process:
   
i. All EMS agencies shall establish a decontamination and health care screening site(s) to clear employees prior to entering the work site and start of each shift.

3. Decontamination and Cleaning of Equipment/Work Areas.
   
a. Enhanced Decontamination Procedures:
   
i. Clean off all surfaces and equipment (including glasses and stethoscope) using agency’s anti-microbial agents/disinfectants or alcohol based hand cleaner.
   
ii. Dispose of all cleaning supplies in red hazardous waste bag
   
iii. (Driver Prior to Transport/Attending Technician at end of Transport/patient care) Remove disposable gown/overalls, face mask, gloves and disposable BP cuff into hazardous waste bag and secure.
   
iv. First Responders: Place all equipment used during the call in a red hazardous waste bag until decontamination prior or en route to next call.
   
v. Use bio-wipes or alcohol based hand cleaner to clean hands and forearms until soap and water are available
   
vi. (Driver on arrival at receiving facility) Use new suit, gloves, face mask, and eye protection.
   
vii. Once patient has been transferred, decontaminate inside of ambulance patient care area and equipment prior to arrival at next call.

III. Patient Care and Transport (Respiratory Distress (Flu Like) Symptoms)
   
1. PPE & Standard Precautions.

   
a. Chief Complaint.
   
b. Vital Signs (including temperature).
   
c. Medical History/Travel History.
3. Medical Control will advise 9-1-1 and Fire/EMS agencies which of the following Care and Transport options to use:

a. **Care and Transport to ED.**
   
i. Allow patient to achieve position of comfort
   ii. Cover patient with surgical face mask, or administer O2 via face mask, to reduce aerosolization of virus
   iii. EKG, IV TKO (if patient has signs of dehydration, administer fluids per protocol)
   iv. Administration of antiemetics as necessary based on patient symptoms.
   v. Passive cooling techniques based on temperature
   vi. Provide “Infection Control Guidance for Families”.

1. If the equipment and the procedures have been provided to pre-hospital EMS agencies and time allows, based on patient condition, then do mouth and throat swabs of members within the immediate patient living/work area.

vii. Use proper patient isolation techniques.

   1. Close off ambulance driver’s compartment.
   2. Drape patient / Isolation Pod.

viii. Early EMS Report

4. **Care and No Transport.**

   a. Provide a hand out explaining the demand of limited resources and decision of no transport.
   b. Provide “Home Care and Protective Equipment for Families Packet” and explain contents and use.
   c. Advice to call 9-1-1 should priority symptoms occur.
   d. Advise Home Health Care of patient condition and location for in home support and care.

If ordered by Public Health Officer, distribution of anti-viral medications.
Bradycardia – Persistent symptomatic bradycardia or bradycardia causing hemodynamic changes

- Oxygen via cannula @ 4 lpm if stable
- Oxygen via NRM @ 15 lpm if unstable

**BLS - ILS**
- Call for ALS Transport
- Keep in supine position
- ILS – Start IV **Crystalloid**

**ALS**
- Determine Rhythm
- Stable or Unstable

**Stable**
- Narrow Complex Bradycardia
- 0.5 mg Atropine IVP

- No Response to **Atropine**
  - Repeat **Atropine** 1 mg IVP
  - Max dose 3 mg

- Refractory to **Atropine**
  - **Epinephrine** 2 – 10 mcg/min

**Unstable or Wide Complex**
- (High degree blocks 2nd or 3rd degree)

- Transcutaneous Pacing

**ALS**
- Determine Rhythm
- Stable or Unstable

- **BLS - ILS**
  - Call for ALS Transport
  - Keep in supine position
  - ILS – Start IV **Crystalloid**

- **Stable**
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  - Max dose 3 mg

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  - **Epinephrine** 2 – 10 mcg/min

**Unstable or Wide Complex**
- (High degree blocks 2nd or 3rd degree)

- **Transcutaneous Pacing**

**HR > 60**
- Focus on O2 & Ventilation

**HR < 60**
- Start CPR

**Neonatal HR < 100**
- BVM Ventilation
PROTOCOL TITLE: CARDIOGENIC SHOCK

I. BASIC LIFE SUPPORT

1. Establish and maintain airway.

2. Administer O₂ @ 10-15 L/min via nonrebreather mask.

3. Frequent vital signs.

II. INTERMEDIATE LIFE SUPPORT

4. Establish two large-bore IVs and administer 30mL/kg Crystalloid bolus.
   a. **Reassess patient (including lung sounds) every 500mL.** Do not administer fluid challenge if patient displays signs and symptoms of volume overload. Stop fluid challenge if patient develops pulmonary edema.

III. ADVANCED LIFE SUPPORT

5. Establish cardiac monitor.

6. Administer **Levophed** if no response or inadequate response to fluid challenge. Initial rate of 2-4 mcg/min IV/IO, titrated to maintain systolic blood pressure >90mmHg.
   a. Consult drug table for drip rates if necessary

7. For hypotension refractory to fluid bolus, may give **glucagon** 2 mg IV push. Repeat per A-A1 Chart
I. BASIC LIFE SUPPORT
   1. Establish and maintain airway.
   2. If SaO₂ < 94% administer O₂ to keep SaO₂ ≥ 94%. Do not routinely use O₂ if SaO₂ > or = to 94%
   3. If able to swallow administer 324 mg chewable Aspirin.
   4. If patient continues to have signs and symptoms of chest pain and has their own physician-prescribed Nitroglycerine, contact Online Medical Control for approval to assist patient with Nitroglycerine tablets or sublingual spray.
   5. If provider has successfully completed MPD-approved 12-lead training: Obtain 12-Lead ECG at the earliest opportunity and transmit to Medical Control. Do not delay care. Do not delay transport greater than 4 minutes to obtain ECG. If unable to transmit, present at ED upon arrival. (See triage guidelines for transport destination per Protocol C-9)
   6. Reassessment after Nitroglycerine administration.
      a. Monitor blood pressure.
      b. Question patient about effect.
      c. If systolic blood pressure > 100 mmHg and patient is still having chest pain, repeat Nitroglycerine dose every 5 minutes to maximum three doses.
      d. Record & document all findings & reassessment.

II. INTERMEDIATE LIFE SUPPORT
   7. Establish peripheral IV with crystalloid @ TKO rate.
   8. Administer Nitroglycerine, 0.4 mg, sublingual tablet or spray.
      a. If systolic blood pressure > 100 mmHg and patient is still having chest pain, repeat Nitroglycerine dose every 5 minutes to maximum three doses.

III. ADVANCED LIFE SUPPORT
   Note: Patients presenting with symptoms and EKG consistent with acute ST-elevation myocardial infarction (STEMI) shall be transported rapidly to the nearest facility capable of emergent cath-lab intervention. Exceptions in extreme circumstances will be reviewed by the MPD. In any case, follow triage guidelines for transport destination per Protocol C9.
1. Obtain and transmit 12-lead ECG. Notify Online Medical Control immediately to review the ECG if suspected STEMI.

2. Establish IV crystalloid @ TKO rate and cardiac monitor.

3. Administer Nitroglycerine, 0.4 mg, sublingual, or spray.
   a. If systolic blood pressure > 100 mmHg and patient is still having chest pain, repeat Nitroglycerine dose every 5 minutes to maximum three doses.
   b. If suspected Right Ventricular Infarct administer 500 cc crystalloid bolus prior to Nitroglycerine. Consider use of opiate pain medication instead of Nitroglycerine.

4. If pain unrelieved after 3 Nitroglycerine, administer Fentanyl 1 mcg/kg IV titrated to effect, max dose of 3 mcg/kg.
   a. May substitute Morphine Sulfate 2-4 mg IV; may repeat every 3-5 minutes until pain relieved or to total 20 mg given

5. Watch for dysrhythmias.

6. Consider non-cardiac causes of chest pain; such as pericarditis, pneumonia, gastric esophageal reflux disease, pneumothorax, etc.
I. BASIC LIFE SUPPORT

1. Initial assessment to include lung sounds.

2. Sit patient up if possible and dangle legs.

3. If stable, administer O₂ @ 4-6 L/min via nasal cannula.

4. In unstable, administer O₂ @ 10-15L/min via nonrebreather mask.

5. If provider has successfully completed MPD-approved CPAP training: Consider CPAP per protocol P-2 and initiate ALS rendezvous.

6. If provider has successfully completed MPD-approved 12-lead training: Obtain 12-Lead ECG at the earliest opportunity and transmit to Medical Control. Do not delay care. Do not delay transport greater than 4 minutes to obtain ECG. If unable to transmit, present at ED upon arrival.

II. INTERMEDIATE LIFE SUPPORT

7. Establish peripheral IV access with crystalloid @ TKO rate.

8. Reassess lung sounds frequently.

III. ADVANCED LIFE SUPPORT

9. Establish cardiac monitor.

10. If patient in extremis:

   a. CPAP per Protocol P-2.
   b. BVM assist, intubate as needed.

11. Drug Therapy – SBP > 100

   a. Nitroglycerine, 0.4 mg sublingual every 3-5 minutes to a max. of 1.2 mg. and/or 2 inches Nitropaste applied to chest.
Unresponsive or Pt Who Appears Lifeless

Check Carotid Pulse & Look for signs of Breathing Simultaneously for <10 Seconds

If Pulseless or HR<60

Initiate HQCC

Initiate HPCPR (P18) as Team Builds

1. HQCC, AED/Defib, BVM
2. Consider NRB in place of BVM for first 2 – 6 minutes.
3. Fill Timekeeper Roll ASAP with 3rd Rescuer.
4. Place SGLA prior to first ventilation with BVM.

Continue HPCPR until AED / DEFIB Arrives

10:1 for Highly Trained & Practiced Providers
30:2 (Adult or Child 1 Rescuer)
15:2 (Child 2 Rescuer)

Analyze for shockable rhythm ASAP (Goal is 1-3 minutes after EMS arrival)

Not Shockable

- Resume HPCPR immediately for 2 minutes
- Check pulse & rhythm every 2 minutes
- Continue until ALS arrives and patient is transported

Shockable

- Give 1 shock every 2 min if indicated
- Resume CPR immediately after shock
- Perform HPCPR 2 minutes between pulse & rhythms checks.
- Double sequential defibrillation should not be performed for refractory VF

- Monitor SaO2 & ETCO2 waveforms for CPR quality and ROSC
- Perform resuscitation for minimum of 40 minutes in VF/pVT and PEA arrest, minimum 30 minutes for Asystole

If ALS, & using Manual Defib – go to VF/Pulseless Algorithm

Definitions

HQ CC = High Quality Chest Compressions
HPCPR = High Performance CPR @ either 30:2 or 10:1 if highly trained & practiced.
NRB=Non-Rebreather Mask

Consider Pediatric BVM for adult patients.
Pulseless Arrest - VF/VT & Asystole/PEA

**VF / VT**

1st Shock within 1 – 3 minutes
- 200 Joules (Lifepak)
- 120 Joules (Zoll)

Resume HPCPR
Perform 5 Cycles / 2 Minutes

Follow C5

Asystole / PEA

2nd Shock
- 300 Joules (Lifepak)
- 150 Joules (Zoll)

If cardiac arrest is of a Trauma Etiology, withhold Epi. Focus on fluids, airway & breathing.

Epinephrine 1 mg
every 5 minutes
Consider stopping Epi if refractory after 4 doses. Move to Levophed in PEA.

3rd Shock
- 360 Joules (Lifepak)
- 200 Joules (Zoll)

Give Antidysrhythmic for Persistent VF/VT
- Amiodarone 300 mg OR
- Lidocaine 1 – 1.5 mg/kg

**Pulse / Rhythm Check**
Every 2 Minutes

Not Shockable
Resume CPR immediately
Push appropriate medication after defibrillation or if not shockable rhythm.

Shockable

2nd Shock
- 300 Joules (Lifepak)
- 150 Joules (Zoll)

Epinephrine 1 mg
every 5 minutes
Consider stopping Epi if refractory after 4 doses. Move to Levophed in PEA.

3rd Shock
- 360 Joules (Lifepak)
- 200 Joules (Zoll)

Give Antidysrhythmic for Persistent VF/VT
- Amiodarone 300 mg OR
- Lidocaine 1 – 1.5 mg/kg

**Pulse / Rhythm Check**
Every 2 Minutes

**C6**

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

June 18, 2019
Date

**During CPR**
Avoid Hyperventilation
Consider H’s and T’s

Epi (0.01 mg/kg 1:10,000)
Lidocaine (1 mg/kg)
Amiodarone (5mg/kg)

Discontinue efforts

**Continue Cycle: CPR → Shock/Med → CPR→**
- Search for H’s and T’s
- May repeat Amiodarone with 150 mg
- Max dose Lidocaine 3 mg/kg
- Consider Magnesium Sulfate 2 g IV for Torsades
PROTOCOL TITLE: Post R.O.S.C Management

**History:**
- Confirmed cardiac arrest of presumed cardiac etiology or unknown etiology

**Signs/Symptoms:**
- Return of spontaneous circulation as evidenced by ETCO2 >20 and palpable blood pressure.

**Differential:**
- Continue to address specific differentials associated with the original dysrhythmia.

---

**ROSC**

1. Establish Full Set of Vital Signs (BP, HR, ETCO2, SaO2, BG, Temp.)
2. Perform 12 Lead & Transmit ASAP
3. Perform Full Neuro Exam
4. Activate Appropriate Team at ER (Stroke, Trauma, Cardiac)

---

**Airway / Breathing**

- If not intubated and patient is not responding to or following commands, intubate per (P-#)
- Ventilate patient at 20 / minute if Acidotic.

**Circulation**

- Establish 2nd IV of 18g or larger. Consider fluid resuscitation per P-#
- Consider Levophed Drip for persistent hypotension <90 or MAP <65
- Consider Calcium & Sodium Bicarb for suspected Hyperkalemia

---

**Neuro Exam**
- Deep pain response
- Babinski reflex
- Pupillary response
- Posturing
- Corneal reflex

---

**H’s & T’s**
- Hypovolemia
- Hypoxia
- Hydrogen ion (Acidosis)
- Hypo/Hyperkalemia
- Hypothermia
- Tension Pneumothorax
- Tamponade, cardiac
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary

---

**Pearls:**
- Patients experiencing ROSC should be handled gently.
- Reassess airway frequently and with every patient move.
- Document unusual events in Patient Care Report (PCR).
- Document activation of Teams in PCR.
PROTOCOL TITLE: WIDE/NARROW TACHYCARDIA

- Obtain SAMPLE Hx
- Determine DNR Status
- Bring DNR to ER

Unstable*

Narrow- Go straight to Synchronized Cardioversion @ 50 - 100 J
Wide- Go straight to Synchronized Cardioversion @ 100 J

Tachycardia

BLS – ILS
Apply oxygen if unstable*
Call for ALS Transport
Keep in supine position or POC
ILS – Start IV Crystalloid

ALS
Determine Rhythm & Patient Status
Perform 12 Lead

SVT
(Regular Narrow Complex) Rate >150

Vagal Maneuvers

Adenosine 6 mg
Rapid IVP 10 cc Flush

If flutter waves seen or no Response: Consider Atrial Dysrhythmia

Amiodarone 150 mg
Over 10 minutes

or

Lidocaine
0.5 - 0.75 mg/kg

Double Dose of Amiodarone or Lidocaine for second dose

A-Fib / Flutter

If rate is > (220-age) & SBP is >100

Cardizem 0.25 mg/kg
Slow IV, then drip
5-10 mg/hour

After 10 min.
Cardizem 0.35 mg/kg
Slow IV then drip 15mg/hour

If No Response

Amiodarone 150 mg
Over 10 minutes

If rate controlled initiate maintenance drip:
Amiodarone 1mg/min

V-Tach with Pulses

Amiodarone 150 mg
Over 10 minutes

Other Considerations

- Consider: H’s & T’s
- Consider Cardizem for refractory SVT after Adenosine
- Consider refractory wide complex tachycardia could be aberrant SVT - use Adenosine
- Torsades des Pointes - use Mag Sulfate
- Consider Procainamide for Stable VT
**PROTOCOL TITLE: CARDIAC TRIAGE DESTINATION PROCEDURE**

**Assess Applicability for Triage**

- Post Cardiac arrest with ROSC
- ≥ 21 years of age with symptoms lasting more than 10 Minutes but less than 12 hours suspected to be caused By coronary artery disease.
  - Chest discomfort (pressure, crushing pain, tightness, Heaviness, cramping, burning, aching sensation), usually in center of the chest lasting more than a few minutes, or that goes away and comes back.
  - Epigastric (stomach) discomfort, such as unexplained indigestion, belching, or pain.
  - Shortness of breath with or without chest discomfort.
  - Radiating pain or discomfort in 1 or both arms, neck, jaws, shoulders, or back.
  - Other symptoms may include sweating, nausea, vomiting.
  - Women, diabetics, and geriatric patients might not have chest discomfort or pain. Instead they might have nausea/vomiting, back pain or jaw pain, fatigue/weakness, or generalized complaints.

**Assess Immediate Criteria**

- Post cardiac arrest with return of spontaneous circulation
- Hypotension or pulmonary edema
- EKG positive for STEMI (if available)

**Transport per regional patient care procedures COP #7**

**Assess High Risk Criteria**

In addition to symptoms in Box 1, pt has 4 or more of the following:

- Age ≥ 55
- 3 or more CAD risk factors:
  - Family hx
  - ↑ BP
  - ↑ cholesterol
  - Diabetes
  - Current smoker
- Aspirin use in last 7 days
- ≥ 2 episodes of angina in last 24 hours, Including current episode
- Known coronary disease
- ST deviation ≥ .5mm (if available)
- Elevated cardiac markers

**Unstable patients with life-threatening arrhythmia, severe respiratory distress, or shock unresponsive to EMS treatment should be taken to the closest hospital.**

**Assess Transport Time and Determine Destination by Level of Pre-hospital Care**

**BLS/ILS**

- Level 1 Cardiac Hospital w/in 30 minutes

  **YES**

  Go to Level 1 Cardiac Hospital and alert destination hospital enroute ASAP

  **NO**

  Level 2 Cardiac Hospital 30 minutes closer than Level 1?

  **YES**

  Go to closest Level 2 Cardiac Hospital and alert destination enroute ASAP

  **NO**

  Level 1 Cardiac Hospital w/in 60 minutes

  **YES**

  Go to Level 1 Cardiac Hospital and alert destination hospital enroute ASAP

  **NO**

  Level 2 Cardiac Hospital 60 minutes closer than Level 1?

  **YES**

  Go to closest Level 2 Cardiac Hospital and alert destination enroute ASAP

  **NO**

  Go to Level 1 Cardiac Hospital and alert destination hospital enroute ASAP
PROTOCOL TITLE: CARDIAC ARREST TRANSPORT/TERMINATION GUIDELINE

**Third trimester of pregnancy?**
- Yes: (24 weeks or 6 months or more)
- No: Continue HPCPR on

**Assess Cardiac Rhythm & ETCO2**
- V-Fib or Pulseless V-Tach:
  - Continue HPCPR on
  - If prolonged resuscitation with ETCO2 remaining <20
  - In general, If transporting for Alternate *Considerations*

**Persistent Asystole or PEA following at least 3 rounds of ACLS medications and ETT-ETCO2 Remains < 20**
- Contact Medical Control at Level 1 Cardiac Center for discontinuation of efforts

**Return of Spontaneous Circulation (ROSC)**
- Transport to the closest Level 1 Cardiac Hospital within 60 minutes
  - Contact receiving facility ASAP

**Determine best choice for this patient: ALS Intercept vs ALS response to scene**
- Transport to the closest Level 1 Cardiac Hospital within 30 minutes
  - If no Level 1 within 30 minutes, transport to the closest Level 2 within 30 minutes
  - Contact receiving facility ASAP

**BLS & ILS**
- Third trimester of pregnancy?
  - No
  -YES
  - Assess Cardiac Rhythm & ETCO2
  - Return of Spontaneous Circulation (ROSC)
  - Persistent Asystole or PEA following at least 3 rounds of ACLS medications and ETT-ETCO2 Remains < 20

*Considerations*
- Consider transport where location is not conducive to leaving patient, and appropriate to do so, e.g. public location
- Consider transport if family members demanding transport, or similar
- If transporting due to *considerations* and not ROSC, continue full HPCPR efforts until turnover of patient care
- Do not discontinue resuscitation efforts while transporting
- Transport prior to ROSC may decrease survival rates due to difficulty in maintain HPCPR
- Do not transport patients after discontinuing resuscitation efforts on scene
- Ensure a Chaplain or similar is on scene or enroute to assist family members

June 18, 2019
Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
An Acute Abdomen is defined as non-traumatic, severe, persistent abdominal pain of sudden onset that requires immediate medical or surgical review.

Examples of pathologies that may create an acute abdomen:

- Upper abdomen: Cholecystitis, peritonitis, acute hepatitis, acute pancreatitis, GERD/ulcers.
- Lower abdomen: Appendicitis, diverticulitis, ectopic ruptures, ovarian cysts.
- Other sites: AMI, abdominal aortic aneurysm (AAA), kidney stones, aortic dissection.

I. BASIC LIFE SUPPORT
1. Establish and maintain airway.
2. Apply O₂ via nasal cannula at 2-4 L/min.
3. Allow patient to lie in a position of comfort.
4. Pain management per protocol (P-13)
   a. Nitrous Oxide (Nitronox)
   b. Acetaminophen (Tylenol) 650-1000 mg PO.
      i. Pediatric Dose: 15 mg/kg PO.
5. Consider Ondansetron 4-8 mg PO for nausea or vomiting.
   Note: BLS/ILS providers must complete BFC course before authorized to administer Ondansetron (Zofran).
6. Consider ALS rendezvous per guideline.

II. INTERMEDIATE LIFE SUPPORT
7. Establish peripheral IV with crystalloid @ TKO rate if VS are normal.
8. BP < 90 mm/hg systolic and/or HR >120 should receive a 30cc/kg bolus of crystalloid.
9. Contact medical control for further fluid orders if VS still abnormal.

III. ADVANCED LIFE SUPPORT
10. Establish IV and Cardiac Monitor.
11. Consider immediate life threatening causes, such as abdominal aortic aneurysm (AAA). If the patient is unstable:
   a. Document presence or absence of pulses in lower extremities.
   b. Consider multiple IVs.
c. Frequent vital sign monitoring.
d. Do not delay transport.

12. Treat pain as needed per pain management protocol (P-13). Do not withhold pain medications in the Acute Abdomen.

13. Treat nausea/vomiting:
a. Zofran (ondansetron) 4-8 mg IV, IM, PO.
I. BASIC LIFE SUPPORT

1. Establish and maintain airway.

2. Albuterol (Proventil®) 2.5 mg in 3 cc unit dose of 0.9% NaCl per nebulizer mask for wheezing.

Note: BLS providers must complete BFC course before authorized to administer Albuterol.

3. Diphenhydramine (Benadryl) 25-50mg PO.
   a. Pediatric dose; 1-2 mg/kg PO.

Note: BLS/ILS providers must complete BFC course before authorized to administer diphenhydramine.

If patient is displaying signs & symptoms of respiratory distress and/or shock (ie. Anaphylaxis):

4. Administer Epinephrine Auto-injector from your EMS supplies or patient’s physician prescribed Epi.
   a. Adult – EpiPen (0.3 mg).
      i. If Epi-Pen not available, consider.
      ii. Epinephrine, 1:1,000, 0.3-0.5 mg IM.
   b. Infant/Child – EpiPen Jr. (0.15 mg) describes individual who is under 10 years of age and/or weighing < 60 lbs.
      i. If Epi-Pen not available: Epinephrine 1:1000 0.15 mg IM.

   Ensure Epi-PEN is not expired, cloudy or crystallized.

   c. Record time of injection & reassess in two minutes.
   d. Continue supportive care.

II. INTERMEDIATE LIFE SUPPORT

5. Establish IV access with crystalloid @ rate indicated by clinical findings and vital signs.

III. ADVANCED LIFE SUPPORT

Allergic reaction

Kevin Hodges, M.D
Medical Program Director
Adams,Benton, Franklin, Yakima Counties

June 18, 2019
Date
Hives, redness, localized swelling or itching. Maybe swelling of the face or eyes and causing some tightness in the throat and/or mild bronchoconstriction.

6. **SoluMedrol** 125mg IV.

7. Duoneb per nebulizer mask or through BVM PRN wheezing. Repeat PRN.

8. EKG monitor

If no improvement, progressing laryngeal edema, worsening dyspnea, or hypotension consider:

   a. **Epinephrine**, 1:1,000, 0.3-0.5 mg IM.
   
   or
   
   b. **Epinephrine** 1:10,000, 0.3-0.5 mg IV, IO.

   c. Consider Racemic **Epinephrine**, dilute 0.5 mL in 3 cc unit dose of NS, per nebulizer mask.

   d. Endotracheal intubation/RSI if respiratory failure.

Continued signs of shock despite treatment.

   a. **Epinephrine** drip.

   b. May repeat Epinephrine 1:1000 or 1:10000 every 5 minutes if needed.

**Epi gt t info from drug table**

<table>
<thead>
<tr>
<th>Dose</th>
<th>gtt/min 60 gtt set</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 mcg/min</td>
<td>3</td>
</tr>
<tr>
<td>0.5 mcg/min</td>
<td>15</td>
</tr>
<tr>
<td>1 mcg/min</td>
<td>30</td>
</tr>
<tr>
<td>2 mcg/min</td>
<td>60</td>
</tr>
<tr>
<td>4mcg/min</td>
<td>120</td>
</tr>
</tbody>
</table>
I. BASIC LIFE SUPPORT and INTERMEDIATE LIFE SUPPORT

General Considerations

- Be aware of dangers to patient or medical personnel.
- Summon law enforcement.
- Request Mental Health Professional as needed.
- Approach patient in a calm manner.
- Show self-confidence and convey concern for patient.
- Reassure patient he/she should and will be taken to a hospital where there are people that are interested in helping him/her.

General Approach

- Transport the patient as quickly as possible to an appropriate facility without causing undo emotional or physical harm.
- If the patient appears to have significant mental disorder and is refusing transport, consider police and/or mental health professional assistance.
- Never stay alone with a violent patient and have enough help to restrain him/her if needed.
- Consider the armed patient potentially homicidal as well as suicidal.
- For severe or dangerous agitation/combativeness that represents an acute danger to the patient or EMS personnel, consider physical restraint:
  - 4-point soft restraints – secure patient safely in supine position to gurney or backboard.
  - Spitting or biting patients may be secured with a spit sock/hood, surgical mask, or an oxygen mask that has flowing oxygen.

*Violent patients judged as unsafe for transport may be sedated by ALS personnel.*
II. ADVANCED LIFE SUPPORT

1. For severe or dangerous agitation/combative ness refractory to verbal redirection, consider chemical restraint in conjunction with physical restraint:

   a. **Ketamine 250 mg IM. May repeat x1 after 5 minutes if needed.**
      a. Good general chemical restraint with few contraindications.
   b. **Versed (midazolam) 1-5 mg IV, IM, or intranasal.**
      a. May be medication of choice in known or suspected sympathomimetic overdose (e.g. cocaine, methamphetamines).

   Note: Use of chemical restraint also falls under monitoring guidelines for sedation Protocol P-23.

Law enforcement personnel may assume responsibility for patient restraint, but must accompany patient to the emergency department and law enforcement restraint method must not prevent the patient from being transported in a supine position.
I. BASIC LIFE SUPPORT
Notify Medical Control

1. Establish and maintain airway.

2. Place patient in lateral position, on paralyzed side if present.

3. If SaO2 < 94%, administer oxygen if to keep SaO2 > 94%.

4. Obtain blood glucose level. Treat hypoglycemia as necessary.

5. Complete Stroke pre-screening criteria such as Cincinnati prehospital Stroke Scale. Obtain and clearly note to time of onset of symptoms.

6. Suction PRN.

7. If evidence of trauma, initiate cervical immobilization.

8. If time permits, complete “Thrombolytic Checklist” below.

II. INTERMEDIATE LIFE SUPPORT

9. Establish peripheral IV with crystalloid @ TKO rate.

III. ADVANCED LIFE SUPPORT

10. Assess airway, if unstable or if no gag reflex present consider endotracheal intubation/RSI.

11. Establish IV and cardiac monitor.

12. Screen for thrombolytic therapy. If patient may meet criteria for thrombolytics initiate rapid, early transport and early notification of the receiving hospital. Patients who may meet criteria for thrombolytic therapy should be preferentially transported to a facility capable of utilizing thrombolytics.

NOTE: Patients who meet the following criteria can be routed directly to CT when ordered to do so by the ER physician. It is paramount for EMS to ensure the following in order to help the Stroke Team reduce “Door to Drug” and/or intravascular intervention times.

   1. Establish firm time of symptom onset less than 24 hours
   2. Positive BEFAST Assessment
   3. Airway managed and controlled appropriately
   4. Blood Sugar controlled above 80 mg/dl
**PROTOCOL TITLE: STROKE**

**Pre-hospital Stroke Triage Destination Procedure**

**Assess Applicability for Triage**
- Report from patient or bystander of one or more sudden:
  - Numbness or weakness of the face, arm, or leg, especially on one side of the body.
  - Confusion, trouble speaking or understanding.
  - Trouble seeing in one or both eyes.
  - Trouble walking, dizziness, loss of balance or coordination.
  - Sudden severe headache with no known cause.

**Perform B.E.F.A.S.T. Assessment**
- Balance (unexplained vertigo/unsteadiness)
- Eyes (sudden loss or blurred vision, diplopia)
- Face (unilateral facial droop) yes/no
- Arms (unilateral drift/weakness) yes/no
- Speech (abnormal/slurred) yes/no
- Time last normal (determine time patient last known normal)
  - Yes to any one sign = YES
  - No to all signs = NO

**Determine Destination**
- Estimate time patient last normal to arrival at stroke center emergency department

- **Transport** patient to the nearest highest level 1, 2, 3 stroke center within 30 minutes transport time.

- **Transport** patient to nearest:
  - Level 1 stroke center within 60 minutes transport time, and/or
  - Nearest Level 2 stroke center if no Level 1 facility within 60 minutes

- **Transport** patient to level 1, 2, or 3 stroke center within 30 minutes transport time per COP #7 (A-B7)

**Limit scene time and alert destination hospital en route ASAP**

Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties

June 18, 2019
Date
**PROTOCOL TITLE: STROKE**

**Purpose**
The purpose of the Stroke Triage and Destination Procedure is to help you identify stroke patients in the field so you can take them to the most appropriate hospital. Like trauma, stroke treatment is time-critical the sooner a patient is treated, the better their chances of survival. Fast treatment can mean less disability, too. For strokes caused by a blood clot in the brain (ischemic), systemic clot-bursting medication must be administered within 4.5 hours from the time they first have symptoms but in some cases intra-arterial interventions may be beneficial up to 24 hours after onset. For bleeding strokes (hemorrhagic), time is also critical. As an emergency responder, you play a crucial role in getting patients to treatment in time.

**Stroke Assessment – B.E.F.A.S.T.**
The B.E.F.A.S.T assessment tool (also known as the Cincinnati Prehospital Stroke Scale + Time) is a simple but reasonably accurate way to tell if someone might be having a stroke. It’s easy to remember: Balance, Eyes, Facial droop, Arm drift, Speech, + Time. If face, arms, or speech is abnormal, it’s likely your patient is having a stroke. You should immediately transport the patient to a stroke center per the triage tool and regional patient care procedures. Alert the hospital on the way. Transport should not be delayed for IV and EKG monitoring.

<table>
<thead>
<tr>
<th>Test</th>
<th>Normal</th>
<th>Abnormal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Balance:</strong> Subjective or objective findings of balance abnormalities</td>
<td>No physical exam indicators of balance abnormalities</td>
<td>Unexplained dizziness, unsteadiness or sudden falls especially when accompanied by any other symptoms below.</td>
</tr>
<tr>
<td><strong>Eyes:</strong> Check for diplopia, blurred vision, loss or sudden change in vision or eye deviation</td>
<td>No identified changes or abnormalities in vision</td>
<td>Sudden dimness or loss of vision, particularly in one eye, diplopia or blurred vision and/or eye deviation.</td>
</tr>
<tr>
<td><strong>Facial droop:</strong> Ask patient to show his or her teeth or smile.</td>
<td>Both sides of the face move equally.</td>
<td>One side of the face does not move as well as the other</td>
</tr>
<tr>
<td><strong>Arm drift:</strong> 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.</td>
<td>Both arms move the same or both arms are do not move at all.</td>
<td>One arm drifts down, or one arm does not move at all.</td>
</tr>
<tr>
<td><strong>Speech:</strong> Ask the patient to repeat a simple phrase such as &quot;Firefighters are my friends.&quot;</td>
<td>The patient says it correctly, with no slurring.</td>
<td>The patient slurs, says the wrong words, or is unable to speak.</td>
</tr>
</tbody>
</table>

**Time:** Ask the patient, family or bystanders the last time the patient was seen normal.

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June 18, 2019

Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties
PROTOCOL TITLE: STROKE

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.

Encourage family to go to the hospital to provide medical history, or obtain contact information for a person who can provide medical history.

Report to ED:
Possible IV t-PA contraindications: symptom onset more than 180 minutes • head trauma or seizure at on-set • recent surgery, hemorrhage, or heart attack • any history of intracranial hemorrhage

THROMBOLYTIC CHECKLIST

This checklist is intended as a tool for the pre-hospital identification of patients who may benefit from the administration of thrombolics for acute stroke and to facilitate the administration of thrombolics in the ED.

Date: _______________ Time: ___________ Amb/Unit#: ___________ Run #: ___________

Patient Name: ______________________________ Age: _______ Est.Wt: _______ lbs/kg

Time last seen at baseline: _______________________

Time of symptom onset: _________________________

Onset Witnessed or reported by: ___________________

Symptoms from CPSS Scale (circle abnormal findings)

BALANCE ABNORMALITY IN ADDITION TO ANY ONE OF THE FOLLOWING FINDINGS = POSSIBLE STROKE

EYESIGHT eye deviation sudden dimness loss of vision diplopia

FACIAL DROOP: R L

ARM DRIFT: R L

SPEECH: slurred wrong words mute

Report Possible Contraindications to tPA in handoff (check all that apply)

| Current use of anticoagulants | Yes | No | ? |
| Blood pressure consistently >185/110 | Yes | No | ? |
| History or current evidence of hemorrhage (intracranial, internal or GI) | Yes | No | ? |
| Intracranial or intraspinal surgery within the last 3 months | Yes | No | ? |
| Recent major surgery | Yes | No | ? |
| Stroke within the last 3 months | Yes | No | ? |
| Serious trauma within the last 3 months to head or body | Yes | No | ? |
| Current or recent pregnancy | Yes | No | ? |

Have you identified any contraindications to thrombolytic therapy? □ YES □ NO

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
I. BASIC LIFE SUPPORT
   1. Establish and maintain airway.
   2. Obtain vital signs.
   3. Check blood glucose.

II. INTERMEDIATE LIFE SUPPORT
   4. Establish peripheral IV with crysalloid and administer 30mL/kg bolus if signs of dehydration or blood glucose > 300mg/dL.
   5. Transport and obtain follow-up vital signs.

III. ADVANCED LIFE SUPPORT
   6. Establish cardiac monitor.
   7. For altered mental status, consider a second IV line and see Protocol M12
PROTOCOL TITLE: HYPOGLYCEMIA

I. BASIC LIFE SUPPORT

1. Establish and maintain airway.

2. If stable, administer O₂ @ 2-4 L/min via nasal cannula.

3. If unstable, administer O₂ @ 10-15 L/min via nonrebreather mask.

4. Determine blood sugar, if < 80 mg/dL and patient is conscious and able to swallow without difficulty:
   a. Administer Oral Glucose 15 g. Or
   b. Orange juice or an equivalent high concentration of sugar solution PO.

An adult patient may elect not to be transported if:

   c. Blood sugar > 80.
   d. Normal LOC.
   e. The patient is able to eat on their own and re-check own blood glucose level.
   f. The patient has someone on scene to assist them, and summon EMS if necessary.
   g. See also Protocol G10 – Patient refusal

   Note: If patient is on oral hypoglycemics they are at high risk for recurrent hypoglycemia - call online medical control.

II. INTERMEDIATE LIFE SUPPORT

5. Establish peripheral IV access with crystalloid @ TKO rate.
   a. May consider establishing IV access with a solution of D10%

6. Adult Administer Dextrose, D₅₀ 25 g IV, IO bolus.
   a. If using D10%, administer up 250 ml to achieve dose of 25g
   b. May repeat D₅₀ up to 25g after 5-10 minutes if no response and blood glucose remains < 80 mg/dL.

7. Pediatrics 0.5-1 g/kg Dextrose based on the following dilutions up to 25g. For D10%, 0.5 – 1.0 g/kg is equivalent to 5 ml – 10 ml/kg fluid
   a. Age < 1 year may use D10% or dilute D₅₀% or D₂₅% to 12.5% Dextrose.
PROTOCOL TITLE: HYPOGLYCEMIA

b. Age 1-8 years may use D10% or dilute D50% to D25%.
c. Age > 8 years may use D10% or D50%.

III. ADVANCED LIFE SUPPORT

8. Consider cardiac monitor.

9. If suspected alcohol abuse and/or malnutrition, administer Thiamine (Betalin®) 100 mg IV bolus prior to administration of D₅₀.

   a. May repeat D₅₀ up to 25g (250 ml if using D10%) after 5-10 minutes if no response and blood glucose < 70.

10. If unable to establish IV and patient is unable to take oral glucose, administer Glucagon, 1.0 mg IM.
PROTOCOL TITLE: HYPOTENSION / HYPOVOLEMIA– UNKNOWN ETIOLOGY

Adult with systolic blood pressure (SBP) < 90mm Hg or mean arterial pressure (MAP) < 65mm Hg, not clearly falling under another protocol.

Pediatric
Shock in children is subtle and may be difficult to detect. Use clinical judgment and incorporate vital signs.

Assessment and Vital Sign Parameters
Pt presents with cool, clammy, or mottled skin, and tachycardia. Pt. has a >5 second capillary refill. Additionally, pt is irritable or unresponsive, Altered mental status for self. History of vomiting and diarrhea, or trauma.

TACHYCARDIA
Newborn  HR > 180/min.
Infant   HR> 160/min.
Toddler HR > 140/min.
Preschooler HR> 130/min.
Adolescent HR > 120/min.

LOW SYSTOLIC BLOOD PRESSURE
Newborn < 60 mm Hg
Age 1 year or older < 70 + (2 x age in years)

I. BASIC LIFE SUPPORT

1. Establish and maintain airway.

2. Administer O₂ @ 10-15 L/min per NRM, assist as needed with BVM and OPA/NPA.

3. Control bleeding.


5. Maintain body temperature above 97˚ F.

6. If patient will tolerate position, place patient supine and elevate lower extremities.

II. INTERMEDIATE LIFE SUPPORT

7. Establish large-bore IV with crystalloid.

   a. Administer fluid bolus of 30 mL/kg crystalloid. (May repeat x 1)

   Administer 20 mL/kg crystalloid. (May repeat x 1)

Kevin Hodges, M.D  
Medical Program Director  
Adams,Benton,Franklin,Yakima Counties  

June 18, 2019  
Date
**PROTOCOL TITLE: HYPOTENSION / HYPOVOLEMIA – UNKNOWN ETIOLOGY**

### III. ADVANCED LIFE SUPPORT

8. Establish cardiac monitor.

9. Administer **Levophed** if no response or inadequate response to fluid challenges. Initial rate of 2-4mcg/min IV/IO, titrated to maintain systolic blood pressure >90mmHg. Consult drip table (A-A2) for rates, rate adjustments should be limited to 2-4mcg/min every 5 minutes.

10. For hypotension refractory to fluid bolus, may give **glucagon** 2 mg IV push. Repeat PRN.
PROTOCOL TITLE: NAUSEA AND VOMITING

I. BASIC LIFE SUPPORT

1. If stable, administer O₂ @ 2-4 L/min via nasal cannula.

2. If unstable, administer O₂ @ 10-15 L/min via nonrebreather mask.

3. Administer Ondansetron (Zofran) 4-8 mg PO.
   Note: BLS/ILS providers must complete BFC course before authorized to administer Ondansetron (Zofran).

4. Pediatrics administer Zofran based on the following:
   a. <1 yo 1 mg PO.
   b. 1-8 yo 2 mg PO.
   c. >8 yo 4 mg PO.

5. Assess neurological and cardiac status.

II. INTERMEDIATE LIFE SUPPORT

6. Establish peripheral IV with crystalloid @ TKO rate.
   Administer 30mL/kg IV bolus if evidence of hypovolemia.
   Administer 20 mL/kg IV bolus if evidence of hypovolemia

7. Administer Zofran 4-8 mg IV IM, IO, or PO.

8. Pediatrics administer Zofran based on the following:
   d. <1 yo 1 mg IV, IO, IM, PO.
   e. 1-8 yo 2 mg IV, IO, IM, PO.
   f. >8 yo 4 mg IV, IO, IM, PO.

III. ADVANCED LIFE SUPPORT

9. Establish Cardiac Monitor. Consider 12-lead ECG.
I. BASIC LIFE SUPPORT

Obtain history and perform physical assessment:

1. History to include, but not limited to:
   a. Gravidity (number of times pregnant).
   b. Parity (number of life births).
   c. How many weeks pregnant.
   d. Medical problems during the pregnancy.
   e. Presence or absence of prenatal care.
   f. High risk patient.
   g. Taking medications regularly (e.g., insulin, seizure medications).
   h. Recent use of drugs, (e.g., cocaine, ETOH).

2. Assessment to include:
   a. Any vaginal bleeding?
   b. Any fluid loss?
   c. Cramps or contractions and frequency.
   d. Palpate fundus for contractions.

3. Establish and maintain airway.

4. If stable, administer O$_2$ @ 2-4 L/min per nasal cannula.

5. If unstable, administer O$_2$ @ 10-15 L/min per nonrebreather mask.

6. Transport in left lateral recumbent position.

7. For Vaginal Bleeding: Transport any recognizable or suspected products of conception or fetal material present at the scene to the receiving facility.

8. If crowning is present on visual examination, or if multiparous patient and contractions <2 minutes apart, and transport time >15 minutes, prepare for delivery.

II. INTERMEDIATE LIFE SUPPORT

For complicated obstetrical emergencies, contact medical control.

9. Establish large-bore peripheral IV with crystalloid @ TKO rate.
III. ADVANCED LIFE SUPPORT

POST-PARTUM HEMORRHAGE

10. If postpartum hemorrhage profuse and patient exhibiting sign of shock, massage uterus firmly, treat hypovolemia with positioning, oxygen and IV fluids. Contact medical control if considering TXA administration.

TOXEMIA

1. **Pre-eclampsia** if BP >160/110 with edema, **Magnesium Sulfate** 2-4 grams IV slow, over 30 minutes diluted in 50-100 ml crystalloid.

2. **Eclampsia** (Toxemia), seizure and/or postictal.
   a. Lorazepam 2–4 mg IV, **may repeat until cessation of seizure**
   b. Magnesium Sulfate 2-4g IV slow, over 30 minutes diluted in 50-100 ml crystalloid.

CARDIO-PULMONARY ARREST

1. For those patients who suffer cardiopulmonary arrest who are in the third trimester of pregnancy, full resuscitative measures should be continued, even if it is obvious that the mother will not survive. Patients who meet criteria of obvious nonacute mortality (such as dependent lividity, see protocol G6) should not receive resuscitation efforts.
I. BASIC LIFE SUPPORT

1. Responsive, alert patient with gag reflex:
   a. Establish and maintain airway.
   b. Administer O₂ via NC/NRB to maintain SpO₂ of 94-98%.
   c. Ventilate or assist ventilation with BVM, OPA/NPA if patient apneic or hypoventilating.

2. If suspected opioid overdose and patient has a decreased or inadequate respiratory rate:
   a. Administer Naloxone (Narcan®). 1mg Intranasally via intranasal drug delivery device. May repeat ONCE on opposite nostril if no respiratory improvement is noted after 5 minutes.
   b. Ongoing assessment with documentation of reaction to any administration of Naloxone (Narcan®).

II. INTERMEDIATE LIFE SUPPORT

3. Establish peripheral IV with crystalloid @ TKO rate.

4. If suspected opioid overdose and patient has a decreased or inadequate respiratory rate:
   a. Administer Naloxone (Narcan®), 0.4 - 2 mg IV, IM, IO, or IN via intranasal mucosal atomizer device. May repeat every 2-3 minutes to a maximum of 10 mg. Titrate to respiratory effect.
      i. Consider direct distribution of Naloxone to the patient or to those that are close to the patient. (if available)
   b. Ongoing assessment.

III. ADVANCED LIFE SUPPORT

5. Assess airway, if unstable or if no gag reflex present consider endotracheal intubation/RSI.

6. EtCO₂ and cardiac monitor.

7. If ingestion unknown and patient has diminished level of consciousness or depressed respiratory rate:
   a. May administer:
      i. Narcan 0.4-2 mg IV.
      ii. Thiamine 100 mg IV.
iii. D50 25 grams, may repeat x 1 in 5 minutes, PRN.

8. If suspected Tricyclic Antidepressant (TCA) overdose:
   a. If QRS widening (but still <0.12s), but not increasing, may give magnesium sulfate 2 grams IVPB over 10 min.
   b. If HR sustained greater than 120 bpm, EKG shows QRS widening more than 0.12s, hypotension refractory to fluid bolus, or ventricular dysrhythmias: may administer sodium bicarbonate 1mEq/kg slow IV push.
   c. May use norepinephrine (Levophed) 2-4 mcg/min for hypotension refractory to fluid bolus.
   d. Lorazepam 2-4 mg IV/IM or Midazolam 1-5 mg IV/IM/intranasal for seizures.
   e. Amiodarone and beta blockers are contraindicated for ventricular dysrhythmias in TCA overdose.

9. If suspected Beta Blocker overdose:
   a. For SBP<90 give IV fluid bolus 30ml/kg. Place patient in trendelenburg position.
   b. For hypotension refractory to fluid bolus, may give glucagon 2 mg IV push. Repeat PRN.
   c. For bradycardia, may administer atropine 0.5-1mg IV with repeated doses at 5 minute intervals until desired response.
   d. May use norepinephrine (Levophed) drip (initiate at 2-4mcg/min)

10. If suspected Calcium Channel Blocker overdose:
    a. For hypotension (BP<90) refractory to fluid bolus, may give glucagon 2 mg IVP.
    b. May give calcium gluconate 1-2 grams IV over 5 min for signs and symptoms of toxicity (i.e. bradycardia or hypotension). May repeat dose in 10 minutes.
    c. May use Levophed. Administer Levophed if hypotension persists. Initial rate of 2-4mcg/min IV/IO, titrated to maintain systolic blood pressure >90mmHg. Consult drip table (A-A2) for rates, rate adjustments should be limited to 2-4mcg/min every 5 minutes.

11. If suspected Cocaine, Amphetamine, or PCP overdose:
    a. May administer Lorazepam 1-2 mg increments IV for chest pain or hypersympathetic state (sustained HR>120 or SBP>180) related to overdose.
b. Refer to Acute Coronary Syndrome protocol for patients with chest pain (C-3).

12. If suspected Bath Salts/MDPV/Synthetic Psychoactive Stimulants:
   a. Consider prophylactic IV fluid bolus if suspected rhabdomyolysis.
   b. **Lorazepam** 2-4 mg IV/IM/IO or **Midazolam** 1-5 mg IV/IM/IO/intra-nasal for seizures or hypertension.
   c. **Ketamine** 250 mg IV/IM for chemical restraint if indicated.
   d. Monitor ECG, SaO₂, EtCO₂

**NOTE:** In all cases follow ACLS guidelines for dysrhythmia (per protocol).
I. BASIC LIFE SUPPORT

1. If stable, administer O₂ @ 4-6 L/min via nasal cannula.
2. If unstable, administer O₂ @ 10-15 L/min via nonrebreather mask.
3. Physical assessment and history.
4. Check blood glucose.
5. Airway measures as necessary (suction, NPA/OPA, etc)
   - If seizure terminates spontaneously and patient has history of previous seizures with ongoing medical management of those seizures, and clinical situation dictates – patient may have option of not being transported to the hospital.
   - For pediatric patients, assess whether the seizure may be febrile in nature. If so remove heavy or swaddling clothes, keep patient lightly dressed.
     a. For pediatric seizures associated with a fever greater than 103˚ consider acetaminophen PO; 20 mg/kg if patient will tolerate.

II. INTERMEDIATE LIFE SUPPORT

6. Establish peripheral IV with crystalloid @ TKO rate.
7. If blood glucose <80.
   a. Administer Dextrose 50%, 25 g slow IV push.
   b. For children 8 years old or less administer 0.5-1.0 mg/kg up to 25g of Dextrose diluted as follows:
      i. <1 years of age, 10% solution.
      ii. 1-3 years not greater than 25% solution.
      iii. >3 years may use 50% solution.
8. Patients experiencing seizures lasting greater than 5 minutes, having reoccurring seizures or experiencing new onset of seizure without prior history must be transported.
9. For pediatric seizures associated with a fever greater than 103˚ administer acetaminophen suppository; 20 mg/kg.
III. ADVANCED LIFE SUPPORT

10. In the case of witnessed continuous seizure activity >5min with respiratory compromise or repetitive seizures without a return to consciousness:
   
   a. Administer:
      
      i. **Lorazepam** 2 - 4 mg slow IV push, or IM.  
         Or
      
      ii. **Midazolam** 1 - 5 mg IV, IM or intranasally using intranasal drug delivery device.
      
   c. Establish cardiac monitor.
   d. Continue monitoring airway.

11. Pediatric Seizures
   
   a) Consider **lorazepam** (peds dose) 0.1 mg/kg slow IV (max 4 mg) over 2-5 minutes or same dose IM.
      
      or
      
   b) **Midazolam** 0.5-5mg IV, IM or intranasal atomized **midazolam** 0.2 mg/kg using a nasal drug delivery device;
      
      or
      
   c) After two unsuccessful attempts at peripheral venipuncture, and patient remains unconscious consider intraosseous (IO) route.

*Be alert for respiratory complications.*
PROTOCOL TITLE: ALTERED-MENTAL STATUS

I. BASIC LIFE SUPPORT

1. If patient has good gag reflex & adequate respiratory drive, administer $O_2$ @ 10-15 L/min, nonrebreather mask.

2. If patient has no gag reflex, establish OPA/NPA & assist ventilation with BVM & supplemental $O_2$ @ 10-15 L/min.

3. Look for underlying causes of unconsciousness as needed. Consider trauma.
   a. Obtain blood sample with glucometer.
   b. Normal levels run between 80-110 mg/dL.
   c. Report findings to Medical Control.

4. If suspected opioid overdose and patient has a decreased or inadequate respiratory rate:
   a. Administer **naloxone (Narcan®)**, 1mg Intranasally via intranasal drug delivery device. May repeat **ONCE** in opposite nostril if no respiratory improvement is noted after 5 minutes.
   b. Ongoing assessment with documentation of reaction to any administrations of **naloxone (Narcan®)**.

II. INTERMEDIATE LIFE SUPPORT

5. Establish IV access with crystalloid @ TKO rate.

6. If BG < 80 mg/dL, administer **Dextrose D50 25 gm IV**.

7. Administer **naloxone (Narcan®)**, 0.4-2 mg IV, IM, IN. Titrate 0.4 mg PRN to maintain airway and respirations.

III. ADVANCED LIFE SUPPORT

8. Establish cardiac monitor.

9. If suspected chronic alcohol abuse or malnutrition, administer **Thiamine, (Betalin®)** 100 mg IV or IM, prior to administration of **D50**.

*This protocol should be followed regardless of suspected events. If events unknown, all treatment should be given, no assumptions should be made.*

June 18, 2019

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
I. BASIC LIFE SUPPORT

1. Establish and maintain airway.
2. Place patient in position of comfort.
3. Obtain blood glucose level. Treat hypoglycemia per Hypoglycemia (M6)
4. Obtain oral or rectal temperature.
5. Obtain ETCO₂ measurement if equipped and trained to do so. ETCO₂ < 25 mmHg is concerning for lactic acidosis.
6. Treat respiratory distress with O₂ as needed.
7. Evaluate history, signs and symptoms, and consider differential diagnoses.
8. Evaluate Sepsis Screen.
9. If Sepsis Screen positive and you are the transporting unit, notify receiving hospital.

Sepsis Screen

Must have obvious or suspected source of infection AND any of these SIRS criteria:
- SBP < 90 mmHg or MAP < 65
- Heart Rate > 90/min
- Respiratory Rate > 20/min
- GCS < 15
- Temperature > 100.3 F or < 96.0 F (>37.9 C or < 35.5 C)
- ETCO₂ < 26 mmHg on at least 2 consecutive measurements 5 minutes apart.

II. INTERMEDIATE LIFE SUPPORT

1. Establish vascular access; IV/IO
2. Review Altered Mental Status Protocol M12 if applicable
3. Crystalloid fluid bolus IV/IO: 30ml/kg with reassessment every 500mL
   a. Peds 20mL/kg with reassessment every 500mL

III. ADVANCED LIFE SUPPORT

1. If SBP < 90, MAP < 65, or age appropriate hypotension after first fluid bolus:
   a. Adult: Initiate norepinephrine infusion IV/IO 2-4 mcg/min.
      Titrate to SBP > 90 mm/Hg up to 30 mcg/min
   b. Peds: Initiate norepinephrine infusion IV/IO 0.1 - 2.0 mcg/kg/min
      Contact medical control.

2. Use caution with PEEP > 5cm H₂O if CPAP or mechanical ventilation is used for airway management.

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

June 18, 2019
Date
PROTOCOL TITLE: ASTHMA

I. BASIC LIFE SUPPORT

1. Establish and maintain airway.

2. Using pulse oximetry, if available, administer oxygen, titrate \( \text{SaO}_2 \) to >93%. Monitor respiratory status regularly.

3. **Albuterol** 0.5 ml (2.5 mg) in 3 cc 0.9% NaCl if wheezing. Repeat as needed.
   
   **Note:** BLS providers must complete BFC course before authorized to administer Albuterol.
   
   a. Consider adding **Ipratropium Bromide (Atrovent)** 2.5 ml per nebulizer mask. May repeat prn q 5 min. x 2.
   
   OR
   
   Duoneb 3ml mixed in nebulizer may be substituted for albuterol/atrovent treatments. Note: Duoneb may be substituted for individual albuterol/atrovent treatments.

4. CPAP is indicated for moderate to severe asthma.

5. If patient has no gag reflex, establish OPA and assist ventilation with pocket mask or BVM and supplemental oxygen @ 15 L/min.

6. Place I-Gel if patient is in respiratory arrest.

II. INTERMEDIATE LIFE SUPPORT

7. Establish peripheral IV with 0.9% NaCl @ TKO rate.

8. **Racemic Epinephrine** – 0.25-0.5 ml of 2.25% diluted in 3ml NaCl, nebulized.


III. ADVANCED LIFE SUPPORT

10. Consider IV and cardiac monitor, supplemental oxygen.

11. **For moderate to severe asthma:**
   
   a. **SoluMedrol** 125mg IV

12. **For severe asthma exacerbation, consider:**
   
   a. **Epinephrine** (1:1,000) 0.3-0.5 mg IM, SQ or **Epinephrine** (1:10,000) 0.3-0.5 mg IV.

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
PROTOCOL TITLE: ASTHMA

13. CPAP is indicated for moderate to severe asthma in conjunction with pharmacotherapy.

14. Consider endotracheal intubation/RSI and positive-pressure ventilation if patient has a decreased level of consciousness or other signs of respiratory failure.

PEDIATRIC ASTHMA DOSING

1. Epinephrine - 0.01 mg/kg of 1:1,000 SQ, (max: 0.3 cc).
   a. May repeat in 20 minutes.

2. Solu-Medrol – 1 – 2 mg/kg IV to max 125mg, for severe or refractory episode.

3. Racemic Epinephrine – 0.3-0.5 mL in 3 cc unit dose of 0.9% NaCl per nebulizer mask.

4. Epinephrine drip (per table A-A2)
PROTOCOL TITLE:  CHRONIC OBSTRUCTIVE PULMONARY DISEASE

I. BASIC LIFE SUPPORT

1. Establish and maintain airway.

2. Administer O₂ @ 2-4 L/min by nasal cannula.

3. If hypoventilating, assist ventilation with BVM.

4. Monitor SaO₂ & attempt to maintain at 90%.

5. **Albuterol (Proventil®)**, 2.5mg in 3 cc unit dose of 0.9% NaCl via nebulizer. Repeat as needed.
   **Note:** BLS providers must complete BFC course before authorized to administer Albuterol.

   a. Consider mixing with **Ipratropium Bromide (Atrovent)** 2.5 ml (0.02% soln.) per nebulizer mask. May repeat as needed. This may be mixed with first and any subsequent albuterol nebulizer treatment.

   **Note:** Duoneb may be substituted for individual albuterol/atrovent treatments.

   Consider CPAP

II. INTERMEDIATE LIFE SUPPORT

6. Establish peripheral IV.

III. ADVANCED LIFE SUPPORT

7. Establish IV and cardiac monitor and oxygen supplementation.

   a. For moderate to severe COPD exacerbation:

   i. **SoluMedrol** 125mg IV.

   b. Consider endotracheal intubation/RSI and positive-pressure ventilation if patient has a decreased level of consciousness or other signs of respiratory failure.
I. BASIC LIFE SUPPORT

1. Establish and maintain airway. If obstruction present, treat per protocol for airway obstruction.

2. Administer O₂ @ 10-15 L/min per nonrebreather mask. If not tolerated, may administer blow-by oxygen.

3. **Albuterol (Proventil®)** 2.5 mg in 3 cc (unit dose) of 0.9% NaCl per nebulizer mask. May repeat x 2 as needed. (May substitute DuoNeb)

   **Note:** BLS providers must complete BFC course before authorized to administer Albuterol.

4. Frequent vital signs.

5. If decreased level of consciousness assist ventilation with BVM.


II. INTERMEDIATE LIFE SUPPORT

7. Establish IV.

8. If indicated, consider IO route.

III. ADVANCED LIFE SUPPORT

9. Establish IV and cardiac monitor.

10. **Albuterol** 0.5 ml (2.5 mg) in 3 cc 0.9% NaCl if wheezing.

11. Consider endotracheal intubation/RSI and positive-pressure ventilation if patient has failed BVM ventilation and has a decreased level of consciousness or other signs of respiratory failure.

**ASTHMA**

1. **Albuterol** 0.5 ml (2.5 mg) in 3 cc 0.9% NaCl if wheezing. (May Substitute DuoNeb)

2. **Solumedrol** 1-2 mg/kg IV

3. **Epinephrine** - 0.01 mg/kg of 1:1,000 SQ, (max: 0.3 cc). (May repeat in 20 minutes).

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

June 18, 2019
Date
**PROTOCOL TITLE: PEDIATRIC RESPIRATORY EMERGENCIES**

4. **Racemic Epinephrine** – 0.3-0.5 mL in 3 cc unit dose of 0.9% NaCl per nebulizer mask.

**CROUP / EPIGLOTTITIS**

1. Calm patient if possible keep patient in a seated position.
3. Nebulizer of humidified oxygen for mild respiratory distress.
4. For stridor or retractions which are present at rest, or signs of significant respiratory distress:
   a. Humidified High flow O₂
   b. **Racemic epinephrine (may be contraindicated if true epiglottitis)**
      i. <6mo: 0.25ml (2.25%) mixed in 3-5 cc 0.9% NaCl via nebulizer mask.
      ii. > 6mo: 0.5ml (2.25%) mixed in 3-5 cc 0.9% NaCl via nebulizer mask.
   c. **Solumedrol** 1-2 mg/kg IV
5. If child loses consciousness or develops periods of apnea with respiratory depression, initiate BVM ventilation.
PROTOCOL TITLE: UPPER AIRWAY OBSTRUCTION

I. BASIC LIFE SUPPORT

1. If complete foreign body obstruction:
   a. Use abdominal and/or chest thrusts. For pregnant patients, use chest thrusts.
   b. Post-removal, suction and place patient in left lateral recumbent position.

2. Administer O₂ @ 10-15 L/min, per nonrebreather mask.

3. If partial obstruction and patient breathing satisfactorily, or if hypoxic after removal, administer O₂ @ 10-15 L/min per nonrebreather mask and transport ASAP in position of comfort.

II. INTERMEDIATE LIFE SUPPORT

4. Establish IV access, after airway is managed.

III. ADVANCED LIFE SUPPORT

5. If manual attempts unsuccessful, perform direct laryngoscopy and attempt removal with Magill forceps or other appropriate instrument.

6. Follow with endotracheal intubation, if necessary.

7. If ventilation still not possible on adult patient, perform cricothyrotomy per protocol (P-11).

8. For failed airway, consider needle cricothyrotomy (P-12).

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

June 18, 2019
Date
I. BASIC LIFE SUPPORT

1. Critical burns are defined as combination burns involving partial thickness (2nd degree burns) and full thickness (3rd degree burns) involving more than 20% combined of the total body surface, or the presence of facial burns, or respiratory involvement.

2. Remove patient from hazardous environment.
   a. Remove all constricting items and smoldering or non-adherent clothing.
   b. Brush any dry solids off patient.
   c. Dilute and rinse any chemicals with water.

3. Ensure an adequate airway.

4. If critical burns, administer O\textsubscript{2} @ 10-15 L/min per nonrebreather mask.

5. Determine location, extent, and depth of burns and any associated trauma or complications.

6. Cover small burns with sterile dressing moistened with normal saline.

7. Cover moderate to severe burns with dry, sterile dressings.

8. If hands or feet involved, separate digits with sterile gauze pads.

9. Cover to conserve body heat and keep patient warm.

10. Obtain history to include: mechanism or source of burn; time elapsed since burn; whether patient was in a confined space with smoke or steam, and how long; and whether there was loss of consciousness.

II. INTERMEDIATE LIFE SUPPORT

11. Establish large-bore IV with 0.9\% NaCl and run at a rate calculated by 1 hour Parkland Formula.

\[0.25 \times (\text{Body weight in kg}) \times (\%\text{BSA burned}) = \text{Fluid to be infused during first hour.}\]

III. ADVANCED LIFE SUPPORT

12. Monitor airway status, and treat as indicated with supplemental O\textsubscript{2}. Consider early endotracheal intubation/RSI for airway burns with respiratory distress.

13. Establish cardiac monitor and IV. IV fluid administration per the Parkland Formula above.

Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties

June 18, 2019
Date
14. **Morphine Sulfate or Fentanyl Citrate** per pain management protocol (P-13, P-14).

**PROTOCOL TITLE: BURNS**

![Diagram of Rule of Nines for burns on different body sizes.](image)

**PALMAR METHOD**
(Patient’s palm)
PROTOCOL TITLE: CHEST INJURIES

I. BASIC LIFE SUPPORT

1. Establish and maintain airway.
2. If stable, administer O₂ @ 2-4 L/min via nasal cannula.
3. If unstable, administer O₂ @ 10-15 L/min per nonrebreather mask.
4. Assess for penetrating injuries and apply occlusive dressings.
5. Cervical immobilization as indicated (T-4).

II. INTERMEDIATE LIFE SUPPORT

6. If BP < 90 mmHg:
   a. Establish large-bore peripheral IV with 0.9% NaCl and run at rate that maintains blood pressure at 90 systolic or greater.
      i. Consider additional IV lines.
7. If BP >90 mmHg and patient is stable:
   a. Establish large-bore IV with 0.9% NaCl and run at TKO rate.

III. ADVANCED LIFE SUPPORT

8. Monitor airway status, and treat as indicated with supplemental O₂. Consider early endotracheal intubation/RSI for severe chest injury with respiratory distress.
9. Assess for tension pneumothorax and perform needle chest decompression as indicated. (P-12)
10. Establish cardiac monitor and IV/IO. Consider 2nd IV access for unstable pt.
    a. Other considerations:
       i. IV fluid resuscitation.
       ii. Occlusive dressings for penetrating injuries.
11. For any severe chest injury, rapid transport and trauma team activation is indicated.
12. Pain management per protocol. (P-13, P-14)
I. BASIC LIFE SUPPORT

1. Establish and maintain airway.

2. Administer O₂ @ 10-15 L/min by nonrebreather mask.

3. Control severe external hemorrhage as indicated.
   a. Apply direct pressure to uncontrolled, active hemorrhaging.
   b. If extremity wound and hemorrhage is uncontrolled, consider application of tourniquet.
   c. If unable to control hemorrhage and location of wound is not conducive to tourniquet application, consider application of an MPD approved hemostatic agent (QuikClot, per manufacturer’s guidelines)

4. Early transport and activation of the trauma system

5. Provide cervical immobilization as indicated per protocol T-4.

6. Stabilize unstable pelvic or femur fractures.
   a. Pelvic sling.
   b. Femur traction splint.

7. **Do not delay** transport to splint minor fractures, or treat minor injuries.

II. INTERMEDIATE LIFE SUPPORT

8. Establish 2 large-bore IVs 0.9 % NaCl and run at rate that maintains systolic blood pressure of 90.

III. ADVANCED LIFE SUPPORT

9. Consider early endotracheal intubation/RSI as patient clinical status indicates.

10. Assess for tension pneumothorax and perform needle chest decompression as indicated. (P-12)

11. Pain management (P-13, P-14)

12. For major crush or suspension injuries, consider early consultation with online medical control (OMC) for further guidance.
13. In the setting of hemorrhagic shock from trauma less than 3 hours old, with anticipated need for massive blood transfusion due to marked internal or external blood loss, the criteria for Tranexamic acid administration are:

a. Adult trauma patients equal to or greater than 16 years of age.
b. Traumatic injury less than 3 hours old.
c. Hemorrhagic shock due to trauma: systolic BP 90mmHg or less and/or sustained heart rate more than 110 bpm
d. Patient has received at least 500mL of crystalloids and other hemorrhagic control measures have been initiated, i.e. direct pressure, etc.

Tranexamic acid (TXA) 1gram IVP administered over 10 min. in 100 mL or 250 mL NS (may piggy-back). Notify receiving facility that TXA was initiated in the field.

IV. TRAUMA

1. Any patient involved in a traumatic incident should be evaluated using the Washington State Trauma Triage Destination Procedures Tool.

   a. Consider early helicopter activation per COPS A-B5

**TRAUMA- Field Triage Decision Scheme: The National Trauma Triage Protocol**

**Step 1- Measure Vital Signs & Level of Consciousness**

Glasgow Coma Scale <14 or Systolic BP <90mmHg or Respiratory Rate < 10 or > 29 (<20 in infant < one year)

- **YES**
- **NO**

**Step 2- Assess Anatomy of Injury**

- Penetrating injuries to head, neck, torso, and extremities proximal to elbow and knee
- Flail Chest
- Two or more proximal long-bone fractures
- Crushed, degloved, or mangled extremity
- Pelvic Fracture
- Open or depressed skull fx

- **YES**
- **NO**

**Take to a trauma center.** Steps 1 & 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the trauma system.
PROTOCOL TITLE: MULTISYSTEM TRAUMA

- Paralysis

Step 3- Assess MOI and Evidence of high-energy impact

Falls
- Adults >20ft (one story =10ft.)
- Children >10ft or 2-3 x’s the height of the child

High-Risk Auto Crash
High energy transfer; rollover (unrestrained), motorcycle, bicycle, ATV.

a. Extremes of age (<15 >60).
b. Intrusion: > 12in. occupant site; > 18 in. any site
c. Ejection (partial or complete) from automobile
d. Death in same passenger compartment
e. Vehicle telemetry data consistent with high risk of injury

Auto v. Pedestrian/Bicyclist thrown, run over, or with Significant (>20mph) Impact

Motorcycle Crash > 20 mph

Step 4- Assess Special Pt. or System Consideration

Age
- Older Adults: Risk of injury death increases after 55 years
- Children: Should be triaged preferentially to pediatric-capable trauma centers

Anticoagulation and Bleeding Disorders
Burns
- W/O other trauma mechanism: Triage to burn facility
- W/ trauma mechanism: Triage to trauma center

Time Sensitive Extremity Injury
End-Stage Renal Disease Requiring Dialysis
Pregnancy > 20 weeks
EMS Provider Judgment

Reminder: Online Medical Control for any patient meeting trauma system criteria is the expected trauma center destination for the patient.

State of Washington Trauma Criteria defines pediatric patient as age <14.

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

June 18, 2019
**ASSESSMENT OF SPINAL INJURIES**

**High Risk Criteria:**
- Fall from a height (>6 feet, or down 5 stairs.)
- Motor vehicle collision (high speed, rollover, ejection, motorcycle, pedestrian.)
- Diving injuries.
- Obvious blunt force trauma above the clavicles.
- Found unconscious with signs of significant trauma above the clavicles.
- Any other mechanism of injury that may indicate significant energy transfer to the spinal column.

**Low Risk Criteria:**
- Falling from a standing position where there are no signs of trauma above the clavicles.
- Penetrating trauma unless neurological deficit is present.

**Perform C-Spine Clearance Evaluation in Order:**
1. Age is greater than 65
2. GCS less than 15 or Mental Status Orientation is less than 4/4 (Person, Place, Time, Event)
3. There are signs of intoxication (drugs or alcohol)
4. There are major distracting injuries; (fractures, burns, significant chest or abdominal trauma).
5. There are focal neurological deficits; (loss of sensation or motion in any extremity).
6. There is pain, deformity or tenderness to posterior cervical or upper thoracic spine. *See Note*
7. Patient is unable to turn head 45 degrees left & right without pain, numbness, or loss of sensation in any extremities.
8. Patient experiences pain in cervical or upper thoracic spine with deep cough.

**Immobilize the neck/cervical spine**
- Utilize cervical collar and fit appropriately to the patient.
- May substitute padding along the back & sides of neck for anatomically difficult patients.
- Allow patient to assume any position of comfort.
- Utilize other padding and positioning methods as needed with goal of comfort during transport.

**NOTE ON LBBs:**
In general, long spine boards are not to be used for routine immobilization or transport. Use LBB, along with slat stretcher, scoop stretcher, KED, and other adjuncts as needed to facilitate transfer/extrication and patient comfort. LBB is also indicated to facilitate good chest compressions during CPR.

Attention to spinal precautions among at-risk patients is paramount. This includes application of a cervical collar, adequate security to a stretcher, minimal movement/transfers, and maintenance of stabilization during any necessary movement/transfers.
I. BLOOD DRAWS FOR LAW ENFORCEMENT

1. Blood may be drawn for legal alcohol and/or drug determination at the request of law enforcement as provided by RCW 46.61.520 and RCW 46.61.522. Blood samples for law enforcement may be obtained only if:

   a. The patient’s condition indicates the need for IV therapy as required by protocol.
   b. The procedure would not result in a transport delay which could potentially be detrimental to the patient.
   c. The patient is unconscious, or
   d. The patient is under arrest for the crime of vehicular homicide or vehicular assault, or
   e. The patient is under arrest for the crime of driving under the influence of intoxicating liquor or drugs, which arrest results from an accident in which another person is injured and there is a reasonable likelihood that said person may die as a result of injuries sustained in the accident.

2. Law enforcement will provide an evidence kit that contains two gray top vacutainers. These are the only containers to be used when obtaining blood samples for law enforcement.

3. Remember that alcohol preps cannot be used to prepare skin for needle insertion. The pad must contain no alcohol. A pad containing Betadine or Povidone-Iodine is acceptable.

4. Law enforcement must complete and sign the *Adams,Benton,Franklin,Yakima Counties Direction To Take A Blood Test* form and return it to the provider while at the scene.

5. Attach the completed form to your agency’s copy of the medical incident report (a copy may also be attached to the patient’s hospital chart).

6. Document the procedure on the medical incident report.

____________________
Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties

June 18, 2019
Date
ADAMS,BENTON,FRANKLIN,YAKIMA COUNTIES
DIRECTION TO TAKE A BLOOD TEST

INSTRUCTIONS: This form must be completed and signed by a law enforcement officer and returned to the attending EMS personnel. Law enforcement must provide the appropriate blood tubes.

PATIENT: ________________________ DATE: ____________ TIME: _____

EMS AGENCY TO PERFORM PROCEDURE:

________________________________

The undersigned states that the above name patient is either (1) unconscious or (2) under arrest for the crime of vehicle homicide as provided in RCW 46.61.520, or vehicular assault as provided in RCS 46.61.522, or that such person is under arrest for the crime of driving under the influence of intoxicating liquor or drugs as provided in RCW 46.61.502, which arrest results from an accident in which another person has been injured and there is reasonable likelihood that such a person may die as a result of injuries sustained in the accident.

The undersigned directs personnel from the above named agency to administer a blood test (draw blood) without the consent of the patient so unconscious or so arrested.

Officer: __________________________ Signature: __________________________

Law Enforcement Agency:

________________________________

Kevin Hodges, M.D
Medical Program Director
Adams,Benton, Franklin, Yakima Counties

June 18, 2019
Date
CPAP is an alternative method to maintain oxygenation in some patients. It should never be used if a patient is in severe distress that requires intubation.

I. BLS / ILS / ALS

Advise Medical Control ASAP when pt is placed on CPAP, so preparation can be made for patient arrival.

Indications

1. Acute Congestive Heart Failure.
2. Acute hypoxic respiratory failure (including asthma).
3. Severe worsening COPD.
4. Patient's preference to avoid intubation.

Exclusion Criteria/Contraindications

1. Facial deformity.
2. Hemodynamic instability.
3. Inability to clear secretions.
4. Inability to tolerate mask.
5. Inability to maintain airway or respiratory drive.
6. Patient unable to follow directions due to AMS.

Initiating CPAP Therapy

1. Explain therapy to patient.
2. Attach oxygen delivery tubing to 55psi connection on oxygen regulator.
3. Prepare circuit to apply to patient.
4. Initiate setting at pressure of 5 cmH₂O, may increase to 10 cmH₂O, titrate to clinical effect. Initiate therapy with pressure (PEEP) prior to increasing FiO₂.
5. Apply mask manually, then tighten straps to stop any leaks.
   a. Any leaks will be manifested with the sound of air hissing when pt is not breathing.
i. Press the mask firmly on patient’s face and hissing should stop.
ii. Re-adjust straps if necessary.

b. Oxygen supply will be rapidly consumed if there is a mask leak.

6. Reassess patient status frequently. If patient failing CPAP therapy, consider intubation/RSI.
PROTOCOL TITLE: BLOOD GLUCOSE MONITORING

INDICATIONS

- Any altered mentation.
- Seizure or postictal states.
- Known or suspected diabetic.
- Clinically suspected hyper or hypoglycemia.

I. BLS

1. Use appropriate BSI precautions.
2. Prepare all necessary equipment.
3. Turn on meter, make sure meter is coded correctly to match strip.
4. Obtaining blood sample.
   a. Cleanse area with alcohol prep and allow to dry.
   b. Use lancet device to obtain a capillary blood droplet.
   c. Apply the drop of blood to the test spot. Make sure the drop of blood completely covers the test spot on the test strip.

Contact Medical Control with test results.

5. Record the results.
   a. Normal levels for a non-diabetic pt. run between 60 – 110 mg/dl.
   b. A diabetic pt. with a blood sugar of 80 mg/dL or less showing signs & symptoms of hypoglycemia should be given oral glucose (sugar) if conscious and able to swallow safely.

II. ILS

1. N/A

III. ALS

1. N/A

June 18, 2019
Date
I. BLS
N/A

II./III. ILS/ALS

This procedure is only for ILS and ALS providers who have been trained in this technique.

**EZ-IO DEVICE**

The use of I.O. for venous access in adults when vascular access is needed and peripheral IV cannot be established and patient exhibits ONE or more of the following:

1. An altered mental status (GCS of 8 or less)
2. Respiratory failure, respiratory arrest
3. Hemodynamic instability
4. Cardiac arrest
5. Severe burns

**CONTRAINDICATIONS**

1. Suspected or known fractures in the extremity targeted for IO infusion.
2. Previous IO attempt in the same bone within 48 hours
3. Pre-Existing Medical Condition (tumor near site or peripheral vascular disease).
4. Infection at insertion site.
5. Inability to locate landmarks.

**PROCEDURE – TIBIAL INSERTION**

1. Locate insertion site and cleanse using aseptic techniques (anterior-medial tibial plateau 1-3 cm below tibial tuberosity).

   a. Push the needle set through the skin at the insertion site until you feel the needle tip encounter the bone, ensuring the 5mm mark on the needle is visible. Using the drill, apply firm steady pressure through the cortex. Stop when the flange touches the skin or a sudden decrease in resistance is felt.

---

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

June 18, 2019
Date
2. Confirm placement.
   a. ALS Only: Consider administering 20 - 50 mg (1 - 2.5ml) **Lidocaine** over two minutes to the conscious adult pt., for anesthetic.
   b. Flush or bolus the EZ-IO catheter rapidly with 10 ml of crystalloid solution.

3. Dress site, secure tubing.

4. If unsuccessful, or subcutaneous swelling occurs:
   a. Remove needle and dress wound.
   b. Make second attempt at another site.

**PROCEDURE- PROXIMAL HUMERAL INSERTION**

**WARNINGS:** Selection of the proximal humeral site is not indicated in patients weighing less than 40kg.

   a. Caution should be exercised with the proximal humeral site in patients that may become awake/combative as dislodgement may occur.
   b. Sites near total joint replacements should not be first choice.
   c. Abduction of the humerus should be avoided and securing the extremity should be routine.
   d. The yellow 45 mm EZ-IO needle is the only needle approved for use when utilizing the humeral insertion method.

1. Position the patient for the procedure. Choose one of the following two options for positioning the patient prior to proximal humeral insertion:

   **OPTION #1**
   a. With the patient in the supine or semi-fowlers position, place the patient’s hand over their abdomen (elbow adducted and humerus internally rotated).
   b. Secure the patient’s arm in place across the abdomen.
OPTION #2

a. Place the patient’s arm alongside of the body adducting the patient’s elbow then pronate the wrist so that the thumb is down and out, thus internally rotating the humerus.

b. Secure the patient’s arm in place to prevent movement.

2. Locate the insertion site (the most prominent aspect of the greater tubercle 1 to 2 cm above the surgical neck).

a. Stabilize the IO site and push the needle set through the skin at the insertion site until you feel the needle tip encounter the bone, ensuring the 5mm mark on the needle is visible. Using the drill, apply firm steady pressure through the cortex. (Note: for best results, when utilizing the humeral insertion method, the manufacturer recommends inserting the needle completely to the flange and not leaving any part of the needle exposed).

b. Confirm placement
   i. ALS Only: Consider administering 20-50 mg (1-2.5 ml) Lidocaine over two minutes to the conscious adult patient for anesthetic.
   ii. Flush or bolus the EZ-IO catheter rapidly with 10 ml of crystalloid solution.

c. Dress site, secure tubing.

d. If unsuccessful or subcutaneous swelling occurs:
   i. Remove needle and dress wound.
   ii. Make second attempt at another site.
PROTOCOL TITLE: INTRAOSSEOUS INFUSION-JAMSHIDI TECHNIQUE

I. BLS
   1. N/A

II./III. ILS and ALS

This procedure is for ILS and ALS providers who have been trained to perform this technique.

**Jamshidi style needle**

1. The technique is indicated in children 6 years and under, generally pt is unconscious.

2. The use of Intraosseous Infusion (IO) for venous access in children is indicated when urgent vascular entry is required in a critically ill child and cannulation of peripheral veins has failed.

3. The preferred site is the proximal tibia.
   a. Choose leg least injured, if trauma.
      i. Prepare equipment. #15g and #18g Jamshidi needle, 5cc syringe, 10cc, sterile crystalloid solution, betadine pads, tape.
         a. 18g for infants, possibly toddlers.
         b. 15g for larger children.
      ii. Prep anterior tibial plateau with betadine, 1-3 cm below tibial tuberosity, on the flat medial surface of bone.
      iii. place and secure extremity in an externally rotated position, place towel roll under knee for support.
      iv. Insert 1” bone marrow needle with obturator in place through skin, periosteum and cortex of bone at a right angle to the bone and 45-60° angle away from the knee. Rotate needle as you advance it.
      v. When needle “pops” into marrow of tibia, remove obturator and attach 10 cc syringe with 5cc crystalloid solution and aspirate.
      vi. Administer the 5cc of saline and bone marrow mixture back into the bone, there should be minimal resistance.
      vii. Attach IV tubing using a burette chamber to needle hub and flush with crystalloid solution. If successful, IV solution should flow rapidly.
      viii. Tape-secure needle and tubing to leg.
      ix. Administer indicated drugs and fluids.

b. If unsuccessful, or subcutaneous swelling occurs:
   i. Remove needle and dress wound.
   ii. Make second attempt in other leg.
PROTOCOL TITLE: I-GEL AIRWAY

I. BLS with supraglottic airway endorsement / ILS

INDICATIONS

1. Airway management of unconscious and unresponsive patient; may be used as primary advanced airway or rescue device when placement of ETT has failed.

CONTRAINDICATIONS

1. Responsive patient with intact gag reflex.
2. Facial trauma or distorted airway prevents glottic seal

INSERTION INSTRUCTIONS

<table>
<thead>
<tr>
<th>I-Gel Size</th>
<th>Patient Size</th>
<th>Patient Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow 3</td>
<td>Small Adult</td>
<td>30-60</td>
</tr>
<tr>
<td>Green 4</td>
<td>Medium Adult</td>
<td>50-90</td>
</tr>
<tr>
<td>Orange 5</td>
<td>Large Adult</td>
<td>90+</td>
</tr>
</tbody>
</table>

1. Select appropriate size I-Gel, reference chart above.

2. Apply light layer of lubricant to all sides of the cuff as well as front and back of the stem. Ensure no large amounts of lubricant obstructing distal airway.

3. Grasp lubricated I-Gel firmly along integral bite block and position device with the cuff opening directed upward (anterior)

4. Place patient in sniffing position and gently pull chin to open mouth. Use modified jaw thrust in C-spine precaution patients.

5. Introduce the distal end into the mouth and glide the device downward along the hard palate with continuous pressure until resistance is felt after the cuff seats the glottic opening and the patient’s teeth are resting on the integral bite block.

6. Ventilate with supplemental O2 and confirm proper placement with chest rise, bilateral lung sounds and ETCO2 capnography if available.

7. Once confirmed, secure I-Gel using standard methods, i.e. ETT tape, etc.
PROTOCOL TITLE: I-GEL AIRWAY

II. ALS

GASTRIC CHANNEL USE

<table>
<thead>
<tr>
<th>I-Gel Size</th>
<th>Maximum NG Tube (FG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow 3</td>
<td>12</td>
</tr>
<tr>
<td>Green 4</td>
<td>12</td>
</tr>
<tr>
<td>Orange 5</td>
<td>14</td>
</tr>
</tbody>
</table>

1. Select appropriate size NG tube, reference chart above.

2. Measure NG tube from I-Gel NG port to halfway between xiphoid process and umbilicus for insertion depth.

3. Apply liberal amount of lubricant to the I-Gel NG port and introduce NG tube while gently advancing to appropriate depth.

June 18, 2019
Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
PROTOCOL TITLE: OROTRACHEAL INTUBATION (OTI)

I. BLS
   N/A

II. ILS
   N/A

III. ALS

   It is expected that the procedure for orotracheal intubation is well understood and practiced by the paramedic. This protocol is a general protocol for OTI and other advanced airway management procedures performed by the paramedic. OTI should be initiated in a short period of time so as to prevent delay in the provision of adequate ventilation, and airway protection.

   1. Prepare the following equipment and supplies:
      a. BVM with functioning O₂ system.
      b. Suction unit with rigid pharyngeal tip.
      c. Laryngoscope, endotracheal tubes, lubricant, stylet, and 10mL syringe.

   2. Assess and document (MOANS/LEMON) for possible difficult airway. Have a back-up plan.

   3. Assist ventilation with supplemental O₂ as necessary; hyperoxygenate prior to intubation attempt.

   4. Perform the intubation.

   **Primary placement confirmation**
   1. Direct visualization, watching tube pass through vocal cords.
   2. Watch for chest to rise & fall.
   3. Look for mist in the tube.
   4. Auscultate lateral lung fields and epigastrium with a stethoscope.

   **Secondary placement confirmation**
   1. Cardiac Arrest: Use the EDD and end-tidal CO₂.
   2. Perfusing Rhythm: use the end-tidal CO₂ detection device. May additionally use EDD but this should not replace CO₂ detection device.
3. Once ET tube placement has been confirmed, secure tube and continue ventilation with the BVM.

4. Proper tube placement using a primary and secondary confirmation technique must be reassessed following any point at which a patient is moved (e.g., floor to stretcher; ambulance to ED; etc.).

NOTE: If unable to intubate using ETT after three attempts by the most experienced provider, consider using a King LT, or other rescue device. See P10 (Airway Algorithms)

**Documentation of OTI**

1. Proper documentation of the placement of an Endotracheal Tube (ETT) requires the following items:

   a. Date and time.
   b. MOANS/LEMON or other appropriate documentation of difficult airway assessment.
   c. Medications used if applicable.
   d. Primary placement confirmation technique used.
   e. Secondary placement confirmation technique used.
   f. ETT Placement verification used after significant patient movement.
   g. Size of tube, and depth of tube at the teeth.
   h. How tube was secured.
ESOPHAGEAL DETECTOR DEVICE (EDD)

PURPOSE

1. The EDD, (syringe aspirating device that connects to proximal end of the ET tube) is used following orotracheal intubation of adult patients.

2. It is not to be used in pediatric patients.

3. Proper placement MUST also be verified through auscultation of the lungs and over the epigastrum.

PROCEDURE

1. Attach the EDD to the ET tube and rapidly pull back on the syringe.
   a. Free flow of air supports placement of the ET tube into the trachea.
   b. Resistance to flow suggests that the ET tube may be in the esophagus or right mainstem.
   c. If unsure ET tube is in the proper position, remove immediately.

CONTRAINDIATED

1. Pediatric Intubation with uncuffed tubes.

END-TIDAL CO₂ / CAPNOGRAPHY

1. Quantitative End Tidal Monitoring is the preferred method. In the absence of quantitative measuring equipment a colorimetric device may be substituted.

2. Observe for waveform on monitor.

3. Attach ETCO₂ detection device in line between ET tube and BVM.

4. Cardiac Arrest ETCO₂ readings may be used to assist evaluation of chest compressions.

5. RSI ETCO₂ readings:

6. End-tidal readings should be maintained between 35-45 mm/Hg, may vary for people with lung disease.
   a. If ET CO₂ is >45 increase RR.
   b. If ET CO₂ is <35 decrease RR.

NOTE: The absence of returned end-tidal CO₂ in a patient who is in cardiac arrest is not itself an indication for extubation but should cause the paramedic to further investigate the placement of the ETT
III. ADVANCED LIFE SUPPORT

RAPID SEQUENCE INTUBATION (RSI)

1. **Prepare** the following equipment and supplies:
   a. BVM with functioning O₂ system
   b. Suction unit with rigid pharyngeal tip
   c. Laryngoscope, endotracheal tubes, stylet, and syringe
   d. Appropriate medications to be utilized
      i. Ensure functioning and secure IV line is in place.
      ii. Establish cardiac monitor, pulse oximetry, ETCO2 monitoring
      iii. Assess (MOANS/LEMON) for possible difficult airway, have a back-up plan.

2. **Pre-Oxygenate**
   a. Patient on NRB high flow for > 3 minutes or 8-10 vital capacity breaths.
      OR
   b. Patient with CPAP on 100% FiO₂ for > 3 minutes.
      OR
   c. Assisting ventilations with BVM but DO NOT FORCE AIR INTO GUT, no positive pressure ventilations.
      OR
   d. Consider apneic oxygenation therapy via high-flow nasal cannula.

NOTE: BVM ventilation is preferred management in children < 3 years old and should always be attempted first.

3. **Paralysis with Induction** Administer an Induction agent (sedation):
   a. **Etomidate** (Amidate) 0.3 mg/kg. Use with caution in patients with hypotension, severe asthma, or severe cardiovascular disease.
      OR
   b. **Midazolam** (Versed®) 2.5 -5 mg IV or IM.
      OR
   c. **Ketamine** 1-2mg/kg IV. Ketamine may be the drug of choice for patients with reactive airway disease.
   d. Position patient in preparation for intubation, and explain to them what you are doing.
   e. Administer paralytic medication
1. **Succinylcholine** (immediately after the induction agent) 1.0-2.0 mg/kg IV (depolarizing agent)

**OR**

2. If the patient has a contraindication to succinylcholine, may administer **Rocuronium** (immediately after the induction agent) 1.0 mg/kg IV (non-depolarizing agent).

4. **Protect and Position the Airway**
   a. May consider laryngeal manipulation (BURP) if needed for assistance with visualization of the glottis.
   b. Elevation of the head of the bed at 20-30 degrees of Semi-Fowler’s position is indicated, if possible, to help prevent aspiration.
   c. Note: Routine use of the Sellick maneuver (cricoid pressure) is no longer recommended.

5. **Placement and Proof** Perform direct laryngoscopy and place ET Tube per Endotracheal Intubation protocol.
   a. If first attempt is unsuccessful, re-oxygenate using BVM for 30-60 seconds.
   b. If relaxation was inadequate, administer a second dose of **Succinylcholine** (**Anectine®**), 1.0 mg/kg IV slow push.
   c. If repeated intubation attempts fail, ventilate with BVM until spontaneous respiration returns, or move to rescue airway. (See P10 – Airway Algorithms)
   d. If further intubation attempts fail and patient cannot be ventilated per BVM go to (P10) – Airway Algorithms
   e. Confirm tube placement utilizing primary and secondary confirmation techniques.

6. **Post Intubation Management**
   a. **Versed** 2.5-5 mg for post-intubation sedation of patient begins to resist ventilation or VS indicate patient is distressed.
   **OR**
   b. **Fentanyl** 1 – 3 mcg/kg

7. **Consider Long-Term Neuromuscular Inhibition**: If any of the following:
   1. Prolonged transport time
   2. Inadequate control of line or ETT integrity despite above sedatives

**Required: Continuous reliable End-tidal CO₂ monitoring**
PROTOCOL TITLE: RSI

Administer **Rocuronium** 0.5 mg/kg IV

a. May repeat q 30 minutes PRN strong muscular activity threatening line or ETT integrity despite sedation

**Bradycardia in the Adult secondary to RSI**

1. In the event that bradycardia occurs in the adult during the direct laryngoscopy attempt, stop and ventilate per BVM with supplemental O₂.

   Administer 0.5 mg **Atropine** IVP prior to any reattempt at intubation.
AIRWAY ALGORITHMS

MAIN EMERGENCY AIRWAY MANAGEMENT ALGORITHM

Need to Intubate

Unresponsive, Near death

Crash Airway

NO

Predict difficult airway?

NO

RSI

Attempt intubation

Successful?

NO

Failed Airway

Failed Airway

NO

BVM maintains SpO₂>90%

YES

3 attempts at OTI by most experienced provider

YES

Post-intubation Management

FROM DIFFICULT AIRWAY ALGORITHM

Need to Intubate

Unresponsive, Near death

Crash Airway

NO

Predict difficult airway?

NO

RSI

Attempt intubation

Successful?

NO

Failed Airway

Failed Airway

NO

BVM maintains SpO₂>90%

YES

3 attempts at OTI by most experienced provider

YES
DIFFICULT AIRWAY ALGORITHM

Difficult airway predicted

Call for assistance

NO

SpO₂ >90%

BVM predicted to be successful

Intubation predicted to be successful

NO

Failed Airway

YES

NO

BVM Maintains SpO₂ >90%

RSI (double set up)

YES

NO

“Awake” technique

Post-intubation Management or RSI

Successful

Failed Airway

NO

Unsuccessful

SpO₂ >90%

NO

YES

Do something different

Blind nasotracheal
Cricothyrotomy
Fiberoptics
Video-assisted
Lighted Stylet

June 18, 2019

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
CRASH AIRWAY ALGORITHM

Crash Airway

BVM

Attempt Oral Intubation

Successful intubation? Yes → Post-intubation management

BMV successful? No → Failed Airway

Succinylcholine 2.0 mg/kg IVP

Repeat attempt at oral intubation

Successful intubation? Yes → Post-intubation management

3 attempts by an experienced provider? No → Failed Airway

June 18, 2019

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
FAILED AIRWAY ALGORITHM

Failed Airway

- BVM maintains SpO₂ > 90%
  - NO: Rescue Airway attempt while preparing for Cricothyrotomy
  - YES: Consider:
    - Fiberoptic Method
    - Video Assisted
    - Lighted Stylet
    - Supra-Glottic Airway

- Time allows and successful?
  - NO: Unsuccessful
  - YES: Successful
    - If contraindicated: Cricothyrotomy
      - NO: Unsuccessful
      - YES: Post-intubation Management

- Cuffed ETT placed?
  - NO: Arrange for Definitive Airway Management
  - YES: Successful

Call for assistance
ALS personnel should be trained in this procedure prior to performing this procedure.

ADVANCED PROCEDURE

OPEN CRICOTHYROTOMY

III. ALS

INDICATION

Life-threatening upper airway obstructions where other non-invasive or manual measures have failed to establish an airway and attempts at ventilation have failed and tracheal intubation is not feasible, or has failed.

NOT TO BE USED IN PEDIATRIC MANAGEMENT.

PROCEDURE

1. Decision made to perform surgical cricothyrotomy based on failed airway.
   a. Elevate head of bed to 30 degrees, protect cervical spine, as indicated.
   b. Identify the cricothyroid membrane in the midline between the thyroid and cricoid cartilage. Consider marking site or do not take finger from site after locating.
   c. Prep with iodine soap or equivalent.
   d. Manually stabilize the cricothyroid cartilage with thumb and index finger.
   e. Make a vertical skin incision approximately 2.5 cm in length over the lower one-half of the cricothyroid membrane and expose the membrane.
   f. Make a horizontal incision through the cricothyroid membrane.
   g. Insert a Bougie, your finger, or Trousseau Dilator into the incision to maintain control of the stoma, dilating the hole with your finger, Trousseau Dilator or tracheal hook.
   h. Insert an appropriately sized, cuffed ET tube or tracheostomy tube into the cricothyroid membrane incision. Direct the tube caudally into the trachea. Inflate the cuff and ventilate the patient.
   i. Secure the ET tube.
   j. Control local bleeding with direct pressure.
   k. Rapid transport.

________________
Kevin Hodges, M.D
Medical Program Director
Adams,Benton, Franklin, Yakima Counties

June 18, 2019
Date
ALS personnel should be trained in this procedure prior to performing this procedure.

III. ALS

**INDICATIONS**

1. Foreign body airway obstruction that cannot be removed by laryngoscopy and Magill forceps, and is not distal to the cricothyroid membrane.
2. Infection (epiglottitis), trauma, angioedema or other conditions that preclude proximal access to the glottic opening.
3. Only to be used in the pediatric patient under 12 years old.
4. Multiple failed attempts at orotracheal intubation by the most skilled provider.
5. Complete inability to ventilate patient using a BVM despite repositioning.
6. A last resort rescue procedure where the alternative is death.

This is considered a temporizing means of rescue oxygenation until a more definitive airway can be placed.

**PREPARE THE FOLLOWING IN ADVANCE:**

1. 12-14 gauge 1 1/4 inch angiocath.
2. BVM or Transtracheal Jet Ventilation device (TTJV) or similar device with regulator.
3. 10 cc Syringe with 3 cc NaCl.
4. 3.0 ETT with the BVM-ETT attachment piece removed (fits on a 14 gauge angio- catheter).
5. Betadine swabs.

**PROCEDURE:**

1. Identify the cricothyroid membrane if possible, using the same technique as in adult cricothyrotomy. Place a towel under the shoulders to facilitate hyperextension.
2. Cleanse the area with betadine or equivalent.
3. Immobilize the larynx with thumb and middle finger of non-dominant hand, while the index finger palpates the membrane.
4. Introduce a 14 gauge 1.25 inch angiocatheter attached to a 10 cc syringe with 3 cc of crystalloid through the cricothyroid membrane caudally in the long axis of the trachea at a 30 degree angle to the skin.
5. As the needle enters the trachea pull back on the syringe, and bubbling should be seen indicating successful placement into the trachea. Resistance indicates the catheter is in the tissue.
6. Once in the trachea, the catheter can be advanced and the needle with syringe removed.
7. Attach the BVM-ETT adaptor from a 3.0 ETT to the angio catheter.

VENTILATION:

1. Pediatric patient <5 years old:
   a. Use of a BVM attached to an oxygen source is adequate, and preferred in the pediatric patient less than 5 years old.
   b. Provide a 0.5 to 1 second burst ventilation with the BVM to overcome resistance.
   c. The I:E ratio for BVM method should be 1:3, and adjusted based on oxygen saturation and ETCO₂ readings, and chest rise.

2. Pediatric Patient >5 years old:
   a. A BVM may be used, and should be attempted first, and evaluated for oxygen saturation and chest rise.
   b. Provide a 0.5 to 1 second burst ventilation with the BVM to overcome resistance.
   c. If oxygenation and chest rise is inadequate use TTJV. The pressure should be turned down to 20psi (from the normal 50 psi in the adult) to prevent barotrauma.
   d. The I:E ratio should be 1:3, and adjusted based on oxygen saturation and ETCO₂ readings, and chest rise.

Note: If progressive resistance is encountered with bag ventilations, allow for additional expiratory time and consider manually expelling air with gentle bilateral chest compression.

The pressures required to ventilate the pediatric patient through a needle catheter using a BVM will cause the pop-off valve to open. This valve must be occluded to allow flow into the catheter.
I. BLS

1. Nitrous Oxide (Nitronox)
   Note: BLS/ILS providers must complete BFC course before authorized to administer Nitrous Oxide (Nitronox).

2. Acetaminophen (Tylenol), 650-1000mg PO x 1
   Pediatric dose: 15 mg/kg PO

II. ILS
   Note: For nausea administer Zofran 4-8 mg IV, IO, IM, PO.

III. ALS

When controlling and managing pain, pain medications should be administered in a timely and prudent manner.

1. The use of the following medications are appropriate for pain management in addition to ILS measures:

   a. Fentanyl Citrate 50mcg IV/IO/IM (opioid naïve patient), or 100mcg IV/IO/IM (opioid tolerant patient), May repeat dose Q 10 minutes as needed for severe pain.
      Pediatric dose: 1 mcg/kg IV/IO (Do not exceed adult single dose of 50mcg or 100mcg).

      OR

      Fentanyl Citrate 2mcg/kg intranasal

   b. Morphine Sulfate, 2-10 mg IV, IO (opioid naïve patient) or 4-20mg IV/IO (opioid tolerant patient). May repeat Q 10 minutes titrated to effect.
      Pediatric dose: 0.1 - 0.2 mg/kg IV, IO, IM

   c. Ketorolac (Toradol), 15mg IV or 30mg IM. Note: May be drug of choice in renal colic (kidney stone), pelvic pain, and chronic pain.

Note: Intramuscular injections have no role in the treatment of chronic pain.

2. Administration of Fentanyl Citrate beyond 3mcg/kg or Morphine Sulfate beyond 20 mg requires consultation with medical control.

3. Ketamine 15mg IV x 1 may be used in conjunction with above therapies. If utilized it should be given early in therapy.
PROTOCOL TITLE: PAIN MANAGEMENT IN SEVERE TRAUMA

STANDARD

Management of patients with significant orthopedic or major soft-tissue trauma who require increased pain control and where traditional analgesics will be ineffective/inadequate. In these patients a dissociative agent such as ketamine may be beneficial. This decision should be made early as this dissociative dose is intended to replace, not supplement, the standard pain control protocol.

PURPOSE

Patients with severe trauma and/or abnormal circumstances may need more pain relief than routine patients. Ketamine can be used in its dissociative dosing to achieve pain control without the hemodynamic effects and respiratory depression of opiate pain medications.

Ketamine for full dissociation could be beneficial in the following circumstances:

- Severely entangled patients with significant trauma
- Traumatic amputation
- Severe burns
- Severe, multi-system trauma (i.e.: numerous long bone fractures, pelvic fractures, etc.)
- Patients in whom the paramedic feels traditional pain control will be inadequate

REQUIREMENTS

- Mechanism must be an acute traumatic incident, NOT chronic pain or exacerbation of chronic pain
- Clearly objective findings are required; subjective report of extreme pain is not sufficient
- Age > 12 months

PROCEDURE

ADVANCED LIFE SUPPORT ONLY

1. Obtain needed history from patient PRIOR to dissociation.
2. Elevate head of bed.

Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties

June 18, 2019
Date
Monitoring Requirements:

- Must be able to monitor patient’s airway
- Continuous SaO₂ monitoring
- Continuous ETCO₂ monitoring
- 4-Lead ECG

**DOSING**

1. **Ketamine** 1-2 mg/kg IV or 250-500 mg IM
2. Repeat dose may be necessary if prolonged prehospital time

For pediatric patients:

1. **Ketamine** 1mg/kg IV or 4 mg/kg IM
2. Repeat dose may be necessary if prolonged prehospital time

**SIDE EFFECTS / PRECAUTIONS**

Patient will be sedated and may not be able to answer questions or follow commands.

*Laryngospasm could occur*- Assist ventilations and initiate Larson Maneuver to correct

*Emergence reactions*- Some patients experience agitation, crying, hallucinations, dreams, or altered perceptions when ketamine is wearing off.

In order to mitigate these symptoms:

1. Repeat dose of **Ketamine** OR
2. Add **Versed** 1-5 mg IV/IM

For pediatric patients:

1. Repeat dose of **Ketamine** OR
2. Add **Versed** 0.03 mg/kg IV/IM

**CONTRAINDICATIONS**

- Age < 12 months
- Non-acute pain/trauma
- Allergy to ketamine
- Known pregnancy
- Unavailability of appropriate monitoring

Kevin Hodges, M.D  
Medical Program Director  
Adams, Benton, Franklin, Yakima Counties  
June 18, 2019  
Date
PROTOCOL TITLE: PLEURAL DECOMPRESSION

I/II. BLS/ILS
N/A

III. ALS

INDICATION
Tension pneumothorax in a rapidly deteriorating patient.

PROCEDURE
1. Establish airway.
2. Administer 100% O₂ via NRB mask 10-15 LPM.
3. Follow trauma protocol for chest trauma.
4. Decompress chest.
   a. Identify the second intercostal space in midclavicular line on the side of the tension pneumothorax
   OR
   b. 4th or 5th intercostal space in the anterior axillary line
   c. Prep with iodine soap or equivalent.
   d. Attach a #10-#14 gauge over-the-needle catheter to a 35 or 50 mL syringe.
   e. If conscious, place patient in upright or semi-fowler position.
   f. If unconscious the patient may be supine when procedure performed.
   g. Insert needle/catheter into the skin at a 90 degree angle to chest wall directly over the superior aspect of the third rib into the second intercostal space.
   h. Intercostal nerve, artery and vein run beneath the ribs so avoid this area.
   i. Puncture the parietal pleura; a “pop” is usually felt. A rush of air with a rapidly improving patient helps confirm the diagnosis.
   j. Aspirate as much air as possible; if necessary, the syringe can be removed to allow “free flow” of air from the pneumothorax until equilibrium is reached.
   k. Remove the needle, secure the catheter to the skin; apply a flutter-valve, if possible.

CAUTIONS
1. Understand and review the signs and symptoms of tension pneumothorax.
   a. Hypoxia, respiratory distress, hypotension
   b. Hyperresonance over the affected side
   c. Distended neck veins, tracheal shift away from the affected side is a very late finding and may not be present at all.
   d. Traumatic arrest, significant blunt or penetrating trauma
2. This procedure to be used only in life-threatening situations.
3. Complications include local hematomas, cellulitis, and pneumothorax.
4. This procedure will create a pneumothorax whether one previously existed or not.

June 18, 2019
Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
PROTOCOL TITLE: TRANSCUTANEOUS PACING

I/II.  BLS/ILS
      N/A

III.  ALS

TRANSCUTANEOUS PACING

INDICATIONS

A. Hemodynamically unstable or symptomatic bradycardia. (e.g. hypotension, AMS, angina, pulmonary edema)

B. Type II second degree heart block

C. Third degree heart block

D. Bradycardia with symptomatic ventricular escape rhythms.

PROCEDURE

1. Establish rhythm and baseline vitals.
2. High flow O₂ via NRB mask 10-15 lpm.
3. Atropine per bradycardia protocol.
4. Attach pacing pads, and monitoring electrodes.
5. Turn pacer function “on”
7. Adjust ECG gain to sense intrinsic QRS complexes if necessary.
8. Set pacing rate 60-80 bpm.
9. Increase mA incrementally until electrical capture is achieved.
   a. Electrical capture: wide QRS, and broad T- wave after each pacer spike.
   b. Add 2 mA to setting to maintain capture
10. Feel for a pulse, preferably femoral or radial to confirm mechanical capture.
   a. Mechanical capture: Pulse, rise in BP, increase in LOC, improved color/temperature, etc.

SEDATION

12. If patient is conscious, assess patient comfort, consider sedation as needed.
   a. Lorazepam 1-2 mg IV
   b. Midazolam (Versed®), 1-5 mg, may repeat to max 5 mg IV, IO.
PROTOCOL TITLE: TRANSCUTANEOUS PACING

DOCUMENTATION

1. Date, time baseline rhythm, pacing rhythm strips.
2. Current (mA) required to capture.
3. Pacing rate and mode selected.
5. Medications used.
6. Date, time pacing terminated.

CONTRAINdications

A. Asystole as presenting rhythm.
B. Pediatric patient too small for correct application of pacer pads.
C. Severe hypothermia.
D. Patient meeting death in field criteria.
E. Patient with signs of penetrating or blunt trauma.

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

June 18, 2019
Date
STANDARD
Improve survival rates for cardiac arrest.

PURPOSE
The High Performance CPR (HPCPR) guideline is built upon a common framework including: clearly identified roles, common terminology, interoperability between agencies, similar equipment, continually practiced skills, and a common goal of increased survival for cardiac arrest patients.

PROCEDURE
Agencies and responders are encouraged to do the best you can with the resources available. Agencies should develop practices to identify how they will fill the HPCPR common roles and how to best utilize their resources to achieve success. Agencies and responders should practice and reinforce their skills on a frequent and regular basis utilizing CPR training equipment capable of providing CPR quality feedback as much as possible.

1. HPCPR COMMON ROLES
   a. Scout / Initial Compressor
   b. AED / Monitor Operator
   c. Time Keeper / Coordinator
   d. IV / Airway

The common roles are listed in order of priority and should be filled in that order as much as possible and resources allow. It is understood that these rolls may be shared or combined based on the resources available on scene until additional help arrives.

2. SCOUT / INITIAL COMPRESSOR
   a. Responders assuming this role should quickly locate the patient and identify the presence of cardiac arrest. Patients in cardiac arrest will be unconscious and not breathing, or not breathing normally, e.g. agonal respirations, and will not have a pulse. Pulse checks should be achieved in less than 10 seconds.

   b. If possible “Push clothes up” to reveal the chest; otherwise begin compressions on clothing until it can be removed.

   c. Immediately start high quality chest compressions.
      i. High quality chest compressions include compressions on a hard surface with full recoil, the proper depth and appropriate rate. Full recoil means the personnel performing the compressions does not lean or place any weight on the patient between compressions. The proper depth for adult
compressions is 50 mm or 2 inches. The appropriate rate is 100-120 per minute. The compressor should count out loud during compressions. Strictly limit interruptions. Do not stop compressions for IV/IO, ETT, or other procedures.

ii. Any pause in compressions should be limited to <15 seconds in duration.

iii. Mechanical compression devices (Lucas 2, others), may be utilized only in the setting of MPD approved device used according to manufacturer’s instructions, and only in the absence of adequate personnel to perform adequate HP-CPR or due to safety issues such as during transport. (See below)

3. AED/MONITOR OPERATOR

a. The AED / Monitor operator should set up and apply the AED/Monitor to the patient as quickly as possible. Do NOT disturb compressor, do not interrupt compressions. Cut or remove the clothes from the patient.

b. Depending on resources available on scene the AED / Monitor Operator can initiate BVM ventilations until the 1:30 mark at which point they should prepare for rhythm analysis on the AED / Monitor. If resources on scene allow personnel to be dedicated to BVM ventilations, follow the guidelines as below.

c. BVM ventilations should be performed at a ratio appropriate for the training level of the provider. If appropriately trained and practiced the ventilations can be performed at a ratio of 10:1 without interruption of compressions. A ratio of 30:2 with brief interruptions for ventilations can be performed until providers can demonstrate proficiency at the practice of 10:1. One of the overall goals of the HPCPR program is to strictly limit interruptions to only 2 minute rhythm checks. CPR Providers are strongly encouraged to learn and practice the 10:1 ratio as this will become the standard practice in the HPCPR program.

d. As an alternative or, if resources on scene are limited, a passive O₂ delivery system can be utilized during the first 6 minutes of HPCPR. Passive O₂ delivery systems could be achieved by placing a non-rebreather mask on the patient’s face with high flow O₂ in place of the BVM.

4. TIME KEEPER COORDINATOR

a. The Time Keeper / Coordinator starts and monitors the stop watch on scene and communicate the time to all the providers on scene. The Coordinator is responsible to evaluate CPR performance, ensuring
PROTOCOL TITLE: HIGH PERFORMANCE CPR

the compressor is performing compressions correctly with full recoil, proper depth, and the appropriate rate. The Coordinator is responsible to ensure interruptions to compressions are strictly limited to the 2 minute mark. The Coordinator is also responsible to coordinate compressors and ensure smooth compressor transitions every 2 minutes.

b. The coordinator also gathers information on scene and relays pertinent information to other providers.

c. The Coordinator calls out the time BENCHMARKS.

i. “30 Seconds” – This allows all the providers on scene to keep track of time.

ii. “1 minute” – The half way mark.

iii. “1 minute 30 seconds” – The trigger for the monitor operator to get into position and prepare for charging. At this point the Coordinator solicits or if necessary designates the next compressor, who should move into position to prepare to take over compressions.

iv. “1 minute 45 seconds, Charge The Monitor” – The Monitor operator selects the energy level and charges the monitor, and checks for a pulse during compression to verify pulse, therefore is in position to check for a pulse during rhythm analysis.

v. “10, 9, 8, 7, 6, 5, 4, 3, 2, 1 – 2 minutes” – The pivotal moment that requires strict coordination and practice to ensure the absolutely shortest pause as possible, no more than 10 seconds. Rhythm analysis occurs, clearing the patient, and shocking occurs as appropriate. The next compressor is in position immediately begins compressions following the shock or no shock indication.

vi. AED Specific 2 minute Guideline

d. Do not touch the patient during rhythm analysis. If SHOCK is indicated – Perform 30 compressions while AED is charged and then SHOCK. If NO-SHOCK is indicated check pulse for < 10 seconds and immediately start 2 minutes of CPR if no pulse.

5. IV/AIRWAY

a. The IV/IO skills are to be completed by the appropriately certified personnel during the 2 minute compression periods. Do not interrupt compressions to complete these procedures. If the first line ACLS medication can be administered soon, IV/IO should be given priority over airway. Place a King-LT if unable to intubate without interruption of CPR and consider ETT after ROSC has occurred.

June 18, 2019

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
6. MECHANICAL CHEST COMPRESSION DEVICES (MCD)

a. Follow the manufacturer’s instructions regarding appropriate use. MCD’s can be utilized for patients older than 12 years old and are appropriate for cardiac arrest of non-traumatic nature.

b. Use of MCD’s should not delay or significantly interrupt high quality chest compressions and should be implemented by highly trained and very proficient providers. Agencies and providers who utilize MCD’s should be prepared for possible device failure and have the necessary resources available to continue HPCPR without their use.

7. FOLLOW-UP

a. Following completion of the cardiac arrest incident providers should complete a thorough and complete patient care report. For QA/QI purposes providers should contact their dispatch agency and advise them that the incident was a cardiac arrest. Providers should also email the MPD at BFCountympd@gmail.com with the following information: Date, Agency, and Incident Number. Include in the Subject line: Cardiac Arrest.
STANDARD
Accomplish blood draws in the field that meet Joint Commission Standards; which includes labeling of the specimens, to include patient name, DOB, date & time of draw, and phlebotomists name or initials.

PURPOSE
The medical standard for blood draws require certain elements of documentation occur at the time of the blood draw, in the presence of the patient to ensure labs do not get mixed with other patients in the facility, which could lead to deadly reactions or treatments if the incorrect blood is attributed to the wrong patient.

Blood draws accomplished in the field can be very beneficial to the patient and staff in the Emergency Department. Labs drawn in the field can reduce the time to laboratory results as much as 20 – 30 minutes.

The following are patients who could benefit most from labs being drawn in the field:

- Ischemic chest pain
- Stroke patients
- Metabolic imbalances
- Toxicological
- Trauma

PROCEDURE
Paramedics, AEMTs, and EMTs with an IV endorsement shall follow this procedure when performing a blood draw in the field setting. Blood draws should not be accomplished if obtaining the blood draw will delay more critical care required by the patient.

If the provider determines it is appropriate and beneficial to the patient to accomplish the blood draw at the time of intravenous access, the following procedure must be followed.

1. Using as large of a cannula as possible, (preferably 20 ga or larger), slowly and gently draw labs into a 10 – 12 cc syringe. Care should be taken to put the least amount of back pressure on the syringe as possible. Use of a Vacutainer adapter instead of the syringe method is permitted.
2. After the syringe is filled to the 10 cc mark, immediately connect the syringe to an approved blood transfer device for vacutainer filling.
3. Fill blood tubes in the following order and to the appropriate amount. (See table)
**_PROTOCOL TITLE: MEDICAL BLOOD DRAWS**

<table>
<thead>
<tr>
<th>Order to be Drawn</th>
<th>Tube Color</th>
<th>Additive</th>
<th>Purpose</th>
<th>Amount</th>
<th>Mix by Inverting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Blue</td>
<td>Citrate</td>
<td>Coag Studies</td>
<td>Vacuum</td>
<td>3 – 4 x</td>
</tr>
<tr>
<td>2</td>
<td>Gold / Tiger-top / Red</td>
<td>SST</td>
<td>Serum chemistries</td>
<td>Half</td>
<td>5 x</td>
</tr>
<tr>
<td>3</td>
<td>(Sage) Green</td>
<td>Lithium Heparin</td>
<td>Point of care troponin/creatinine</td>
<td>To Label Line or at least half-full</td>
<td>8 – 10 x</td>
</tr>
<tr>
<td>4</td>
<td>(Light) Green</td>
<td>Lithium Heparin</td>
<td>Chemistry, Drug levels, Troponin</td>
<td>To Label Line</td>
<td>8 – 10 x</td>
</tr>
<tr>
<td>5</td>
<td>Purple / Lavender</td>
<td>EDTA</td>
<td>Blood count</td>
<td>To Label Line</td>
<td>8 – 10 x</td>
</tr>
</tbody>
</table>

4. After filling the tubes, gently mix the blood by inverting the tubes 180 degrees, the appropriate number of times for mixing of additive. (See table)

5. Immediately after filling the tubes, the provider who witnessed the blood leaving the draw site and entering the syringe, and witnessed the blood transfer from the syringe into the vacutainer, must initiate labeling and maintain the custody of the blood until the labs are fully labeled.
   a. Using a permanent marker, write the patient name, DOB, time/date of draw and providers name on medically clean zip lock bag.
   b. Place lab specimens in the zip lock bag and seal.
   c. Tape the zip lock bag and lab specimens to the IV bag.
   d. Maintain contact with patient and labs until arriving at the Emergency Department and individual labeling of each vacutainer is accomplished.
      i. It is permissible to use the hospital labels that are created for the patient to identify the patient and time of draw.
      ii. IMPORTANT: The person maintaining the custody of the blood specimens must maintain visual contact of the blood specimens until the tubes are individually labeled.
      iii. Blood tubes CANNOT be handed over to ER Staff until the labs are labeled by the EMS person, using the facility labels / stickers.
1. Prior to labeling the tubes, the provider should verify the patient name and DOB one last time.
PROTOCOL TITLE: WOUND PACKING OF PENETRATING INJURIES-ADULTS

I./II./III. BLS / ILS / ALS

Wound packing with Combat Gauze - wound packing shall only be done utilizing “Combat Gauze Brand” gauze.

INDICATIONS

1. A penetrating junctional injury (a wound that is in the portion of the extremity unable to be reached by a tourniquet).
2. A penetrating wound to the patient’s pelvis or shoulder.
3. An extremity wound uncontrolled by the use of a tourniquet.

CONTRAINDICATIONS

1. Use in the abdominal or chest cavity.
2. Use in place of a tourniquet in a distal injury.

PROCEDURES

1. Attempt to control hemorrhage with tourniquet or direct pressure on wound.
2. Open one end of the Quick Clot package and begin to pull dressing out.
3. Pack wound with two finger method as deep as possible, filling cavity.
4. Use entire package until gauze is packed to the outside of the cavity.
5. If more than one package is needed, a second package can be used, or normal gauze packed on top.
6. If bleeding is not controlled, all gauze should be removed and new gauze applied to the wound again, starting the process over.
7. Continuous pressure over gauze may be needed to facilitate in hemorrhage control.
PROTOCOL TITLE: EMS MEDICAL ERROR INCIDENT FORM

Standard

In keeping with best practices for self-reporting of patient near misses as they relate to medical errors; EMS providers in Benton Franklin Counties will self-report these types of incidents to the MPD using the appropriate documentation.

The sole intention of this or any other self-reporting practice is for quality assurance and improvement in the EMS system as a whole.

Exception: Those instances which arise to the level of criminal act, gross negligence, carelessness, or willful and wanton misconduct, as defined within WAC 192-150-205.

Purpose

1. Studies show that when medical errors occur, be it a medication or procedural error, and the error is quickly reported, patients have better outcomes, higher satisfaction ratings, and are less likely to sue the agency or institution involved.

2. When an EMS provider performs or witnesses a medical error (as defined) it is paramount that the incident be reported in a timely manner, so steps can be taken to reduce the chance of significant concomitant harm to the patient.

3. A medical error is defined as a preventable adverse effect of care, whether or not it is evident or harmful to the patient. This might include an inaccurate or incomplete diagnosis or treatment of a disease, injury, syndrome, behavior, infection, or other ailment.

   a. For the purposes of Benton Franklin County EMS, a Medical Error will be defined as follows:

      i. A preventable adverse effect of care, as provided by administration of a medication or procedure, whether or not it is evident or harmful to the patient.
ii. Examples:

1. **Wrong medication**; (e.g.: Use of a medication for a condition that is not medically acceptable or prescribed within the BF County Protocols.)
2. **Use of medication where it is contraindicated**; (e.g.: Administration of Cardizem when patient blood pressure is less than 100 SBP.)
3. **Medication overdose or under dose**; (e.g.: Any dosing that is not consistent with the current BF County Protocols)
4. **Wrong medication route**; (e.g.: Administering a medication via a route that is not consistent or is contraindicated. i.e.: Giving 1:1,000 Epinephrine IV vs IM/SQ)
5. **Failing to administer an appropriate medication without cause**; (e.g.: Not administering Narcan for a patient suffering from an opiate OD.)
6. **Failed or inappropriate use of a procedure without rapid recognition and rapid corrective action**; (e.g.: Unsuccessful Rapid Sequence Intubation, esophageal intubation, cricothyrotomy, needle decompression, chemical restraint, etc.)
7. **Technical errors or omissions during a procedure**; (e.g.: failing to administer an induction agent for a patient with an RSI being performed.)
8. **Failure to recognize the loss or ineffectiveness of a procedure or care**; (e.g.: infiltrated IV site where large bolus of medication or fluid is administered into tissue, failure to recognize a displaced endotracheal tube, etc.)
9. **Any other occurrence where a provider believes an error may have occurred.**

**Procedure**

1. Paramedics, AEMTs and EMTs must maintain a heightened sense of awareness for medical errors such as medication administration issues and procedural missteps.
2. When an EMS provider realizes a Medical Error has occurred, they will follow these steps:
a. Report the medical error to the ER physician and RN who is receiving the patient at the ER.
   i. If the medical error occurs, with a patient who is not transported to the ER, the EMS provider will notify the MPD at BFCountyMPD@gmail.com as soon as possible after the completion of the call.
b. The EMS provider will fully document the care of the patient in a standard PCR, to include the medical error and any observed effects or absence of effects on the patient due the error. This shall also include any interventions taken to correct or monitor adverse effects.
c. Once back in service and as soon as time permits, the EMS Provider shall complete the Medical Error Form and submit it to his/her agencies EMS Officer for review.
d. After the EMS Officer is satisfied with the documentation provided, the EMS Officer will forward the completed documentation to the MPD’s Office for review.
   i. There will be no punitive action taken by the MPD’s Office or the Agency in relation to a Medical Error if the above procedure is followed.
   ii. If through review of the event, the incident rises to the level of required reporting as defined by the U.D.A (Uniform Disciplinary Act), the incident will be forwarded to the Washington State Department of Health as required by RCW 18.130.

Kevin Hodges, M.D
Medical Program Director
Adams,Benton, Franklin, Yakima Counties

June 18, 2019
Date
Each person who played a role in the medical error must complete this document.

Date: Click here to enter a date. Incident #: Click here to enter text. Choose an item.

Personnel Involved/Witness

Hospital Patient was Transported to:

Doctor whom error was reported to:

Describe the actions and events that led to the medical error/incident. Please reference Protocol P21 for the definition of what constitutes a medical error.

Describe in detail the steps that will be taken to prevent a future medical errors of this nature; process, team interaction, education, training, communication, etc.

Provider Signature

Provider Name (Print/Type)

EMS Officer

Medical Program Director

Complete this form, print, sign and forward to agency EMS Officer. Confidential / QA
PROTOCOL TITLE: PICC LINE ACCESS

I/II BLS/ILS
N/A

III ALS

A PICC line is, by definition and per its acronym, a peripherally inserted central catheter. It is long, slender, small, flexible tube that is inserted into a peripheral vein, typically in the upper arm, and advanced until the catheter tip terminates in a large vein in the chest near the heart to obtain intravenous access. It is similar to other central lines as it terminates into a large vessel near the heart. However, unlike other central lines, its point of entry is from the periphery of the body, the extremities. And typically the upper arm is the area of choice.

I. Indications:

PICC lines may be accessed when:

1. There is a need for drug or fluid administration and traditional means of venous access are unsuccessful.

2. Patient or patient's caregiver requests use of PICC line

II. Contraindications:

1. Inability to aspirate or infuse through the catheter.

2. Catheter located in any place other than the patient’s upper arm.

3. Need for rapid fluid resuscitation.

III. Procedure

1. Use clean gloves and maintain sterility as much as possible.

2. If there is a needleless type port on the distal end of the catheter, perform the following: (figure 1)

   a. Scrub the port with an alcohol pad for at least 15 seconds and allow drying or at least 5 seconds.

   b. Attach a 10 ml syringe (without saline) to the port.

   c. Unclamp if necessary (needleless port may not have a clamp)

   d. Attempt to aspirate at least 5 ml of blood. Blood should draw freely. If it does not, remove the syringe and DO NOT use the catheter for access.
e. If blood aspirates freely, remove the 10 ml syringe with blood and discard.

f. Attach a 10 ml syringe with NS and gently flush the line. Never use a smaller syringe and DO NOT use the catheter for access.

g. If line flushes, remove the syringe and attach the catheter to the end of the IV tubing and begin infusion of NS. Adjust the rate to the needs of the patient within the limits of the catheter.

h. Administer medications through IV tubing port if indicated.

3. If there is a capped needle-type port on the distal end of the catheter, perform the following: (figure 2)

a. Scrub the cap with an alcohol pad for at least 15 seconds and allow to dry for at least 5 seconds.

b. Clamp the catheter tubing using ONLY the existing clamp on the catheter and then remove the cap. Never allow a central line to be open to air.

c. Attach a 10 ml syringe on the catheter end.

d. Unclamp the catheter.

e. Attempt to aspirate at least 5 ml of blood. Blood should draw freely. If it does not, re-clamp the line and remove the syringe. DO NOT use the catheter for access.

f. If blood aspirates freely, clamp the catheter again.

g. Remove the 10ml syringe with blood and discard.

h. Attach a 10 ml syringe with isotonic solution.

i. Unclamp and gently flush the line. Never use a smaller syringe. If line does not flush, re-clamp the line and remove the syringe. DO NOT use the catheter for access.

j. If line flushes, re-clamp and remove the syringe.

k. Attach the catheter to the end of the IV tubing.

l. Unclamp the catheter and begin infusion of NS. Adjust the rate according to the needs of the patient within the limits of the catheter.

m. Administer medications through IV tubing port if indicated.
IV. NOTES & PRECAUTIONS

1. Do not administer medications, flush or aspirate with less than a 10 cc syringe. Smaller size syringes generate too much pressure and can damage the catheter.

2. Do not attempt to reinjection of aspirated blood as it may contain clots.

3. The maximum flow rates for a PICC line is 125 ml/hr. for less than size 2.0 French and 250 ml/hr for catheters over 2.0 size French.

4. Keep patient’s arm straight to avoid kinking the PICC line and obstructing flow.

5. Ensure all line connections are secure.

6. PICC lines access the patient’s central circulation and the risk of infection is high. Avoid contamination to ports and connections while accessing.

7. Do not administer the following medications through PICC line:
   a. Adenosine – The line may rupture during rapid infusion due to over pressurization.
   b. Dextrose 50% - The catheter can be damaged due to the viscosity of the fluid.

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Figure 1 – Needless port
Figure 2 - Needle type port with cap

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Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

June 18, 2019
Date
Definition: Procedural sedation and analgesia, previously referred to as conscious sedation, is defined as “a technique of administering sedatives or dissociative agents with or without analgesics to induce a state that allows the patient to tolerate unpleasant procedures while maintaining cardiorespiratory function.

III. ADVANCED LIFE SUPPORT

1. Possible Indications:
   a. Pre-procedural sedation to facilitate painful procedures such as electrical cardioversion
   b. Induction for RSI
   c. Dramatic examples of severely painful injuries such as large body percentage burns (P14)
   d. Chemical restraint to prevent bodily harm to EMS personnel, patients, and/or bystanders due to violent patients in the setting of excited delirium. (M3)

2. Selecting a sedative agent: Your selection may take into consideration route of administration, onset of action, duration of action, patient allergies or prior adverse reactions, and primary indication for sedation.
   a. Benzodiazepines – sedative hypnotics creating a sleep-like state with impairment of memory of events following administration: “anterograde amnesia”. May have some respiratory and hemodynamic depression, especially when used in combination with other sedatives. Benzodiazepines may be the sedative of choice in the setting of alcohol withdrawal complications such as Delirium Tremens.
      i. Versed (midazolam) – Short acting benzodiazepine sedative hypnotic. Onset of action 1-2 minutes with peak effect in 5-10 minutes. Duration of action highly variable and may range from 45 minutes to 6 hours.
         – Sedative dose 1-5 mg IV. May repeat Q 5 minutes PRN but generally should not exceed 10mg
      ii. Ativan (lorazepam) – Longer acting benzodiazepine sedative hypnotic. Rapid onset of action when given IV at about 1-2 minutes with significant clinical effect. IM administration is rapidly and predictably absorbed very well at 83-100% of the total dose though therapeutic onset may take 5-10 minutes when given intramuscularly. Duration of action may be 8 hours or more.
         – Sedative dose 1-2 mg IV or IM, may repeat Q5 minutes PRN but should generally not exceed 4 mg
b. **Geodon** (ziprasidone) – Antipsychotic, long-acting. May be drug of choice in a patient with known schizophrenia or other psychotic disorder. Can prolong QT making patient more susceptible to dysrhythmias, especially in conjunction with other QT-prolonging medications such as Zofran (ondansetron). Onset of sedative effects may take 15-30 minutes with 5-12 hours of clinical effect

   – Dose is 10-20mg IM only. Due to the QT-prolonging effects of Geodon (ziprasidone) is should NOT be given intravenously.

c. **Ketamine** (Ketalar, others) – Dissociative agent with NMDA blocking and other effects producing a catatonic-like state with anesthesia. Rapidly absorbed and effective IM or IV. Ketamine preserves airway reflexes including the gag reflex. Ketamine has some bronchodilatory effects that may make it the induction agent of choice in the setting of asthma.

d. **Etomidate** (Amidate) – Short-acting general anesthetic. IV only. Onset of action in 45-90 seconds with peak effect in about 2 minutes. Duration of action is variable but may be reliably expected to be 7-11 minutes. Etomidate has very little statistical effect on respiratory and hemodynamic (HR and BP) status so may be the agent of choice for particularly hemodynamically fragile patients. Etomidate is associated with increased mortality in septic patients, thought to be due to induced adrenal insufficiency.

   – Dose is 0.3 mg/kg IV

3. **Monitoring Requirements**

   a. All sedated patients are expected to be continuously monitored with:
      i. Cardiac monitoring
      ii. SaO2 monitoring
      iii. ETCO2 monitoring (with wave-form monitoring if available)
      iv. Frequent mental status assessments
      v. VS reassessment Q 5 min or more frequently

   b. When sedating a patient the paramedic should always be ready to provide ABC interventions including, but not restricted to:
      i. Supplemental oxygen
      ii. BVM ventilation
      iii. Intubation or other advanced airway protection and management
      iv. IV fluids for sedative-induced hypotension

Sedated patients are expected to have IV access prior to, or soon after, sedation.
Consider two large-bore IVs to ensure access and ability to rapidly administer IV fluids in the setting of dehydration or hypotension.

Documentation of sedation is expected to include all of the above including specific rationale/indication for the sedation.

Pearls-

- Sedation is potentially hazardous and should never be performed without clear indication, planning, preparation, monitoring, and documentation.

- Risks of sedation increase significantly in the setting of polypharmacy due to other drugs taken or given to the patient (especially sedative medications) including prescription medications, other EMS medications, or illegal/recreational drug use.
  
  - Use special caution with combination of benzodiazepines and opioid medications.

- Other factors increasing the risks of sedation include advanced age, predicted difficult airways, and comorbid diseases such as underlying heart and lung diseases.
III. ADVANCED LIFE SUPPORT

1. Indications
   a. Inter-facility transport of an intubated patient
   b. Mechanical ventilation of a patient intubated in the field

2. Contraindications
   a. Intubated patient with a known pneumothorax without a chest tube in place.
   b. Patients less than 20 kg except for inter-facility transfers of ventilated patients.

3. Adverse Effects/Complications
   a. Increased intra-thoracic pressure
   b. Decreased venous return to the heart and decrease cardiac output (hypotension, tachycardia)
   c. Increased V/Q ratio (ventilation/perfusion ratio)
   d. Decreased blood flow to the kidneys with resultant fluid retention (edema)
   e. Air trapping and intrinsic PEEP (auto PEEP)
   f. Barotrauma
   g. Nosocomial infections of the lungs and sinuses
   h. Respiratory alkalosis
   i. Agitation and increased respiratory distress
   j. Increased work of breathing

4. Procedure
   a. Assemble per manufacturer’s recommendations and if available set PEEP to 5 cm H2O
   b. Determine patient’s height and IBW using chart and select appropriate tidal volume between 6 – 8 ml/kg
   c. Set inspiratory time (2 seconds for adults, 1 second for pediatrics)
   d. Set respiratory rate to 10-16 breaths/minute
   e. If available inspiratory/expiratory ratio should be set to 1:2 to allow complete exhalation
   f. Set pressure support to 10 cm/H2O if available
   g. Set plateau pressure to less than 30 cm/H2O
   h. If available reduce FiO2 to 65%
   i. Verify BPM rate by counting ventilations delivered for one minute
   j. Continue to assess efficacy of ventilations throughout use of device (chest rise, auscultations, skin signs)
   k. If pressure-limit alarm sounds, immediately reassess equipment and patient for kinked tubing, airway obstruction, tension pneumothorax, etc.
   l. Always have BVM device available for use in the event of device failure.
5. Considerations

- All ventilated patients must be monitored for waveform capnography, pulse oximetry, and ECG monitoring
- Ensure adequate sedation and analgesia throughout the transport
- Patients with suspected metabolic acidosis (diabetic ketoacidosis, sepsis, ASA or TCA poisonings, etc.) that present with EtCO2 less than 32 mmHg should be maintained at their initial EtCO2 value as the patient is compensating for acidosis through increased ventilatory rate
- Maintain SpO2 level of 94 to 98%. Asthma patient may be permissively allowed to stay in the range of 88-92% to prevent excessive pressures.
- If the high pressure alarm alerts or if the patient is unable to maintain SpO2 values above 90%, remove the ventilator, resume ventilations with BVM and 100% O2, and evaluate for displaced tube, obstruction of the ventilation circuit, failure of the oxygen source, tension pneumothorax, or equipment failure.

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June 18, 2019
Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
I. BASIC LIFE SUPPORT
   • N/A

II. INTERMEDIATE LIFE SUPPORT
   • Large bore IV(s) with isotonic fluids.
   • Unless otherwise specified in the guidelines (i.e. Burns, hyperglycemia) titrate isotonic IV goal is 30ml/kg (may use ideal body weight instead of actual body weight in obese patients to avoid excessive volume). May titrate to SBP > 90mmHg in trauma patients.
   • May repeat bolus x 1 if needed.
   • Peds 20ml/kg. Repeat x 2 if needed to max 60ml/kg.

III. ADVANCED LIFE SUPPORT
   • If patient is refractory to first 30ml/kg IV fluid bolus may initiate vasopressors. Target to MAP of 65mmHg.
   • May repeat bolus x 1 if needed.
   • Fluid bolus should not delay aggressive medical interventions and resuscitation in unstable patients.
The purpose of this protocol is to authorize the paramedics to monitor intravenous antibiotic infusions in adult patients during interfacility transport.

Only those ALS Ambulance providers approved by the Benton/Franklin County EMS Office are permitted to provide the service of monitoring antibiotic infusions during interfacility transports from approved hospital(s) within their service area.

1. Only those paramedics who have successfully completed a training program(s) approved by Benton/Franklin EMS Office on antibiotic infusions will be permitted to monitor them during interfacility transports. Training must include the use of mechanical infusion pumps.

2. Patients that are candidates for paramedic transport will have pre-existing antibiotic drips infusing into peripheral lines. Pre-hospital personnel will not initiate antibiotics.

3. Paramedics may restart antibiotic infusions if the antibiotic infusion is interrupted due to infiltration, accidental disconnection of the IV line is patent prior to restarting the infusion.

4. Antibiotic Infusions: The following parameters shall apply in all cases where paramedics transport patients with pre-existing antibiotic infusions:
   a. Patients shall be placed on cardiac, blood pressure and pulse oximetry monitors and monitored continuously during transport
   b. Signed transfer orders from the transferring physician must be obtained prior to transport. Transfer orders must certify that the patient is stable for transfer and provide order for maintaining the antibiotic infusion during transport.
   c. Antibiotic infusions must be regulated by a mechanical intravenous infusion pump. If pump failure occurs and cannot be corrected, the paramedic will stop the antibiotic infusion and notify the transferring hospital.
   d. Regulation of the drip rate will be within parameters as defined by the transferring physician. In no case will changes be made to the medication drip rate, except to stop the infusion for listed reasons.
   e. Vital signs shall be monitored and documented every 15 minutes during transport.

5. Continuous Quality Improvement. All calls involving the transfer of patients with preexisting antibiotic infusions shall be reviewed through the ambulance provider’s CQI program to determine compliance with policy and transferring
physician orders. Reports of audits will be submitted to the MPD Office on request

6. General Information on Antibiotics

a. Beta-Lactams: The beta-lactams include penicillins and cephalosporins. The mode of actions (MOA) of all beta-lactams is to bind to and inactivate enzymes required for bacterial wall synthesis.
   i. Penicillins: Penicillins are used for disease due to gram-positive organisms and some gram-negative cocci. These medications are inexpensive but can cause a life-threatening anaphylactic reaction in those who are allergic.
      1. Examples of Penicillins: penicillin, ampicillin, piperacillin and tazobactam (Zosyn) and ampicillin and sulbactam (Unasyn)
      2. Indications: Bacterial infections such as syphilis, endocarditis, respiratory tract infections, bacterial meningitis, urinary tract infections and gastrointestinal infections.
      3. Dose Range: Dose is influenced by patient weight, but for ampicillin is typically 500 mg every 6 hours. Administered in 10-15 minutes.
      4. Medication interaction: Ampicillin is incompatible with D5W, dopamine, diphenhydramine, lorazepam, midazolam, ondansetron, and sodium bicarb.
      5. Side Effects: Nausea, vomiting, diarrhea, and rash.
      6. Reasons to stop infusion: Allergic reaction, infiltration, cardiac arrest

   ii. Cephalosporins: Cephalosporins are used with both gram-positive and gram-negative activity. They typically do not produce an anaphylactic reason, but people can be allergic to it.
      1. Examples: cephalexin (Keflex), cefazolin (Ancef), ceftriaxone (Rocephin)
      2. Indications: Cholecystitis, urinary tract infection, and cellulitis
      3. Dose Range: ceftriaxone (Rocephin) dose is 1 to 2 Gms IV over 30 minutes
      4. Medication Interaction: ceftriaxone is incompatible with amiodarone, diltiazem, morphine, and sodium bicarbonate
      5. Side Effects: pain at injection site, headache, nausea, vomiting, and seizures
      6. Reasons to stop infusion: allergic reaction, infiltration, cardiac arrest, seizure.
NOTE: Cross-reactivity of allergic reactions to cephalosporins in patients allergic to PCN is <15%

b. Quinolones: broad-spectrum antibiotics (effective for both Gram-negative and Gram-positive bacteria) that play an important role in treatment of serious bacterial infections, especially hospital-acquired infections and others in which resistance to older antibacterial classes is suspected.
   i. Examples: ciprofloxacin (Cipro), Levaquin, Avelox
   ii. Indications: hospital acquired pneumonia, UTI, pyelonephritis
   iii. Typical Doses: ciprofloxacin (Cipro) – 400 mg, levofloxacin (Levaquin) – 500 mg, moxifloxacin (Avelox) – 400 mg all over 60 minutes
   iv. Medication Interaction: Can cause QT prolongation, use caution with other medications that prolong QT interval
   v. Side Effects: Nausea, diarrhea, abdominal pain, headache, dizziness, tendonitis and tendon rupture
   vi. Reasons to stop infusion: allergic reaction, infiltration, cardiac arrest, pump failure, administration/completion of full dose

   i. Examples: sulfamethoxazole and trimethoprim (Bactrim)(Septra)
   ii. Indications: Severe UTI, Prophylaxis for immunosuppressed, MRSA and other skin infections
   iii. Dose Range: 10-20 mg/kg/24 hours spread over 6, or 12 hours. Administered in 60-90 minutes.
   iv. Medication Interaction: incompatible with diltiazem, lorazepam, magnesium sulfate and morphine
   v. Side Effects: Nausea, vomiting, and rash are most frequent
   vi. Reasons to stop infusion: allergic reaction, infiltration, cardiac arrest, pump failure, administration/completion of full dose. Treat symptoms of nausea and vomiting with ondansetron.

d. Macrolides: Action is primarily bacteriostatic but may be bactericidal at high concentrations, or depending on the type of microorganism.
   i. Examples: azithromycin (Zithromax)
   ii. Indications: Community-acquired pneumonia, Pelvic Inflammatory Disease (P.I.D.)
   iii. Dose Range: 500 mg over at least 1 hour
   iv. Medication Interaction: Incompatible with amiodarone and midazolam
   v. Side effects: Usually mild to moderate in severity and reversible after discontinuation – abdominal pain, arrhythmias, cough, dizziness, dyspnea, facial edema, hypotension, injection site pain, rash, and vomiting.
   vi. Reasons to stop: Allergic reaction, infiltration, cardiac arrest
PROTOCOL TITLE: INTRAVENOUS ANTIBIOTIC INFUSIONS

e. Atypical:
   i. Vancomycin: Vancomycin is primarily used to treat serious infections caused by gram-positive bacteria which are known or suspected to be resistant to other antibiotics.
      1. Example: Vancomycin
      2. Indications: Complicated skin infections, bloodstream infections, endocarditis, bone and joint infections, and meningitis
      3. Dose Range: 7.5 mg/kg up to 500 mg at a rate of 10 mg/min or 60 minutes, whichever is longer
      4. Medication Interaction: Incompatible with amiodarone, diltiazem, lorazepam, magnesium sulfate, midazolam, morphine, ondansetron and sodium bicarbonate
      5. Side Effects: Severe hypotension with or without red blotching of the face, neck, chest, and extremities, and cardiac arrest can occur with too-rapid administration. Chills, dizziness, fever, rashes, pain at infection site, anaphylaxis, dyspnea, Stevens-Johnson Syndrome, and wheezing.
      6. Reasons to stop infusion: Allergic reaction, infiltration, cardiac arrest, pump failure, administration/completion of full does. If minor side effects are progressive or any major side effect occur, discontinue the drug
   
   ii. Flagyl: Works by stopping the growth of bacteria and protozoa
      1. Example: metronidazole (Flagyl)
      2. Indications: Used to treat bacterial infections of the vagina, GI tract, skin, joints, and respiratory tract.
      3. Dose Range: 15 mg/kg over 1 hour
      5. Side Effects: Most serious include – aseptic meningitis, encephalopathy, and optic and peripheral neuropathy. Others include – abdominal cramping, dizziness, dry mouth, epigastric distress, fever, flushing, metallic taste (expected), nausea, rash, seizures and Stevens-Johnson Syndrome.

June 18, 2019
Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
The purpose of this protocol is to authorize paramedics to monitor intravenous heparin infusions during interfacility transport.

1. Only those ALS Ambulance providers approved by the Benton / Franklin EMS Office will be permitted to provide the service of monitoring heparin infusions during interfacility transports from approved hospital(s) within their service area.

2. Only those paramedics who have successfully completed training program(s) approved by the Benton / Franklin EMS Office on heparin infusions will be permitted to monitor them during interfacility transports. Training must include the use of mechanical infusion pumps.

3. Patients that are candidates for paramedic transport will have preexisting heparin drips. Prehospital personnel will not initiate heparin drips.

4. Paramedics may restart heparin infusions if the heparin infusion is interrupted due to infiltration, accidental disconnection of the IV line, malfunctioning pump, etc. All lines must be restarted in accordance with the transferring physician’s orders. Paramedics will ensure new IV line is patent prior to restarting the infusion.

5. Heparin Infusions: The following parameters shall apply in all cases where paramedics transport patients with preexisting heparin drips:

   a. Patient shall be placed on cardiac, blood pressure and pulse oximetry monitors and monitored continuously during transport.

   b. Signed transfer orders from the transferring physician must be obtained prior to transport. Transfer orders must certify that the patient is stable for transfer and provide orders for maintaining the heparin infusion during transport.

   c. Infusion fluid must be D5W, NS or ½ NS.

   d. Medication concentration shall be checked by the paramedic to ensure the correct dose in units/hr.

   e. Infusion rates must remain constant via infusion pump during transport with no titration performed by the paramedic, except for the discontinuation the infusion.

   f. Infusion rates may not exceed 1800 units per hour.

   g. Vital signs shall be monitored and documented every 15-20 minutes during transport.

June 18, 2019
Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties
h. Heparin boluses (if given) must be completed by transferring facility prior to transfer or care to transport team.

6. Continuous Quality Improvement: All calls involving the transfer of patients with preexisting heparin infusions shall be reviewed through the ambulance provider’s CQI program to determine compliance with policy and transferring physician orders. Reports of audits will be submitted to the County MPD Office when requested.

7. General Information on Heparin:

   a. Heparin is an anticoagulant which acts to: prevent the conversion of fibrinogen to fibrin, prevent the conversion of prothrombin to thrombin, inactivate Factor X and enhance the inhibitory effects of antithrombin III.

   b. Pharmacokinetics:
      i. SC: Onset 20-60 minutes; duration 8-12 hours;
      ii. IV: Onset immediate; peak 5 minutes; duration 2-6 hours;
      iii. Metabolized in the liver and the reticuloendothelial system;
      iv. Excreted in urine;
      v. Half-life of 1.5 hours.

   c. Indications for the use of Heparin:
      i. In preventing additional clot formation or growth in DVT, MI, Pulmonary embolism, DIC, stroke or arterial thrombosis;
      ii. Prophylactically to keep IV lines open (i.e. heparin flushes and locks);
      iii. Prophylactically before open heart surgery;
      iv. Post DVT, PE and MI to prevent clotting;
      v. Atrial fibrillation to prevent embolization;
      vi. As an anticoagulant in transfusion and dialysis

   d. Contraindications:
      i. Allergy to heparin
      ii. Bleeding disorders – hemophilia, etc.
      iii. Blood dyscrasias such as leukemia with bleeding;
      iv. Peptic ulcer disease;
      v. Severe hypertension;
      vi. Severe hepatic disease;
      vii. Subacute bacterial endocarditis
      viii. Active bleeding from any site.

   e. Precautions:
      i. Pregnancy (class C);
      ii. Alcoholism (due to decreased liver function);
      iii. Elderly (due to decrease liver and renal function and increased injury capability).

Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties

June 18, 2019
iv. Severe renal disease

f. Adverse Effects:
   i. Hemorrhage from any site. May manifest as easy bruising, petechiae, epistaxis, bleeding gums, hemoptysis, hematuria, melena;
   ii. Fever, chills (due to allergy);
   iii. Abdominal cramps, nausea, vomiting, diarrhea (due to allergy);
   iv. Anorexia (secondary to above);
   v. Rash, urticaria (due to allergy).

g. Interactions:
   i. Oral anticoagulants warfarin (Coumadin) – increase the actions of heparin;
   ii. Salicylates (aspirin) – increase the actions of heparin;
   iii. Corticosteroids – increase the actions of heparin;
   iv. Corticosteroids – actions are decreased by heparin
   v. Dextran – increase the action of heparin
   vi. Nonsteriodan anti-inflammatory drugs ibuprofen, naproxen (Aleve, Naprosyn) (Midol), ketorolac (Toradol), piroxicam (Feldene), indomethacin (Indocin) – increase the actions of heparin;
   vii. Diazepam – action increase by heparin.

h. Standard Dosages and Routes:
   i. DVT/PE prophylaxis: 5,000 units subcutaneous every 8-12 hours
   ii. Active clot suppression:
       1. Loading Dose (1) Adult: 5000 -7000 units IVP. (2) Child: 50-100 units/kg IVP.
       2. Maintenance (1) Adult: 1000-1800 units per hour IV titrated to a PTT level. (2) Child 15-25 units per hour IV titrated to a PTT level.

i. Special Considerations:
   i. Avoid IM infections of other procedures, which may cause bleeding.
   ii. Overdoses are treated in hospital with protamine sulfate 1:1 solution (protamine is not authorized for paramedic use.)

j. Indications for discontinuing infusion include but are not limited to:
   i. Infiltration of IV site may resume…
   ii. Active bleeding
   iii. Mechanical infusion pump failure
   iv. Allergic reaction
PROTOCOL TITLE: INTRAVENOUS INSULIN INFUSIONS

The purpose of this protocol is to authorize paramedics to monitor intravenous insulin infusions in adult patients during interfacility transport.

1. Only those ALS ambulance providers approved by the Benton/Franklin county EMS office are permitted to provide the service of monitoring insulin infusions during interfacility transports from approved hospital(s) within their service area.

2. Only those paramedics who have successfully completed a training program(s) approved by Benton/Franklin EMS Office on insulin infusions will be permitted to monitor them during interfacility transports. Training must include the use of mechanical infusion pumps.

3. Patients that are candidates for paramedic transport will have preexisting insulin drips infusing into peripheral lines. Prehospital personnel will not initiate Insulin drips.

4. Paramedics may restart Insulin infusions if the insulin infusion is interrupted due to infiltration, accidental disconnection of the IV line, malfunctioning pump, etc. All lines must be restarted in accordance with the transferring physician’s orders. Paramedics will ensure new IV line is patent prior to restarting the infusion.

5. Insulin Infusions The following parameters shall apply in all cases where paramedics transport patients with preexisting insulin drips:
   a. Patient shall be placed on cardiac, blood pressure and pulse oximetry monitors and monitored continuously during transport.
   b. Signed transfer orders from the transferring physician must be obtained prior to transport. Transfer orders must certify that the patient is stable for transfer and provide orders for maintaining the Insulin infusion during transport.
   c. Insulin infusions must be regulated by a mechanical intravenous infusion pump. If total pump failure occurs and cannot be corrected, the paramedic will stop the insulin infusion and notify the transferring hospital.
   d. Blood Sugar shall be checked at a minimum of twice per transport – once when assuming patient care as well as just prior to arrival at

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Additional blood-sugar readings should be obtained at least once per hour.

e. Insulin infusion shall be at rate as established by sending physician.

f. Regulation of the drip rate will not be permitted in the field. In no case will changes be made to the medication drip rate, except to stop the infusion for listed reasons.

g. Insulin infusion concentrations are generally 1 unit per 1ml, confirm any variations with sending healthcare personnel.

h. Vital signs shall be monitored and documented every 15 minutes during transport.

6. Continuous Quality Improvement all calls involving the transfer of patients with preexisting insulin infusions shall be reviewed through the ambulance provider’s CQI program to determine compliance with policy and transferring physician orders. Reports of audits will be submitted to the EMS agency on request.

7. General Information on insulin

a. Hypoglycemia is associated with worse outcomes than hyperglycemia. The danger of both hyperglycemia and hypoglycemia is related to the level and duration of the glucose abnormality. The aim is to reduce such glucose variability. Important considerations include allowing 6-8 hours to safely lower glucose to target, reducing the risk of hypoglycemia, accounting for patient insulin sensitivity and resistance. Hyperglycemia may result from stress, infection, steroid therapy, decreased physical activity, discontinuation of outpatient regimens, and nutrition.

b. Pharmacokinetics:
   i. Onset 5-10 minutes;
   ii. Half-life of 5-10 minutes.

c. Indications for the use of Insulin:
   i. Hyperglycemia >200mg/dl.
   ii. Diabetic Ketoacidosis
   iii. Hyperkalemia
d. Contraindications:
   i. Hypoglycemia
   ii. Known Hypersensitivity. Bovine / Porcine

e. Precautions:
   i. Hypoglycemia.
   ii. Hypokalemia
   iii. Due to unpredictable sugar metabolism and uptake, patients on an insulin drip should be NPO

f. Adverse Effects:
   i. Headache;
   ii. Nausea;
   iii. Rhinitis
   iv. Diarrhea:
   v. Local allergic reaction;

g. Standard Dosages for Insulin drips:
   i. Continuous IV Infusion: Insulin infusions are generally set up with ration of 1 unit per 1ml, confirm and variations with sending healthcare personnel. Insulin should be administered at rate dictated by sending physician and is typically 0.1 units/kg/hr.

h. Stoppage of drip / medication
   If complications develop, consult online medical control and notify receiving facility of change in condition – if hypoglycemia develops, do not discontinue infusion, instead administer 25g D50 and initiate D5drip at 150-250ml/hr
PROTOCOL TITLE: INTRAVENOUS POTASSIUM INFUSIONS (KCl)

The purpose of this protocol is to provide a mechanism for paramedics to be permitted to monitor infusions of potassium chloride (KCl) during interfacility transfers.

1. All ALS ambulance providers approved by the Benton / Franklin EMS Office will be permitted to provide the service of monitoring potassium chloride infusions during interfacility transports from approved hospital(s) within their service area.

2. Only those paramedics who have successfully completed training programs(s) approved by the Benton / Franklin EMS Office on potassium chloride infusions will be permitted to monitor them during interfacility transports.

3. Patients that are candidates for paramedic transport will have preexisting KCl infusions. Prehospital care providers are not allowed to start or add KCl to IV solution.

4. Infusions containing KCl in accordance with the provisions of this policy, a paramedic may transport a patient who has a preexisting IV solution containing KCl only when following these parameters:
   a. Signed transfer orders from the transferring physician must be obtained prior to transport. Infusions containing KCl may be monitored only.
   b. Patient is placed on cardiac and pulse oximetry monitors and monitored continuously during transport.
   c. KCl infusion concentration will not exceed 40 mEq / liter administered at a mechanically controlled rate not to exceed 10 mEg / hour through a peripheral line.
   d. If fluid bolus or IV medications are needed, the KCl infusion shall be discontinued and a new IV solution without KCl and administration device shall be used as replacement. DO NOT BOLUS FLUIDS CONTAINING KCI.
   e. Vital signs will be monitored and documented no less than every 15 minutes during patient transport.
   f. Monitor patient for adverse effects during transport including:
      i. Cardiovascular: Dysrhythmias, cardiac arrest
      ii. Respiratory: depression / arrest
      iii. Gastrointestinal: nausea / vomiting, diarrhea, abdominal pain
      iv. Neurological: paresthesia of extremities, muscular paralysis, confusion

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v. IV infiltration: monitor IV site as infiltration may cause necrosis.
   If patient complains of burning or irritation at the insertion site, the IV should be checked for patency and the infusion rate slowed or discontinued.

5. General Information on potassium chloride
a. Potassium is an essential macromineral in human nutrition with a wide range of biochemical and physiological roles. Among other things, it is important in the transmission of nerve impulses, the contraction of cardiac, skeletal and smooth muscle, the production of energy, the synthesis of nucleic acids, the maintenance of intracellular tonicity and the maintenance of normal blood pressure.

b. Indications for the use potassium chloride
   i. The treatment of potassium depletion in patients with hypokalemia when oral replacement is not feasible.
   ii. Treatment of digitalis intoxication.

c. Contraindications:
   i. Renal impairment with oliguria or azotemia
   ii. Untreated Addison’s Disease
   iii. Hyperadrenalism associated with adrenogenital syndrome
   iv. Extensive tissue breakdown as in severe burns
   v. Adynamia episodica hereditaria
   vi. Hyperkalemia of any etiology

d. Precautions:
   i. Pregnancy Category C
   ii. Chronic renal disease
   iii. Adrenal insufficiency
   iv. Any other condition which impairs potassium excretion
   v. Potassium should be used with caution in diseases associated with heart block

e. Adverse Effects:
   i. Fever
   ii. Venous thrombosis, infection at injection site
   iii. Extravasation, phlebitis, pain at injection site
   iv. Hypervolemia
   v. Hyperkalemia
   vi. Abdominal Pain
   vii. Nausea / vomiting
   viii. Paresthesias of the extremities
   ix. ECG abnormalities, heart block
   x. Mental confusion
   xi. Hypotension
f. Interactions:
   i. Cardiac arrest can occur with high potassium conditions, such as chronic renal failure, burns, acidosis, dehydration, and potassium sparing diuretic usage such as spironolactone.
   ii. Drug interactions causing elevation of potassium can occur with ACE inhibitors (used to treat high blood pressure) and certain diuretics (aldactone and triamterene).

g. Standard Dosages for Potassium Chloride Infusions:
   i. For serum potassium level > 2.5mEq/L
      1. Continuous IV Infusion: 10mEq/hour in a concentration up to 40mEq/L. Max dose of 200mEq/day
   ii. For serum potassium level < 2.0 with electrocardiographic changes and/or muscle paralysis, potassium chloride may be administered at a rate up to 40mEq/hour. (This rate is not approved for EMS personnel).

h. Special Considerations:
   i. MUST BE DILUTED BEFORE ADMINISTRATION.
   ii. Administer at a rate not to exceed 10mEq/hour through peripheral line.
   iii. Rate not exceed 20mEq/hour via central line or MedPort.
   iv. Monitor electrolyte, fluid and acid-base balances

i. Indications for discontinuing infusion include but are not limited to:
   i. Infiltration of IV site may resume infusion through new IV site at same rate
   ii. Widening QRSd
   iii. Ventricular dysrhythmias not caused by hypokalemia
   iv. Mechanical infusion pump failure
   v. Allergic reaction
The purpose of this protocol is to authorize paramedics to monitor intravenous nitroglycerin (NTG) infusions in adult patients during interfacility transport.

1. Only those ALS Ambulance providers approved by the Benton/Franklin County EMS Office are permitted to provide the service of monitoring nitroglycerin infusions during interfacility transports from approved hospital(s) within their service area.

2. Only those paramedics who have successfully completed training program(s) approved by the Benton / Franklin EMS Office on nitroglycerin infusions will be permitted to monitor them during interfacility transports. Training must include the use of mechanical infusion pumps.

3. Patients that are candidates for paramedic transport will have preexisting nitroglycerin drips infusing into peripheral lines. Prehospital personnel will not initiate nitroglycerin drips.

4. Paramedics may restart nitroglycerin infusions if the nitroglycerin infusions is interrupted due to infiltration, accidental disconnection of the IV line, malfunctioning pump, etc. All lines must be restarted in accordance with the transferring physician’s orders. Paramedics will ensure new IV line is patent prior to restarting the infusion.

5. Nitroglycerin Infusions (Tridil) The following parameters shall apply in all cases where paramedics transport patients with preexisting nitroglycerin drips:

   a. Patient shall be placed on cardiac, blood pressure and pulse oximetry monitors and monitored continuously during transport.

   b. Signed transfer orders from the transferring physician must be obtained prior to transport. Transfer orders must certify that the patient is stable for transfer and provide orders for maintaining the nitroglycerin infusion during transport.

   c. Nitroglycerin infusions must be regulated by mechanical intravenous infusion pump. If pump failure occurs and cannot be corrected, the paramedic will stop the nitroglycerin infusion and notify the transferring hospital.

   d. Infusion fluid shall be D5W or NS

   e. Nitroglycerin infusion concentration shall be 25 mg/250 ml or 50 mg/250ml.
f. Regulation of the drip rate will be within parameters as defined by the transferring physician. In no case will changes be made to the medication drip rate, except to stop the infusion for listed reasons.

g. In cases hypotension (SBP < 90), the medication drip will be discontinued and the transferring hospital and base hospital will be notified.

h. Vital signs shall be monitored and documented every 10 minutes during transport.

6. Continuous Quality Improvement: All calls involving the transfer of patients with preexisting nitroglycerin infusions shall be reviewed through the ambulance provider’s CQI program to determine compliance with policy and transferring physician orders. Reports of audits will be submitted to the EMS agency on request.

7. General Information on Nitroglycerin

a. Nitroglycerin is a vasodilating agent that belongs to a group of drugs referred to as nitrates. Nitroglycerin acts to: relax vascular smooth muscle; vasodilate both arteries and veins (especially veins); increase venous pooling; decrease venous return to the heart; increase arterial relaxation; decrease systemic vascular resistance; decrease cardiac workload; decrease cardiac oxygen consumption; dilate the large epicardial arteries; and lower diastolic more than systolic blood pressure.

b. Pharmacokinetics:
   i. SL: Onset 1 - 3 minutes; duration 30 minutes;
   ii. Transdermal (patch): Onset 0.5 - 1 hour; duration 12 - 24 hours;
   iii. Transdermal (ointment): Onset 0.5 - 1 hour; duration 2 - 12 hours
   iv. PO (sustained release): Onset 20 - 40 minutes; duration 3 - 8 hours;
   v. IV: Onset usually immediate; duration is variable;
   vi. Metabolized by the liver;
   vii. Excreted in urine;
   viii. Half-life of 1 - 4 minutes.

c. Indications for the use Nitroglycerin:
   i. Sublingual:
      1. Relief of acute anginal pain or related ischemic symptoms;
      2. Congestive Heart Failure (CHF) to decrease preload, reducing myocardial workload.
PROTOCOL TITLE: INTRAVENOUS NITROGLYCERIN INFUSIONS

ii. Intravenous:
   1. Diagnosed MI or unstable angina pectoris, even in the absence of chest pain, to decrease myocardial workload;
   2. Relief of persistent ischemic chest pain that does not respond to other medications;
   3. Hypertension when associated with diagnosed MI of unstable angina pectoris (not used solely for blood pressure control).
   4. Congestive Heart Failure (CHF) to decrease preload, reducing myocardial workload.

d. Contraindications:
   i. Allergy to nitrates;
   ii. Increased intracerebral pressure such as in cases of stroke, head trauma or intracerebral bleeding;
   iii. Hypotension;
   iv. Hypovolemia;
   v. Treatment of hypertension without progressively worsening signs of organ damage, ischemia or neurologic deficit.

e. Precautions:
   i. Pregnancy (class C);
   ii. Glaucoma patients (can increase intraocular pressure);
   iii. Lactation (fetal effects in animal studies);
   iv. May require decreased dosing in patients with liver disease.
   v. Patient taking erectile dysfunction medications (e.g. Cialis, Viagra)

f. Adverse Effects:
   i. Hypotension;
   ii. Headache (from vasodilation);
   iii. Dizziness and syncope (from hypotension)
   iv. Nausea / Vomiting;
   v. Tachycardia (in response to hypotension);
   vi. Paradoxical bradycardia (in rare instances);
   vii. Pallor, sweating (from hypotension);
   viii. Flushing, sweating (from vasodilation);
   ix. Rash, if allergic to nitrates.

g. Interactions:
   i. Alcohol – combined with nitroglycerin can worsen hypotension;
   ii. Aspirin – can increase serum nitrate concentrations;
   iii. Calcium channel blockers – combined with nitroglycerin can worsen orthostatic hypotension;
   iv. B-blockers, diuretics, anti-hypertensives – can increase actions of nitroglycerin.
PROTOCOL TITLE: INTRAVENOUS NITROGLYCERIN INFUSIONS

h. Standard Dosages for nitroglycerin drips:
   i. For diagnosed patients with ischemic symptoms:
      1. Continuous IV Infusion: Starting 10 - 20 mcg/min and increased by 5 or 10 mcg/min every 5-10 minutes until the desired hemodynamic or clinical response is achieved. Most patients respond to 50 - 200 mcg/min and the lowest possible dose should be used. When indicated, rates should be decreased in 10 minute intervals.

   i. Special Considerations:
      i. Glass infusion bottles and non-polyvinyl tubing must be used, as plastics will absorb nitroglycerin and alter the dose administered.
      ii. Do not use in-line filters.
      iii. Attach drip to port closest to catheter insertion.
## PROTOCOL TITLE: DRUG PROFILES CHART

<table>
<thead>
<tr>
<th>NAME</th>
<th>DOSING</th>
<th>DRUG PROFILE</th>
<th>PROTOCOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>Adult:</td>
<td>Indications: Pain control, Febrile seizure, Fever &gt;103 degrees</td>
<td>M-11</td>
</tr>
<tr>
<td></td>
<td><em>Pain control:</em> 650-1000 mg PO x 1.</td>
<td><em>Contradictions:</em> None</td>
<td>P-13</td>
</tr>
<tr>
<td></td>
<td><em>Peds:</em></td>
<td><em>SE:</em> None</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Febrile Seizure (or) fever &gt;103 degrees:</em> 20mg/kg Suppository</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Pain control:</em> 15 mg/kg PO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adenosine (Adenocard®)</td>
<td>Adult:</td>
<td>Indications: PSVT refractory to vagal maneuvers</td>
<td>C-8</td>
</tr>
<tr>
<td>Antiarrhythmic</td>
<td><em>6 mg IV, rapidly via proximal IV. Flush with 10mL saline. If no effect in 1-2 minutes, Second dose of 12 mg IV rapidly. May repeat 12 mg bolus.</em></td>
<td><em>Contraindications:</em> 2nd or 3rd degree heart block, sick sinus syndrome, known hypersensitivity</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Peds:</em> 0.1 mg/kg IV, IO max 6 mg first dose max 12 mg second dose.</td>
<td><em>SE:</em> facial flushing, HA, SOB, dizziness, nausea all self limiting</td>
<td></td>
</tr>
<tr>
<td>Albuterol (Proventil®)</td>
<td>Adult:</td>
<td>Indications: Bronchospasm, COPD, Asthma</td>
<td>M-2</td>
</tr>
<tr>
<td>Sympathetic agonist B2</td>
<td><em>2.5 mg (0.5ml) diluted in 3 mL 0.9% NaCl via nebulizer mask.</em></td>
<td><em>Contraindications:</em> Known hypersensitivity</td>
<td>R-1</td>
</tr>
<tr>
<td>selective</td>
<td><em>Peds:</em> 2.5 mg (0.5ml) diluted in 3 mL 0.9% NaCl via nebulizer mask.</td>
<td><em>SE:</em> palpitations, anxiety, dizziness, HTN, arrhythmia chest pain, N/V</td>
<td>R-2</td>
</tr>
<tr>
<td>Amidate</td>
<td>See Etomidate</td>
<td>See Etomidate</td>
<td>P-9</td>
</tr>
</tbody>
</table>

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Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties
<table>
<thead>
<tr>
<th>Protocol Title: Drug Profiles Chart</th>
</tr>
</thead>
</table>

### Amiodarone

**Antiarrhythmic**

**Adult:**
- **Pulseless Arrest:** 300 mg IV, IO. May repeat 150 mg IV, IO in 3-5 min.
- **Wide-Complex Tach. (Stable):** 150 mg IV over 10-15 min., may repeat 150 mg IV once. See Drug table for recommendation.

**Peds:**
- **Refractory V-fib**
- **Pulseless V-tach:** 5mg kg IV, IO, bolus may repeat x2 max of 15 mg/kg in 24 hours.

**Perfusing arrhythmias supraventricular and ventricular:**
- 5 mg/kg load IV, IO over 20-60 minutes. may repeat x 2, max dose15 mg/kg in 24 hours. Max single dose 300 mg.

**Indications:**
Used in life threatening cardiac arrhythmias such as V-Tach or V-Fib; control of PVC’s

**Contraindications:**
Severe sick sinus syndrome, 2nd and 3rd degree AV block, symptomatic bradycardia, known hypersensitivity

**SE:**
- hypotension, bradycardia

### Anectine

See Succinycholine

**Indications:**
See Succinycholine

### Aspirin

**Acetylsalicylic Acid**
- Non-enteric coated
- Platelet aggregation inhibitor & anti-inflammatory agent

**Adult:**
- 324 mg

**Peds:**
- N/A

**Indications:**
Chest Pain suggestive of AMI

**Contraindications:**
Known hypersensitivity, relative contraindication in active ulcer disease, asthma

**SE:**
- Heart burn, wheezing, N/V, prolonged bleeding

### Ativan

See Lorazepam

**Indications:**
See Lorazepam

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**Kevin Hodges, M.D**
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

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<table>
<thead>
<tr>
<th></th>
<th>Adult:</th>
<th>Indications:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Atropine Sulfate</strong></td>
<td><strong>Symptomatic Bradycardia:</strong></td>
<td>Asystole, PEA hemodynamically significant symptomatic bradycardia Organophosphate Poisoning, GB, VX Nerve Agent exposure, Asthma</td>
</tr>
<tr>
<td></td>
<td>0.5 – 1 mg IV q 3-5 minutes; up to 3 mg</td>
<td>Peds: Symptomatic bradycardia unresponsive to oxygenation ventilation and epinephrine.</td>
</tr>
<tr>
<td></td>
<td><strong>Organophosphate Poisoning:</strong></td>
<td>Efficacy in cardiac arrest is unknown, trial dose may be given.</td>
</tr>
<tr>
<td></td>
<td>1 – 5 g IV q 5 minutes until vital signs improve.</td>
<td><strong>Contraindications:</strong> None in the emergent setting</td>
</tr>
<tr>
<td><strong>Peds:</strong></td>
<td><strong>Symptomatic bradycardia:</strong></td>
<td><strong>SE:</strong> Blurry vision, dilated pupils, dry mouth, tachycardia, drowsiness, and confusion</td>
</tr>
<tr>
<td></td>
<td>0.02 mg/kg, may double the dose for 2nd IV or IO dose. (Minimum dose: 0.1mg)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Maximum dose: Child 1 mg Adolescent 2 mg)</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Organophosphate Poisoning:</strong></td>
<td></td>
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<tr>
<td></td>
<td>0.05 mg/kg in children until vital signs improve.</td>
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</tr>
<tr>
<td></td>
<td><strong>Pediatric RSI:</strong> If bradycardia occurs following intubation attempt, 0.02 mg/kg (minimum of 0.1mg)</td>
<td></td>
</tr>
<tr>
<td><strong>Atropine/ 2-PAM</strong></td>
<td><strong>Adult:</strong> GB, VX Nerve Agent Exposure See Nerve Agent Protocol 2-PAM dose:</td>
<td><strong>Indications:</strong> Severe organophosphate poisoning as characterized by muscle twitching, respiratory depression, and paralysis</td>
</tr>
<tr>
<td>(MARK 1 Kit)</td>
<td><a href="#">2-PAM</a></td>
<td><strong>Contraindications:</strong> None in the emergent setting</td>
</tr>
<tr>
<td>2-PAM</td>
<td></td>
<td><strong>SE:</strong> Blurry vision, dilated pupils, dry mouth, tachycardia, drowsiness, and confusion</td>
</tr>
</tbody>
</table>

**Protocol Review:**

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

June 18, 2019
Date
<table>
<thead>
<tr>
<th>Drug</th>
<th>Adult Dosage</th>
<th>Peds:</th>
<th>Contraindications:</th>
<th>Indications:</th>
<th>SE:</th>
<th>Contraindications:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholinesterase reactivator</td>
<td>1-2 g in 250-500 ml 0.9% NaCl infused over 30 minutes.</td>
<td>2-PAM dose 20-40 mg/kg by the same method as above.</td>
<td>Poisonings other than organophosphates</td>
<td>Treat cardiac toxicity or hyperkalemia, as an antidote for hypermagnesemia.</td>
<td>Excitement, manic behavior</td>
<td>Poisonings other than organophosphates</td>
</tr>
<tr>
<td>Atrovent</td>
<td>See Ipratropium Bromide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benadryl</td>
<td>See Diphenhydramine</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Calcium Gluconate</td>
<td>Adult: 1 – 2 g slow IV, repeated as necessary at 10 min intervals.</td>
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<td></td>
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<td></td>
<td>Ventricular fibrillation; caution in patients on digoxin, renal or cardiac insufficiency, and immobilized patients.</td>
</tr>
<tr>
<td></td>
<td>Peds: N/A</td>
<td></td>
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<tr>
<td>Cardizem</td>
<td>See Diltiazem</td>
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</tr>
<tr>
<td>Cyanide Kit</td>
<td>Adult: Kit Contains -amyl nitrate for inhalation; break pearls and have victim inhaled. -sodium nitrite solution for IV use; given immediately on</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cyanide Poisoning; Cyanide binds a key cellular enzyme (cytochrome oxidase) causing cellular asphyxia and thus effects virtually all organs in the body. Signs and Symptoms Unconscious noncyanotic,</td>
</tr>
</tbody>
</table>

June 18, 2019
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Medical Program Director
Adams, Benton, Franklin, Yakima Counties
### PROTOCOL TITLE: DRUG PROFILES CHART

<table>
<thead>
<tr>
<th>Drug</th>
<th>Adult:</th>
<th>Peds:</th>
<th>Contraindications:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dextrose 50%</td>
<td>25 g IV, IO, may repeat with additional 25 g.</td>
<td>0.5 – 1.0 g/kg up to 25 g.</td>
<td>None</td>
</tr>
<tr>
<td>Nutrient, carbohydrate</td>
<td>&lt;1 year old dilute to 12.5% concentration</td>
<td>1-8 year old dilute to 25% concentration</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;8 year old 50% concentration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diltiazem (Cardizem®) Calcium Channel Blocker</td>
<td>0.25 mg/kg IV slow over 2 min. May repeat in 15 min, @ 0.35 mg/kg slow over 2 min.</td>
<td>Not FDA Approved</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drip at 5 - 15 mg/HOUR after bolus to maintain rate control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diphenhydramine</td>
<td>Indications:</td>
<td>Indications:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Coma, unconscious unresponsive unknown etiology, hypoglycemia, insulin shock</td>
<td>To control rapid ventricular rate in A-Fib &amp; A-Flutter., PSVT</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Contraindications:</td>
<td>Contraindications:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hypersensitivity, 2nd or 3rd degree Heart Block, Sick Sinus Syndrome, WPW, cardiogenic shock, V-Tach,</td>
<td>Hypersensitivity, 2nd or 3rd degree Heart Block, Sick Sinus Syndrome, WPW, cardiogenic shock, V-Tach,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Caution:</td>
<td>Caution:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AV Block, CHF, can cause systemic hypotension</td>
<td>AV Block, CHF, can cause systemic hypotension</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SE:</td>
<td>SE:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hypotension (3-4%), dizziness, headache, vomiting (1.5-3%),</td>
<td>Hypotension (3-4%), dizziness, headache, vomiting (1.5-3%),</td>
<td></td>
</tr>
<tr>
<td>DRUG PROFILES CHART</td>
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<td><strong>PROTOCOL TITLE:</strong> DRUG PROFILES CHART</td>
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<td><strong>A-A1</strong></td>
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</table>

| (Benadryl®) Antihistamine | **Allergic reaction:** 25 – 50 mg PO, slow IVP, IO, deep IM  
Extra Pyramidal symptoms: 25 – 50 mg PO, slow IVP, or deep IM  
**Peds:** Allergic reaction: 1 – 2 mg/kg PO, slow IVP, IO, IM | pyramidal symptoms  
**Contraindications:** neonates  
**SE:** Sedation, confusion, |

| Dopamine (Intropin®) Inotrope, sympathomimetic, vasopressor | **Adult:** Bradycardia: 2 – 10 mcg/kg/min  
**Peds:** Same as adult | **Indications:** Bradycardia refractory to atropine  
**Contraindications:** Hypovolemic shock in which complete fluid resuscitation has not occurred.  
**SE:** Ectopic beats, tachycardia, angina, hypotension, headache, dyspnea, N/V. |

| Duoneb (optional) Commercially prepared mixed solution of 3.0 mg albuterol and 0.5 mg atrovent, yielding 3 ml total fluid volume. | **Adult:** 3 ml vial of Duoneb placed into a nebulizer. May repeat up to 3 total doses.  
**Peds:** Same as adult dose. | **Indications:** Bronchospasm associated with COPD, Asthma  
**Contraindications:** History or known hypersensitivity to atropine or Atrovent  
**SE:** Palpitations, tachycardia, arrhythmia, nervousness, HA |

| Epinephrine (Adrenalin®) Sympathomimetic | **Adult:** Allergic reaction: 0.3 – 0.5 mg 1:1000 IM.  
See Epinephrine auto Injector  
**Indications:** Allergic reaction, Anaphylaxis, Asthma, Cardiac arrest, Bradycardia  
**Note:** IM route is preferred over SQ. | **C-1**  
**C-6**  
**M-2**  
**R-1**  
**R-3** |
**Anaphylaxis:**

- 0.3 – 0.5 mg 1:1000 IM (or)
- 0.3 – 0.5 mg 1:10,000 IV, IO

**Asthma:**

- 0.3 – 0.5 mg 1:1,000 IM (or)
- 0.3 – 0.5 mg 1:10,000 IV.

**Asthma or anaphylaxis with severe respiratory distress, refractory S&S:**

- Epi drip 2 – 10 mcg/min

**Cardiac arrest:**

- 1 mg IV, IO 1: 10,000 q 5 minutes.

**Symptomatic Bradycardia**

- Epi-drip 2 – 10 mcg/min

**Peds:**

**Pulseless Arrest and Symptomatic Bradycardia:**

- 0.01 mg/kg 1:10,000 (0.1 ml/kg) IV, IO q 4 min (or)

- 0.1 mg/kg (0.1 ml/kg) of 1:1000 ETT.

**Allergic reaction:**

- 0.01 mg/kg 1:1000 IM, SQ (max 0.5 mg)

**Contraindications:**

Patients with known underlying cardiovascular disease, HTN, pregnancy, tachyarrhythmias

**SE:**

Palpitations, anxiety, tremors, N/V
### PROTOCOL TITLE: DRUG PROFILES CHART

<table>
<thead>
<tr>
<th>Drug</th>
<th>Adult</th>
<th>Indications</th>
<th>Contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Epinephrine Auto-Injector</strong></td>
<td>Adult: Allergic Reaction, Anaphylaxis: 1 auto-injector 0.3 mg.</td>
<td>Indications: severe allergic reaction</td>
<td>Contraindications: known cardiovascular disease</td>
</tr>
<tr>
<td></td>
<td>Peds: Allergic reaction; anaphylaxis: 1 auto-injector 0.15 mg.</td>
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<td></td>
<td>SE: Palpitations, anxiety, tremors, N/V</td>
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</tr>
<tr>
<td><strong>Etomidate</strong> (Amidate)</td>
<td>Adult: 0.3 mg/kg IV.</td>
<td>Indications: Induction and maintenance of general anesthesia, May be used to decreases ICP and depress cerebral metabolism</td>
<td>Contraindications: Known hypersensitivity</td>
</tr>
<tr>
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<td>Peds: Same as adult</td>
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<td>Cautions: None if used with paralytic</td>
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<td>SE: None</td>
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<tr>
<td><strong>Fentanyl Citrate</strong> (Sublimaze)</td>
<td>Adult: Pain Control: 1 mcg/kg titrated to max of 3 mcg/kg slow IV, IO (or)</td>
<td>Indications: Pain Control, AMI, adjunct to RSI, maintenance of analgesia.</td>
<td>Contraindications: Known hypersensitivity, shock</td>
</tr>
</tbody>
</table>

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Kevin Hodges, M.D  
Medical Program Director  
Adams, Benton, Franklin, Yakima Counties

June 18, 2019  
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<table>
<thead>
<tr>
<th><strong>PROTOCOL TITLE: DRUG PROFILES CHART</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>Geodon</strong> (Ziprasodone) Antipsychotic</td>
</tr>
<tr>
<td><strong>Adult:</strong> 10 – 20 mg IM Only. (15 – 30 minute onset time)</td>
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<tr>
<td><strong>Peds:</strong> Not recommended</td>
</tr>
<tr>
<td><strong>Indications:</strong> Antipsychotic, control of agitation</td>
</tr>
<tr>
<td><strong>Contraindications:</strong> Known history of QT Prolongation, recent AMI or uncompensated heart failure.</td>
</tr>
<tr>
<td><strong>SE:</strong> Somnolence, EPS, tachycardia, orthostatic hypotension</td>
</tr>
<tr>
<td><strong>Reconstitution required:</strong> A. Single-dose vial requires reconstitution prior to administration.</td>
</tr>
<tr>
<td>1. Using aseptic technique, withdraw 1.2 mL or Sterile Water</td>
</tr>
<tr>
<td>2. Add the Sterile Water for Injection to vial of Geodon for injection.</td>
</tr>
<tr>
<td>3. Shake vigorously until drug is dissolved to afford a colorless to pale pink solution, approximately 1 minute.</td>
</tr>
<tr>
<td>4. Using a new needle and syringes:</td>
</tr>
<tr>
<td>a. For 10 mg of Geodon, draw up 0.5 mL of this solution</td>
</tr>
<tr>
<td>b. For 20 mg of Geodon, draw up 1.0 mL of this solution.</td>
</tr>
<tr>
<td><strong>2mcg/kg intranasal</strong></td>
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<tr>
<td><strong>AMI chest pain:</strong> 1mcg/kg slow IV, IO titrated to effect (max 3 mcg/kg)</td>
</tr>
<tr>
<td><strong>RSI:</strong> 1 – 3 mcg/kg IV for post-intubation pain control</td>
</tr>
<tr>
<td><strong>Peds:</strong> Pain Control: 1mcg/kg slow IV, IO</td>
</tr>
<tr>
<td><strong>SE:</strong> Potentially fatal respiratory depression if not monitored, chest wall rigidity if administered to quickly</td>
</tr>
</tbody>
</table>

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## Glucagon (GlucaGen) hormone

**Adult:**
- **Hypoglycemia:** 0.5-1 mg or unit (0.5-1 ml) IM.
- **Beta Blocker or Calcium Channel blocker OD:** 2 mg IV, may repeat Q 2 min up to 10 mg PRN hypotension.

**Peds:**
- **Hypoglycemia,**
- **Beta Blocker OD Calcium Channel Blocker OD:** 0.1 mg/kg IV up to 1 mg.

**Indications:**
- Hypoglycemia with altered mental status in a diabetic,
- Beta blocker or calcium channel blocker overdose with hypotension, Cardiogenic shock with hypotension refractory to fluid bolus,
- Hypotension/hypovolemia – unknown etiology

**Contraindications:**
- Known hypersensitivity

**SE:** Occasional N/V, rash

## Ipratropium Bromide (Atrovent)

**Anticholinergic, bronchodilator**

**Adult:**
- 2.5ml per nebulizer mask.
- May repeat prn q 5 min as needed.
- Duoneb 3ml mixed in nebulizer may be substituted

**Peds:**
- 2.5ml per nebulizer mask.
- May repeat prn q 5 min.
- Duoneb 3ml mixed in nebulizer may be substituted

**Indications:**
- Bronchospasm associated with COPD, Asthma, allergic reaction chronic bronchitis in adults.

**Contraindications:**
- Known hypersensitivity

**SE:**
- Dizziness, HA, nervousness, palpitations

## IV Solutions

**Normal Saline (0.9% NaCl)**

**Adult:**
- **Hypotension:** 30 ml/kg may repeat one time.

**Indications:**
- Hypotension, maintenance of venous access

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# DRUG PROFILES CHART

## Isotonic solution-volume expander

- **2.5% Dextrose in Water (D5W)**
- Hypotonic dextrose-containing solution

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<thead>
<tr>
<th></th>
<th>Peds:</th>
<th>Adult:</th>
<th>Contraindications:</th>
<th>Indications:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Hypotension:</strong> 20 ml/kg may repeat one time.</td>
<td>variable</td>
<td>none</td>
<td>IVF of choice for dilution of certain IV drugs</td>
</tr>
<tr>
<td></td>
<td><strong>Peds:</strong> variable</td>
<td></td>
<td></td>
<td>Should not be used for fluid replacement in Hypovolemic states</td>
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<td><strong>SE:</strong> Pulmonary edema, fluid overload</td>
<td>rare in therapeutic dosages</td>
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</tbody>
</table>

## Ketamine

*(Ketalar)*

Dissociative anesthetic

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<th>Contraindications:</th>
<th>Indications:</th>
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<tbody>
<tr>
<td></td>
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<td><strong>Chemical restraint:</strong> 250 mg IM. May repeat x1 after 5 min if needed.</td>
<td>none</td>
<td>Chemical restraint, Pain control, RSI Induction</td>
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<tr>
<td></td>
<td></td>
<td><strong>Pain control:</strong> 15 mg IV early in pain therapy in conjunction with other agents. (age ≥16 only)</td>
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<td>Increased intracranial pressure, Head trauma, Use caution with known liver disease.</td>
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<td></td>
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<td><strong>Pain management in severe trauma meeting P14 criteria:</strong> 1-2 mg/kg IV (or) 250-500 mg IM</td>
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<td><strong>RSI Induction:</strong> 1-2 mg/kg IV, IM</td>
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<td><strong>Peds:</strong> 1 mg/kg IV (or) 4 mg/kg IM</td>
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## Ketorolac

*(Toradol)*

NSAID, Analgesic

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<th>Peds:</th>
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<th>Contraindications:</th>
<th>Indications:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>15 mg IV (or) 30 mg IM</td>
<td>none</td>
<td>Pain control</td>
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<td></td>
<td>Renal disease</td>
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<td>Major trauma</td>
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</tbody>
</table>

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**PROTOCOL TITLE: DRUG PROFILES CHART**

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June 18, 2019
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# DRUG PROFILES CHART

<table>
<thead>
<tr>
<th>DRUG PROFILE</th>
<th>DRUG</th>
<th>ACTION</th>
<th>INDICATIONS</th>
<th>CONTRAINDICATIONS</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dehydration</strong></td>
<td></td>
<td></td>
<td>Active bleeding, IM dose not for treatment of chronic pain.</td>
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<tr>
<td><strong>Levophed</strong></td>
<td>See Norepinephrine</td>
<td>See Norepinephrine</td>
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<tr>
<td><strong>Lidocaine 2% (Xylocaine®) Antiarrhythmic</strong></td>
<td><strong>Adult:</strong></td>
<td>Cardiac arrest VT/VF: 1-1.5 mg/kg IV, IO; then repeat at 0.5-0.75 mg/kg q 5-10 minutes. Maximum 3 mg/kg.</td>
<td>Stable VT with pulse: 0.5-0.75 mg/kg IV/IO. repeat at 1-1.5 mg/kg if needed. Use maintenance drip after conversion.</td>
<td><strong>Contraindications:</strong> High degree heart blocks, PVC’s in conjunction with bradycardia</td>
<td>Anxiety, drowsiness, dizziness, confusion, N/V, Convulsions widening of QRS</td>
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<tr>
<td></td>
<td><strong>IO Anesthetic:</strong></td>
<td>20-50 mg in 1-2.5 ml over 1-2 minutes.</td>
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<td><strong>Lidocaine Drip:</strong></td>
<td>After conversion to a pulsed rhythm at &gt;60 bpm, start drip @ 1 – 4 mg/min.</td>
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<td><strong>Peds:</strong></td>
<td>1 mg/kg IV</td>
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<tr>
<td><strong>Lorazepam</strong></td>
<td><strong>Adult:</strong></td>
<td>Actively seizing: 2 - 4 mg IV, IM, IN</td>
<td>Sedation before cardioversion/pacing</td>
<td><strong>Indications:</strong> Active seizure, Status epilepticus, Sedation before cardioversion/pacing, Severe anxiety, Chest pain in sympathomimetic OD.</td>
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<tr>
<td><strong>Magnesium Sulfate</strong></td>
<td><strong>Indications:</strong></td>
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<tr>
<td>anticonvulsant,</td>
<td>- Seizures 2º eclampsia,</td>
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<tr>
<td>antiarrhythmic</td>
<td>- Hypomagnesemia, Refractory VF/VT,</td>
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<td></td>
<td>- TCA overdose with widening QRS</td>
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<tr>
<td><strong>Adult:</strong></td>
<td><strong>Contraindications:</strong></td>
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<tr>
<td>Seizures 2º eclampsia:</td>
<td>- None in the pre-hospital setting if</td>
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<td>the indications are present</td>
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<tr>
<td>2 – 4 g IV over 30</td>
<td><strong>SE:</strong></td>
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<tr>
<td>minutes, diluted in</td>
<td>- Hypotension, flushing,</td>
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<tr>
<td>50-100 ml crystalloid</td>
<td>- depressed cardiac function,</td>
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<td></td>
<td>- chest pain, circulatory collapse,</td>
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<tr>
<td>Torsades des Pointes:</td>
<td>- respiratory paralysis</td>
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<td>2 g diluted in 50 –</td>
<td><strong>Contraindications:</strong></td>
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<tr>
<td>100 ml crystalloid</td>
<td>- None in the pre-hospital setting if</td>
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<tr>
<td>SIVP over 5 minutes.</td>
<td>the indications are present</td>
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<tr>
<td>**Hypomagnesemia,</td>
<td><strong>SE:</strong></td>
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<tr>
<td>Refractory VF/VT:**</td>
<td>- Hypotension, flushing,</td>
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<tr>
<td>2 g diluted in 50 –</td>
<td>- depressed cardiac function,</td>
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<td>100 ml crystalloid</td>
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<td>SIVP over 5 minutes.</td>
<td>- respiratory paralysis</td>
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<td>TCA overdose with</td>
<td><strong>Indications:</strong></td>
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<td>widening QRS:**</td>
<td>- Seizures 2º eclampsia,</td>
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<td>- polymorphic V-Tach,</td>
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<td></td>
<td>- Hypomagnesemia, Refractory VF/VT,</td>
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<td></td>
<td>- TCA overdose with widening QRS</td>
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<td><strong>Contraindications:</strong></td>
<td><strong>Contraindications:</strong></td>
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<td>the indications are present</td>
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<td><strong>SE:</strong></td>
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<td><strong>Peds:</strong></td>
<td><strong>Contraindications:</strong></td>
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<tr>
<td>Seizures-Status</td>
<td>- None in the pre-hospital setting if</td>
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<tr>
<td>epilepticus:**</td>
<td>the indications are present</td>
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<tr>
<td>0.1 mg/kg IV, IM, IN</td>
<td><strong>SE:</strong></td>
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<tr>
<td>(max 4 mg)</td>
<td>- Hypotension, flushing,</td>
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<tr>
<td>Sedation before</td>
<td>- depressed cardiac function,</td>
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<tr>
<td>cardioversion or</td>
<td>- chest pain, circulatory collapse,</td>
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<tr>
<td>pacing:**</td>
<td>- respiratory paralysis</td>
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<td>0.1 mg/kg IV, IM, IN</td>
<td><strong>Indications:</strong></td>
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<tr>
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<td>the indications are present</td>
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<td><strong>SE:</strong></td>
<td></td>
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<tr>
<td></td>
<td>- Hypotension, flushing,</td>
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<td></td>
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<tr>
<td></td>
<td>- depressed cardiac function,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- chest pain, circulatory collapse,</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- respiratory paralysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug</td>
<td>Indications</td>
<td>Contraindications</td>
<td>SE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>-------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Midazolam (Versed)</td>
<td>Sedation, seizures, status epilepticus, induction agent, post intubation management to promote amnesia</td>
<td>Caution -- Rapid bolus</td>
<td>Respiratory depression and arrest, pediatrics can lead to hypotension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morphine Sulfate</td>
<td>Analgesia, Acute pulmonary edema</td>
<td>Known hypersensitivity, volume depletion</td>
<td>Respiratory depression</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Midazolam**

**Adult:**
- **Sedation:** 1-5 mg slow IV, IM, IN, up to 5 mg dose maximum
- **Seizures:** 1-5 mg IV, IM, IN
- **Induction agent or post intubation management:** 2.5-5 mg slow IV or IM q 2-3 minutes up to 5 mg.

**Peds:**
- **Sedation or induction:** 0.5-1 mg IV over 2-3 minutes.
- **Seizures:** 0.1 mg/kg IN, 0.5mg-5mg IV or IM

**Indicators:**
- Analgesia
- Acute pulmonary edema

**Contraindications:**
- Caution -- Rapid bolus

**SE:** Respiratory depression and arrest, pediatrics can lead to hypotension
## Drug Profiles Chart

### Naloxone (Narcan®)
- **Peds:**
  - **Pain Control:**
  - 0.1 – 0.2 mg/kg IV, IO, IM
- **BLS**
  - 1mg IN, may repeat once with 1mg in opposite nostril after 5 minutes if no improvement in respiratory status. Naloxone may take 5-10 minutes before full effect is seen with IN administration.
- **ILS**
  - 0.4-2 mg IV, IM, IN may repeat every 2-3 minutes to a maximum of 10 mg. titrate to respiratory effect.
- **ALS:** above plus Narcan drip: mix 4 mg naloxone in 500 mL 0.9% NaCl. Start drip at 125 ml/hour may titrate to effect.
- **Peds:**
  - 0.01 mg/kg x1 IV, IO, IN, may repeat with 0.1 mg/kg.

### Indications:
- Opiate overdose, coma

### Contraindications:
- Known hypersensitivity

### SE:
- Vomiting, withdrawals

### Nitroglycerine Tablets
- **Adult:**
  - **Nitro tabs:**
  - 0.4 mg SL, may repeat in 3-5 minutes (maximum: 3 doses).
  - **Nitro Spray:**
  - Spray for 0.5 – 1.0 sec. @ 5 min, intervals.

### Contraindications:
- Hypotension, children under 12, taken erectile dysfunction medication within 24 hours (Viagra, Cialis)

### SE:
- Hypotension, dizziness, HA

---

**Kevin Hodges, M.D**
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

**Date:**
June 18, 2019
<table>
<thead>
<tr>
<th>Drug</th>
<th>Peds:</th>
<th>Adult:</th>
<th>Indications:</th>
<th>Contraindications:</th>
<th>SE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrous Oxide (Nitronox)</td>
<td>Not indicated</td>
<td>Give mask to patient and allow self-</td>
<td>Analgesia/sedation</td>
<td>Intoxicated patient, head injured patient with AMS, COPD</td>
<td>HA, dizziness, giddiness, N/V</td>
</tr>
<tr>
<td>Analgesic, gas</td>
<td></td>
<td>administering.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Norepinephrine (Levophed)</td>
<td></td>
<td>Initial Dose: 2 – 4 mcg/min Dosing range 1 – 30 mcg/min.</td>
<td>Cardiogenic shock, hypotension, low cardiac output, poor perfusion of vital organs.</td>
<td>MAOI's &amp; hypersensitivity</td>
<td></td>
</tr>
<tr>
<td>Sympathomimetic, Vasopressor</td>
<td></td>
<td>Peds: Initial: 0.1mcg/kg/min Max of 2 mcg/kg/min (Contact Medical Control for use &amp; dosing)</td>
<td></td>
<td></td>
<td>Headache, dizziness, anxiety, cardiac dysrhythmias including bradycardia, dyspnea.</td>
</tr>
<tr>
<td>Ondansetron (Zofran)</td>
<td></td>
<td>4-8 mg IV, IO, IM, PO</td>
<td>Prevention or cessation of nausea and vomiting. ** Will not prevent motion sickness</td>
<td>Allergy to Zofran</td>
<td>HA, dizziness, diarrhea</td>
</tr>
<tr>
<td>Antiemetic agent</td>
<td></td>
<td>Peds: &lt;1 yr 1 mg IV, IO, IM, PO 1-8 yrs 2 mg IV, IO, IM, PO &gt;8 yrs 4 mg IV, IO, IM, PO</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procainamide (Procanbid)</td>
<td></td>
<td>Adult: 20mg/min IV/IO infusion until one of the following: -Cardioversion -Hypotension -QRS widens &gt;50% -Total of 17mg/kg</td>
<td>Stable VT with pulse</td>
<td>High degree AV block, myasthenia gravis</td>
<td></td>
</tr>
<tr>
<td>Antidysrhythmic</td>
<td></td>
<td>Maintenance 1-4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Indications:**
- Analgesia/sedation
- Cardiogenic shock, hypotension, low cardiac output, poor perfusion of vital organs.
- Prevention or cessation of nausea and vomiting. ** Will not prevent motion sickness
- Stable VT with pulse
- Use caution with hypotension, AMI, CHF

**Contraindications:**
- Intoxicated patient, head injured patient with AMS, COPD
- MAOI's & hypersensitivity
- High degree AV block, myasthenia gravis

**Side Effects:**
- HA, dizziness, giddiness, N/V
- Headache, dizziness, anxiety, cardiac dysrhythmias including bradycardia, dyspnea.
## PROTOCOL TITLE: DRUG PROFILES CHART

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>剂型</th>
<th>Dosage</th>
<th>Indications</th>
<th>Contraindications</th>
<th>Side Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Racemic Epinephrine</strong></td>
<td></td>
<td></td>
<td><strong>Adult:</strong> 0.25-0.5 ml of 2.25% diluted in 3 ml NaCl, nebulized</td>
<td><strong>Indications:</strong> Asthma, croup, acute bronchospasm, upper respiratory edema with severe dyspnea</td>
<td><strong>SE:</strong> Palpitations, anxiety, HA, tachycardia, rebound airway constriction</td>
</tr>
<tr>
<td>(microNEFRIN) Sympathomimetic, bronchodilator</td>
<td></td>
<td></td>
<td><strong>Peds:</strong> Croup/Asthma: Age &lt;6mo: .25 ml of 2.25% diluted in 3 ml NaCl, nebulized. Age &gt;6mo: .25-0.5 ml of 2.25% diluted in 3 ml NaCl nebulized</td>
<td><strong>Contraindications:</strong> epiglottitis</td>
<td><strong>SE:</strong> Palpitations, anxiety, HA, tachycardia, rebound airway constriction</td>
</tr>
<tr>
<td><strong>Rocuronium Bromide</strong></td>
<td></td>
<td></td>
<td><strong>Adult:</strong> Post Intubation Management: 0.5 mg/kg IV, IO for long term neuromuscular inhibition. May repeat Q20 min. PRN strong muscular activity threatening ETT integrity</td>
<td><strong>Indications:</strong> Prolonged neuromuscular blockade for intubated patients with prolonged transport times or threatened compromise in tube/line integrity. May be used as a first line paralytic if succinylcholine contraindicated.</td>
<td><strong>Contraindications:</strong> None other than hypersensitivity in emergency setting. <strong>SE:</strong> Apnea, rash</td>
</tr>
<tr>
<td>(Zemuron) Non-depolarizing neuromuscular blocker</td>
<td></td>
<td></td>
<td><strong>RSI Paralytic:</strong> 1mg/kg IV, IO</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sodium Bicarbonate**

**Adult:**

**Indications:** Tricyclic

---

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

June 18, 2019
<table>
<thead>
<tr>
<th>DRUG PROFILES CHART</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tricyclic antidepressant overdose</strong></td>
</tr>
<tr>
<td><strong>ROSC with hyperkalemia</strong></td>
</tr>
<tr>
<td><strong>Peds</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solumedrol (methylprednisolone)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic glucocorticoid corticosteroid</td>
</tr>
<tr>
<td><strong>Adult</strong></td>
</tr>
<tr>
<td><strong>Peds</strong></td>
</tr>
<tr>
<td><strong>SE</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Succinylcholine (Anectine®)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depolarizing neuromuscular blocker</td>
</tr>
<tr>
<td><strong>Adult</strong></td>
</tr>
<tr>
<td><strong>Peds</strong></td>
</tr>
<tr>
<td><strong>BVM use</strong></td>
</tr>
</tbody>
</table>

Kevin Hodges, M.D  
Medical Program Director  
Adams,Benton, Franklin, Yakima Counties  
June 18, 2019  
Date
<table>
<thead>
<tr>
<th>DRUG PROFILES CHART</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiamine (Betalin®) vitamin</td>
</tr>
<tr>
<td>Adult: 100 mg IV or IM preferably prior to IV glucose.</td>
</tr>
<tr>
<td>Peds: 25 mg IV or IM (Rarely indicated)</td>
</tr>
<tr>
<td>Indications: Thiamine deficiency, mental confusion or coma</td>
</tr>
<tr>
<td>Contraindications: None in the emergent setting</td>
</tr>
<tr>
<td>SE: Rare if any</td>
</tr>
<tr>
<td>Thiamine</td>
</tr>
<tr>
<td>Toradol</td>
</tr>
<tr>
<td>Tranexamic Acid (TXA) Fibrinolysis Inhibitor</td>
</tr>
<tr>
<td>Adult: Loading Dose: 1 gram in 100 mL crystalloid IV over 10 min. May piggy-back. Receiving facility must be made aware that TXA was initiated in the field.</td>
</tr>
<tr>
<td>Post-partum hemorrhage (Contact Medical control)</td>
</tr>
<tr>
<td>Indications (all four criteria must be met): 1. Adult trauma patients equal to or greater than 16 years of age. 2. Traumatic injury less than 3 hours old. 3. Hemorrhagic Shock due to trauma: systolic BP 90mmHg or less; and/or sustained heart rate more than 110 bpm 4. Patient has received 500 ml of crystalloids &amp;</td>
</tr>
</tbody>
</table>

Kevin Hodges, M.D
Medical Program Director
Adams,Benton,Franklin,Yakima Counties
### Vasopressin Pressor

**Indications:**
May be used as an alternative pressor to epinephrine in the treatment of adult shock-refractory VF (Class IIb), Asystole and PEA.

**Contraindications:**
- Not yet approved for intraosseous (IO) administration
- TXA should not delay volume resuscitation for appropriate trauma patients
- Not to be administered through the same line being used for blood products.
- Once reconstituted, it should be administered within 24 hours.
- Use caution if known history of thrombotic disorder (DVT or pulmonary embolus)

**Adult:**
IV, IO doses for cardiac arrest: 40 U IV push x 1, may replace the first or second dose of Epinephrine. Insufficient evidence to recommend the endotracheal route.

**Peds:**

<table>
<thead>
<tr>
<th>Date</th>
<th>June 18, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kevin Hodges, M.D</td>
<td>Medical Program Director Adams, Benton, Franklin, Yakima Counties</td>
</tr>
<tr>
<td></td>
<td>Not indicated</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td><strong>Versed</strong></td>
<td>See Midazolam</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Zofran</strong></td>
<td>See Ondansetron</td>
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</tr>
</tbody>
</table>
## DRUG Drip Table

<table>
<thead>
<tr>
<th>DRUG</th>
<th>Concentration</th>
<th>Admin. Set</th>
<th>Rate</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lidocaine-Premixed</td>
<td>4mg/ml</td>
<td>60 gtt secondary</td>
<td>30 gtts/min</td>
<td>2 mg/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>45 gtts/min</td>
<td>3 mg/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>60 gtts/min</td>
<td>4 mg/min</td>
</tr>
<tr>
<td>Amiodarone (10 minute bolus)</td>
<td>3mg/ml</td>
<td>10 gtt secondary</td>
<td>50 gtts/min</td>
<td>150 mg/10 min</td>
</tr>
<tr>
<td>Alternative Method:</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dopamine-Premixed</td>
<td>1600 mcg/ml</td>
<td>60 gtt secondary</td>
<td>See table below</td>
<td>Renal dose: 2-5 mcg/kg/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ionotropic dose: 5-10 mcg/kg/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pressor dose: &gt;10 mcg/kg/min</td>
</tr>
<tr>
<td>Epinephrine</td>
<td>4 mcg/ml</td>
<td>60 gtt secondary</td>
<td>See chart below</td>
<td>Adult: 2-10 mcg/min</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Pediatric: 0.1-2 mcg/min</td>
</tr>
<tr>
<td>Narcan</td>
<td>8 mcg/ml</td>
<td>60 gtt secondary</td>
<td>125 ml/hr (125 drops/min)</td>
<td>1 mg/hr</td>
</tr>
<tr>
<td>Diltiazem {Cardizem}</td>
<td>100 mg Diltiazem into 100 ml NaCl or D5W</td>
<td>60 gtt secondary</td>
<td>5-15 gtts/min</td>
<td>5-15 mg/hr</td>
</tr>
</tbody>
</table>

**Notes:**
- Always consult with medical professionals before administering any medication.
- Adjustments may be necessary based on patient response and medical history.

Kevin Hodges, M.D
Medical Program Director
Adams, Benton, Franklin, Yakima Counties

June 18, 2019
Date
## Dopamine weight based dosing chart:

<table>
<thead>
<tr>
<th>Desired Dose (mcg/kg/min)</th>
<th>Patient weight in kg (kg)</th>
<th>2.5</th>
<th>5</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 mcg</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>1.5</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>5 mcg</td>
<td>*</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>9</td>
<td>11</td>
<td>13</td>
<td>15</td>
<td>17</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>10 mcg</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>11</td>
<td>15</td>
<td>19</td>
<td>23</td>
<td>26</td>
<td>30</td>
<td>34</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>15 mcg</td>
<td>1.4</td>
<td>3</td>
<td>6</td>
<td>11</td>
<td>17</td>
<td>23</td>
<td>28</td>
<td>34</td>
<td>39</td>
<td>45</td>
<td>51</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>20 mcg</td>
<td>2</td>
<td>4</td>
<td>8</td>
<td>15</td>
<td>23</td>
<td>30</td>
<td>38</td>
<td>45</td>
<td>53</td>
<td>60</td>
<td>68</td>
<td>75</td>
<td></td>
</tr>
</tbody>
</table>

Micro drops per minute or ml/hr

## Epinephrine infusion table:

<table>
<thead>
<tr>
<th>DOSE (mcg/min)</th>
<th>ADULT</th>
<th>PEDIATRIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult 0.1 mcg/min</td>
<td>Mix 2 mg epinephrine 500 ml NaCl 4 mcg/ml concentration</td>
<td>1.5 gtt/min</td>
</tr>
<tr>
<td>Adult 0.25 mcg/min</td>
<td>N/A</td>
<td>3.75 gtt/min</td>
</tr>
<tr>
<td>Adult 0.5 mcg/min</td>
<td>N/A</td>
<td>7.5 gtt/min</td>
</tr>
<tr>
<td>Adult 1 mcg/min</td>
<td>N/A</td>
<td>15 gtt/min</td>
</tr>
<tr>
<td>Adult 2 mcg/min</td>
<td>30 gtt/min</td>
<td>30 gtt/min</td>
</tr>
<tr>
<td>Adult 3 mcg/min</td>
<td>45 gtt/min</td>
<td>N/A</td>
</tr>
<tr>
<td>Adult 4 mcg/min</td>
<td>60 gtt/min</td>
<td>N/A</td>
</tr>
<tr>
<td>Adult 5 mcg/min</td>
<td>75 gtt/min</td>
<td>N/A</td>
</tr>
<tr>
<td>Adult 6 mcg/min</td>
<td>90 gtt/min</td>
<td>N/A</td>
</tr>
<tr>
<td>Adult 7 mcg/min</td>
<td>105 gtt/min</td>
<td>N/A</td>
</tr>
<tr>
<td>Adult 8 mcg/min</td>
<td>120 gtt/min</td>
<td>N/A</td>
</tr>
<tr>
<td>Adult 9 mcg/min</td>
<td>135 gtt/min</td>
<td>N/A</td>
</tr>
<tr>
<td>Adult 10 mcg/min</td>
<td>150 gtt/min</td>
<td>N/A</td>
</tr>
</tbody>
</table>
**Levophed infusion table:**

<table>
<thead>
<tr>
<th>Desired Dose</th>
<th>2mg/250ml</th>
<th>4mg/250ml</th>
</tr>
</thead>
<tbody>
<tr>
<td># mcg/min</td>
<td>gtts/min</td>
<td>gtts/min</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td>44</td>
<td>22</td>
</tr>
<tr>
<td>8</td>
<td>60</td>
<td>30</td>
</tr>
<tr>
<td>10</td>
<td>76</td>
<td>38</td>
</tr>
<tr>
<td>12</td>
<td>90</td>
<td>45</td>
</tr>
<tr>
<td>14</td>
<td>105</td>
<td>53</td>
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<td>16</td>
<td>120</td>
<td>60</td>
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<td>18</td>
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<td>20</td>
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<td>26</td>
<td>195</td>
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<tr>
<td>28</td>
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Office of Medical Program Director

Adams, Benton, Franklin, Yakima Counties Emergency Medical Services

EMS Provider Complaint Investigation Guidelines

----------------------------------------  Kevin Hodges, M.D.
Adams, Benton, Franklin, Yakima Counties Medical Program Director
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Overview

Medical Program Directors (MPDs) are physicians recognized to be knowledgably in their county’s administration and management of pre-hospital emergency care services. MPDs duties are required by statute RCW 18.71.212 and are described in WAC 246-976-920. These responsibilities at the County level include “on-line” and “off-line” medical control, developing written protocols and directing patient care, and being a conduit of information from local EMS & TC systems to State staff for purposes of the training, certification audit and discipline of EMS providers.

The purpose of this document to identify a standard process by where complaints, concerning pre hospital emergency service providers are adequately investigated, documented and processed according to governing state laws. This document was developed utilizing the State of Washington Department of Health Uniform Disciplinary Act (RCW 18.71) and the Washington State Department of Health Office of Emergency Medical Services and Trauma System, Medical Program Director Handbook (Fourth Revision - November 2006)

The majority of incidents reported are related to interpersonal relationships and not clinical care. Such incidents should be handled at the lowest possible level, including provider-to-provider communication and resolution.

The MPD is responsible for the oversight of all pre hospital emergency medical care providers in Benton and Franklin Counties. As such, all incidents should be reported to the MPD in accordance with this document. When appropriate, the MPD will work with the employer/agency to facilitate resolution at the provider employer/agency level. In all cases, the procedures and educational plans contained in this document should be utilized.

It should be noted that even though an employer/agency has conducted their own investigation, the MPD is responsible for the investigation and enforcement related to certifications of those certified and accredited. It is beneficial for the employer/agency to immediately notify the MPD of issues and then work cooperatively.
Section 1: Complaint Investigation Procedures

Investigative Process

The following investigative process may be utilized for complaints related to pre-hospital care personnel in Benton and Franklin Counties.

Agency Responsibility

Normally the pre hospital care providers employer/agency will be the first to receive a complaint, however other parties such as the MPD may also receive complaints. If this is the case, the complaints must be forwarded to the pre-hospital care provider’s employer/agency for proper handling. Many agencies have developed internal investigation procedures for processing complaints. All pre hospital provider complaints should be made known to the MPD or his/her designee.

MPD Complaint Involvement

MPDs are not required, nor are they to engage in any formal investigative action unless it is with the assistance of a DOH investigator. However MPD’s can engage in fact finding in order to determine if the matter warrants DOH involvement.

Discovery and Preliminary Review

When a complaint is received, the employer/agency will begin to review the circumstances related to the complaint. In this phase actions such as, but not limited to, collection of patient care records, CAD data, incident reports, audiotapes, etc. may occur.

Upon preliminary review of the circumstances with the MPD. The MPD may either find the complaint to be unsubstantiated, close the case with an offer of a Performance Improvement Plan, proceed to a recommendation for formal disciplinary investigation by the Department of Health, or restrict the use of protocols as outlined under “Due process Rights of Licensed Providers” section 4.
Section 2. Formal Investigation Action

Description

“Disciplinary Action“: means the imposition of sanctions determined under the Uniform Disciplinary Act (UDA) process through the DOH.

MPDs must use the DOH Below Threshold Determination Guidelines when deciding whether MPD remedial counseling is in order or whether to make a written referral to the DOH.

Sanctions may include suspension, or revocation of certification, when continued certification is detrimental to public health. Lesser sanctions may be imposed, such as modification to a lower level of certification, remedial education, monitoring, censure, reprimand, probation, or other corrective action as appropriate to safeguard public health.

Due Process Rights of Licensed Providers

Certified providers have a right to “due process” before their property interests are impacted by state-imposed sanctions. Use of the Administrative Procedures Act (APA) by DOH ensures due process.

A provider’s “property interests” can be adversely impacted by an MPD’s exercise of medical control to the extent that the MPD’s action adversely affects the certified EMS provider’s interest in being employed. In other words, if the MPD precludes the provider from the opportunity to continue at the same level of certification. Even restricting protocols can have an adverse impact if it results in any form of pay loss, such as demotion or termination. If this happens, it requires “due process”.

Corrective actions, such as verbal or written warnings or counseling are generally not significant enough to generate a “due process” issue under the APA. However, it is best to leave the decision of whether to exercise the due process protections of the APA to the Office of Emergency Medical Services and Trauma Systems staff.

The MPD can restrict the use of protocols or otherwise negatively impact a provider’s property rights outside of a DOH initiated process only if all of the following exist:

- Credible evidence (documented) that a certified individual represents a critical and immediate threat to public health and safety, and
- The restriction has been approved by DOH, and
- The provider has been given an opportunity to respond to allegations

In the event of a restriction of a provider’s use of protocols by an MPD, DOH will immediately initiate a formal investigation and may proceed with summary suspension in situations involving a restriction of protocols.
Description of the Disciplinary Process

1) Governing Regulations

WAC 246-976-191: Grounds for denial, revocation, or suspension of an EMT certificate include, but are not limited to, evidence that a certified provider has violated the provisions of the UDA, which includes the following:

a) **Has been guilty of misrepresentation in obtaining the certificate.**
   (1) EXPLANATION: Misrepresentation would be if an individual lied about his/her age (need to be 18 or older to enter training), professional history, or possession of a high school diploma, or a General Equivalency Diploma (GED).

b) **Has engaged, or attempted to engage in, or represented him/herself as entitled to perform, any service not authorized by the certificate.**
   (1) EXPLANATION: Unauthorized service can be an EMT who performed an IV on a patient without proper certification.

c) **Has demonstrated incompetence or has shown him/herself otherwise unable to provide adequate service.**
   (1) EXPLANATION: Incompetence can be the failure to perform even the more routine functions. However, this is usually documented on more than one occasion.

d) **Has violated or aided and abetted in the violation of any provision of RCW 18.73 or the rules and regulations promulgated there under.**
   (1) EXPLANATION: A Violation of RCW 18.73 can be the falsification of records. Also, aiding and abetting in a violation of RCW 18.73 can be enabling the falsification of records.

e) **Has demonstrated unprofessional conduct in the course of providing services.**
   (1) EXPLANATION: Unprofessional conduct can be unsanitary personal habits as well as abusive language while attending patients.
f) **Has violated written patient care protocols which have been adopted by the approved MPD and which have been acknowledged in writing by the certified individual.**

   (1) EXPLANATION: Evidence of failure to follow written protocols is a serious matter. However, you must make sure that you have provided the certified person with protocols appropriate to the level of certification. The best way to perform this function is to have a witness present when distributing the protocols, or, more appropriate, send the protocols to EMS personnel via certified mail.

g) **Has failed to maintain skills.**

   (1) EXPLANATION: Failure to maintain skills and/or CME often go “hand in glove”. EMS personnel need to understand the importance of documenting their CME and that you are the approval point for this process.

2) **Tracking the Disciplinary Process**

a) Only the DOH is authorized to take definitive corrective action that affects a person’s certification (property interest).

b) Process for disciplinary action:

   (1) A written report containing allegations must be submitted to EMS & Trauma Section of the Department of Health by the MPD prior to initiating any investigative action.

   (2) MPDs must consult with EMS & Trauma Section of the Department of Health in all forms of corrective actions.

   (3) In order to take disciplinary action against certified EMS personnel, the DOH must issue a Stipulation to Informal Disposition or a Statement of Charges alleging the violations involved and notifies the individual of his/her right to request a hearing.

   (4) Certified EMS personnel may appeal any decision on either the Stipulation or the Statement of Charges made by the Secretary of the DOH, or designee, in accordance with the UDA and the APA.

c) Processing Reports of Employee Misconduct:

   (1) The report to DOH should provide a clear description of the incident(s) or situation.

   (2) A report is not required if disciplinary action is taken by the certified person’s employer regarding inadequate work performance, not in any way associated with the EMS certification.
(3) A report initiated by the MPD must be immediately submitted to the EMS & Trauma Section of the Department of Health. The EMS & Trauma Section of the Department of Health will review the allegations and then may forward the matter to the Investigative Services Unit.

(4) Anyone who has either witnessed an act, or has knowledge of the alleged misconduct by certified EMS personnel, should be identified in the report.

(5) The certified person’s employer may be informed by DOH in cases of suspected misconduct.

(6) The EMS provider will be provided an opportunity by DOH to respond to the allegations.

(7) Time limits in processing an investigation may vary from case to case, depending on case complexity and departmental workload.

(8) If a completed investigation, and other documents referring to the allegation, does not reveal misconduct, DOH may close the case without further action. This decision would be shared with the certified person and his/her employer.

(9) Where the EMS & Trauma Section of the Department of Health Section determines that incompetence or unprofessional conduct may have occurred, the report shall be forwarded to the AG to prepare an order for probation, modification, suspension, revocation, etc., of the certificate.

3) Suspected Criminal Activity

The MPD must first contact law enforcement regarding any suspected criminal activity. Suspected criminal activity must also be brought to the attention of DOH for formal action.
Section 3. Counseling and Remedial Action

A. Substance Abuse Monitoring Program
   1) The MPD role in issues of substance abuse is to advise the DOH. The DOH has a substance abuse monitoring program. Additional information is available on the DOH, Washington Health Professional Service (WHPS) web site.

B. Counseling
   1) Counseling can be considered a mutual exchange of ideas or opinions between people pertaining to a problem.

   2) Successful counseling is changing the attitude and behavior of the counselee. It may not be the advice that is the catalyst to the change, but the opportunity to see the facts. Another approach is "selling" the individual on adopting an improved attitude and behavior. The session should aim at bringing clarity to the analysis of the problem so the counselee can distinguish between the emotional and the factual aspects of the situation. However, it is important to remember that we must first hear the counselee out, and then pinpoint the facts that may have been distorted or ignored. The employer of the counselee should be involved in this process.

   3) At this point, we need to emphasize, in greater detail, the damage the counselee is doing to his/herself by failing to make the necessary improvements. Also, we must now clearly identify the ultimate consequence the counselee will pay if he/she does not correct the problem. This action must be in writing and signed by the MPD and the EMS certified person. Under no circumstances should we ever ignore continued violations.

   4) Finally, there is the need for follow-up, which is critical to the whole process. The counselee must know whether his/her training and skills are adequate or whether further improvement is necessary. Additional counseling may be required to resolve the problem.

   5) Recommended Process:
      a) The MPD should review the MPD Checklist for Counseling. Next consider using the MPD Oral Counseling Record. In this situation, the performance of the certified person does not warrant a written memo nor does it necessitate notifying his/her employer. It simply provides the MPD with a mechanism to document the attempt to improve performance or behavior.
b) If the results were less than satisfactory, the MPD should initiate written counseling. If this effort is unsuccessful, the MPD will need to recommend to the EMS & Trauma Section of the Department of Health, corrective action with the certified person.

Attached to this document is a list of specific conditions that would necessitate such action.

6) Policy Statement on Counseling

a) All information regarding personnel counseling should be submitted to EMS & Trauma Section of the Department of Health at:

Section Manager,
Office of Emergency Medical Services and Trauma System
P.O. Box 47853
Olympia, Washington 98504-7853
Section 4. Below Threshold Determination Guidelines

I. Below Threshold Determination Guidelines

A. Purpose:
   1. The purpose of these guidelines is to provide criteria and framework for the consistent identification of complaints that fall below the threshold level established by the statutory mandated disciplining authorities. In order to conserve scarce resources and to expedite the resolution of complaints above the threshold, the DOH, the disciplining authority, does not pursue complaints below the threshold.

B. What is a Below The Threshold Determination Complaint?
   1. Below Threshold Determination Complaints are complaints that would not likely result in a Statement of Charges, of a Stipulation to Informal Disposition, if investigated. While it is possible that a Stipulation to Informal Disposition, Notice of Correction or No Cause for Action determination may result, the nature of the complaint does not appear to warrant allocation of resources for investigation.
   2. Any complaint that is classified as Below Threshold may be reconsidered for investigation if new documentation is received, if a pattern of the violation occurs, or if the disciplining authority deems that an investigation is appropriate.
   3. Complaints that are not within the disciplining authority’s statutory mandated jurisdiction shall be classified as No Jurisdiction complaints and will not be classified as Below Threshold Complaints.
   4. If a complaint or violation fails to meet the definitions in this section, it may not be closed under the Below Threshold Determination Policy.

C. Generally, When Can A Complaint Be Categorized As Below Threshold?
   1. Generally, a complaint may be classified as a Below Threshold when one of the following is true:
      a. When the allegation set forth in a complaint or violation poses minimal risk of harm or impact to the public health, safety and welfare, OR
      b. When an investigation determines that a violation is Below Threshold, OR
   The complaint, if investigated, would likely not result in a Statement of Charges or Stipulation of Informal Disposition, but may result in a Closure with No Cause for Action.
D. What Kinds of Cases Typically Are Below Threshold?

1. Communication Issues – The complaint appears to be the result of unintentional miscommunication, mistranscription, or mistake of fact.

2. Personality Disputes – This category includes but is not limited to personality disputes that involve rudeness or minor verbal abuse.

3. Complainant Credibility – The complainant has previously demonstrated a lack of credibility.

4. Isolated Complaints.

5. Single or non-pattern complaints with little or no patient harm.

6. Repeated complaints of a similar nature could warrant further investigation.

7. Aged or Dated Complaints – Aged or dated complaints may be considered below threshold.

8. Otherwise Resolved Complaints – Complaints where the alleged violation has been resolved by another state agency, federal government, other entity, or the respondent, and other measures are not necessary to protect the public.

9. Expired License – Complaints, which solely allege that a practitioner is practicing with an expired license for a short period of time.

II. No Jurisdiction Determination

A. This category involves complaints where the allegations are determined to be beyond or outside the sphere of authority of the disciplining authority. Each program’s case management team must identify a specific statute or administrative code section that has been violated by the subject matter identified in the complaint or investigation report. In some cases this determination is not possible until after an investigation is conducted.

B. Complaints of unlicensed practice shall be referred to the Unlicensed Practice Unit in accordance with DOH Division Policy No. D10.

C. The following are examples of complaint allegations that would fall into the No-Jurisdiction category:

1. Personnel Issues – Personnel issues that do not fall within the scope of the Uniform Disciplinary Act, a health care profession’s practice act or administrative code.

2. Misdemeanors Irrelevant to Professional Practice – Conduct which is considered a misdemeanor in a court of law, but it is not directly related to the practice of the profession.

3. Fee Disputes – Fee disputes between the practitioner and patient or client are not normally within the jurisdiction of the disciplining authority.
III. Notice of Correction and Notice of Violation Guidelines

A. Criteria and conditions under which a Notice of Correction (NOC) and a Notice of Violation (NOV) are employed are identical with one exception: whether or not the infraction is identified as part of a technical assistant visit requested by the credentialed provider (and is appropriately addressed through the mechanism of a notice), a NOTICE OF VIOLATION is utilized. If the infraction is identified under any other circumstances (and is appropriately addressed through the mechanism of a notice), a NOTICE OF CORRECTION is utilized. Consequently, the guidelines presented in this section apply to both types of notices.

B. Typical Cases Where Violations and Corrections Should be Utilized Include:
   1. Second time violations that were below threshold level the first time.
   2. Continuing education violations where the licensee did not complete all necessary hours or classes taken were not appropriate.
   3. Minor infection control violations
   4. Late renewals
   5. Minor inspection violations
   6. Minor record keeping/reporting problems
   7. Name tag violations
   8. Utilizing out of date references
   9. Advertising violations
   10. Failure to release records
   11. When mandatory client or patient public disclosure statements do not meet requirements
   12. Addressing patterns of minor medication errors during a limited time period

C. What Are Notices Of Correction And Violation?
   1. An administrative mechanism whereby the licensee is notified that violation of a statute or rule has been documented and the licensee is provided a reasonable period of time to correct the violation. Notices of Violations are used instead of Notices of Correction when the infraction is identified during a technical assistance visit that was requested by the licensee. Notices of Correction and Violation cannot be appealed under the APA.

D. What is Achieved By Utilizing Notices?
   1. By utilizing notices of occurrence of a violation, as well as education and assistance to the licensees and the correction of the areas of violation, a lengthy legal process or record of formal disciplinary action is not necessary.
E. What Information is Provided Externally When Utilizing A Notice Of Correction Or Violation?

1. A copy of the Notice provided to the complainant after approval and issuance to the respondent. A closure letter is provided to all parties.

2. A Notice should not be reported to professional organizations, other states, or national practitioner data banks unless these parties make a public disclosure request.

3. Notices should be disclosed as a public record if requested.

4. Mailing lists for Notices should not be maintained (note: in effect, such lists would be considered as reporting Notices of Correction).

5. Names of Notice respondents should not be placed in board or commission minutes.

6. No reporting of Notices should be made to the media, unless specifically requested by the media.

F. What Documentation Is Included In Notices Of Correction And Violation?

1. A description of the condition that is not in compliance and a specific citation to the applicable law or rule including the text of the applicable law or rule;

2. A statement of what action or condition is required to achieve compliance;

3. The date by which the agency requires compliance to be achieved;

4. Notice of the means to contact any technical assistance services provided by the agency or others;

5. Notice of when, where, and to whom a request to extend the time to achieve compliance for good cause may be filed with the agency.

G. What Steps Should Be Taken If A Notice Is Issued And The Practitioner Fails To Correct The Unlawful Conduct?

1. Upon verification that the practitioner failed to correct the infraction identified in the Notice of Correction or Violation, the disciplining authority may then issue a Statement of Charges or Statement of Allegations.

IV. Statement of Allegations and Stipulation to Informal Disposition Guidelines

A. What are a Statement Of Allegations (SOA) and a Stipulation To Informal Disposition (STID)?

1. A Statement of Allegations is an administrative notification of an alleged violation.

2. A Stipulation To Informal Disposition is an agreement to achieve compliance through imposed sanctions without formal disciplinary action.
B. What Documentation Is Required To Accomplish a Statement Of Allegations and Stipulation To Informal Disposition?

1. Statement of the facts leading to the allegation of charges.
2. Statement of the acts asserted to constitute unprofessional conduct or inability to practice with reasonable skill and safety.
3. Statement that the stipulation is not to be construed as a finding of unprofessional conduct or inability to practice.
4. Statement that the agreement is not reportable under RCW 18.130.110, but is disclosable under the state public records requirements.
5. Acknowledgement that a finding of unprofessional conduct or inability to practice, if proven, constitutes grounds for discipline.
6. Agreement by the respondent that sanctions under RCW 18.130.160 may be imposed except as limited by RCW 18.130.172.
7. Agreement by the disciplining authority to forgo further disciplinary action.

C. What Is The Text Of Statutes Governing The Use Of Statements Of Allegations And Stipulations To Informal Disposition?

D. RCW 18.130.172 – Evidence Summary and Stipulations

1. Prior to serving a statement of charges under RCW 18.130, 190 or 18.130.170, the disciplinary authority may furnish a statement of allegations to the licensee or applicant along with a detailed summary of the evidence relied upon to establish the allegations and a proposed stipulation for informal resolution of the allegations. These documents shall be exempt from public disclosure until such time as the allegations are resolved either by stipulation or otherwise.

2. The disciplinary authority and the applicant or licensee may stipulate that the allegations may be disposed of informally in accordance with this subsection. The stipulation shall contain a statement of the facts leading to the filing of the complaint; the act or acts of unprofessional conduct alleged to have been committed or the alleged basis for determining that the applicant or licensee is unable to practice with reasonable skill and safety; a statement that the stipulation is not to be construed as a finding of either unprofessional conduct or inability to practice; an acknowledgement that a finding of unprofessional conduct or inability to practice, if proven, constitutes grounds for discipline under this chapter; and an agreement on the part of the disciplining authority to forego further disciplinary proceedings concerning the allegations. A stipulation entered into pursuant to this subsection shall not be considered formal disciplinary action.
3. If the licensee or applicant declines to agree to disposition of the charges by means of a stipulation pursuant to subsection (2) of this section, the disciplinary authority may proceed to formal disciplinary action pursuant to RCW 18.130.090 or 18.130.170.

4. Upon execution of a stipulation under subsection (2) of this section by both the licensee or applicant and the disciplinary authority, the complaint is deemed disposed of and shall become subject to public disclosure on the same basis and to the same extent as other records of the disciplinary authority. Should the licensee or applicant fail to pay any agreed reimbursement within thirty days of the date specified in the stipulation for payment, the disciplinary authority may seek collection of the agreed amount in the same manner as enforcement of a fine under RCW 18.130.165

V. Statement Of Charges Guidelines

A. What Is A Statement of Charges (SOC)?
   1. A formal initiating document(s) alleging a violation of the UDA.

B. What is achieved by Utilizing a SOC?
   1. Issuance of a SOC will result in a final order, usually an agreed order or an order issued pursuant to a hearing. The disciplinary order will contain sanctions necessary to protect or compensate the public any also include requirements designed to rehabilitate the credential holder or applicant.

C. Generally when should a SOC Be Utilized?
   1. Violations(s) are moderate to severe in nature.
   2. Violations(s) result in moderate to severe injury.
   3. Violations(s) create a moderate to severe risk of harm.
   4. Failure to comply with a previous disciplining authority order, STID, NOC or NOV.
   5. Failure to reach agreement on a STID.
   A clear pattern of behavior that violates the UDA.
   7. Substantiated violation(s) of a specific rule or statute AND the disciplining authority has determined that the respondent's conduct was the reason for the violation.
   8. After investigation, the evidence indicated the practitioner is unable to practice with reasonable skill and safety,
   9. There is strong evidence to support violation(s).
   10. When revocation or suspension of a credential or the placing of any conditions on the credential is required to assure public protection.
11. When allegations, if proven, would require reporting to national practitioner or national association data banks (so that other states would know about that practitioner’s unprofessional conduct.)

12. When notice to the media, etc. is required for public protection.

13. When remedial action by the practitioner is necessary to ensure public protection.
Complaint received, MPD along with Employer assign an investigator

Investigator follows Complaint Investigation Procedures. MPD and Employer jointly determine if complaint is founded or unfounded

Complaint Unfounded
- Close and Disposition
- Summary kept on file

Complaint Founded
- MPD determines appropriate actions

MPD may:
- Provide Counseling and/or Require Performance Improvement Plan
- Restrict protocols
- Or, forwards to DOH for formal investigation and/or disciplinary actions
Steps in a Disciplinary Action by DOH

1. The EMS & Trauma Section of the Department of Health receives a complaint.

2. The EMS & Trauma Section of the Department of Health reviews the complaint to determine if it warrants an investigation, based on the following. If it does, the file is forwarded to the Investigation Services Unit (ISU) for action. If it does not, the case is closed and the respective parties are notified of the decision.
   a. Category I violations are minor in nature or create low risk of harm.
   b. Category II violations are moderate in nature or create moderate risk of harm.
   c. Category III violations have resulted in severe injury or create a significant potential for severe injury. They constitute top priority investigation.

3. Alleged violations are prioritized by ISU.

4. The EMS & Trauma Section of the Department of Health receives an investigative report from ISU and decides what action to take (options).
   a. Stipulation to Informal Disposition is an attempt to resolve matters without admitting to guilt but agreeing to corrective action.
   b. Statement of Charges is a formal proceeding with significant disciplinary action.
   c. Close the file to lack of substantial evidence.

5. All participants are then notified regardless of what action is taken.
   *In steps 4a and 4b, the Assistant Attorney General is involved in advising and preparing legal documents.*

6. The Department of Health offers the opportunity to have a hearing regardless of whether the action is a Stipulation to Informal Disposition or a Statement of Charges.

7. An administrative law judge conducts the hearing and provides the final decision in the matter.

8. Any sanctions that result are determined and imposed by the Department of Health. Sanctions are monitored for compliance by the Department of Health.
MPD Check List for Counseling

1. Acquiring the necessary facts:

   a) Did I contact the EMS & Trauma Section of the Department of Health for advice on this action?

   b) Did I allow the counselee the opportunity to tell his/her side of the story?

   c) Did I involve the counselee’s immediate supervisor in the action?

   d) Did I consider other sources of information; i.e., run reports, and other aspects?

   e) Did I hold my interviews privately to avoid embarrassing the counselee?

   f) Did I exert every effort to avoid letting personalities affect my decision?

   g) Did I clearly state how the counselee can prevent a similar situation in the future?

2. Follow-up

   a) Have I reviewed this case within the time frame specified?

   b) Have I made a determination as to whether further counseling is necessary?

   c) If there have been adequate improvements, have I complimented the counselee?

   d) If improvements have not been made, have I identified the next possible course of action with the counselee?

   e) Have I contacted the EMS & Trauma Section of the Department of Health with the suggested course of corrective action?

   f) Has the EMS & Trauma Section of the Department of Health communicated to me approval of the suggested course of action?

   g) Have I received formal notification of the course of action from the EMS & Trauma Section of the Department of Health?
MPD Oral Counseling Record

Certified Person’s Name

Certification Level

Service Affiliation

Supervisor’s Name

What behavior needed attention? (Briefly note each)

1. __________________________________________________________________________

2. __________________________________________________________________________

3. __________________________________________________________________________

What actions will be taken by the certified person and when? (Briefly note each)

1. __________________________________________________________________________
   Target Date________________

2. __________________________________________________________________________
   Target Date________________

3. __________________________________________________________________________
   Target Date________________

A review of accomplishments for this plan of action is ___________________________________

What were the results? ____________________________________________________________

MPD Signature ____________________________ Date __________

Cc: EMS & Trauma Section of the Department of Health
Office of Emergency Medical Services and Trauma System

Situations Requiring Consultation With The Department of Health

The DOH must be consulted when an MPD is aware of issues including, but not limited to:

1. Repeated failure to follow MPD protocols and/or standing orders.
2. Repeated failure to maintain patient confidentiality.
3. Has engaged in the use of alcohol or a controlled substance that affects the certified EMS person's ability to render care according to procedures or protocols.
4. Represents that he/she is qualified at any level other than his/her current certification.
5. Repeated abandonment of a patient to a lesser level of care.
6. Alters any Department certificate or possesses any such altered certificate.
7. Violates probation.
8. Cheats and/or assists another to cheat on a Department examination
9. Assists another to obtain certification by fraud, forgery, deception, misrepresentation or subterfuge.
10. Illegally dispenses, administers or distributes any controlled substance.
11. Has been convicted of a gross misdemeanor that affects his/her ability to function under certification.
12. Falsifies any patient record.
13. Failure to provide the Department with true information pertinent to certification, recertification, etc., upon request.
14. Falsifies any application for certification or recertification.
15. Has demonstrated incompetence or has shown himself/herself otherwise unable to provide adequate service.
16. Has been convicted of a felony.
17. Has failed to complete continuing education requirements and/or any MPD remedial training.
18. Violates any rule or regulation that would jeopardize the health or safety of a patient, or has a potential negative effect on the health or safety of a patient.
19. Performs any medical procedure beyond those permitted by the MPD.
20. Performs any medical procedure beyond those provided in approved training.
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If applicable, list other complainants or witnesses:

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<th><strong>Complaint Rec’d By:</strong></th>
<th><strong>Date / Time</strong></th>
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<tr>
<td><strong>Forwarded for Investigation to:</strong></td>
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**Summary of Complaint:**

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<th>MPD Complaint #</th>
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<tr>
<th>Date:</th>
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</table>

<table>
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<th>Disposition of Complaint or Inquiry:</th>
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<tbody>
<tr>
<td>□ Complaint Unfounded</td>
</tr>
<tr>
<td>□ Resolved With Complainant</td>
</tr>
<tr>
<td>□ No Further Action Deemed Necessary By Employer / MPD (Circle one)</td>
</tr>
<tr>
<td>□ Complaint Founded</td>
</tr>
<tr>
<td>□ Other</td>
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APPENDIX E
ADAMS,BENTON,FRANKLIN, YAKIMA COUNTIES PATIENT CARE GUIDELINES
ABBREVIATIONS
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>ABCs</td>
<td>Airway, Breathing, Circulation</td>
</tr>
<tr>
<td>Abd</td>
<td>Abdomen</td>
</tr>
<tr>
<td>AC</td>
<td>Antecubital</td>
</tr>
<tr>
<td>ACE</td>
<td>Angiotensin Converting Enzyme</td>
</tr>
<tr>
<td>ACS</td>
<td>Acute Coronary Syndrome</td>
</tr>
<tr>
<td>AED</td>
<td>Automated External defibrillator</td>
</tr>
<tr>
<td>AF</td>
<td>Atrial Fibrillation</td>
</tr>
<tr>
<td>ALS</td>
<td>Advanced life support</td>
</tr>
<tr>
<td>ARB</td>
<td>Angiotensin Receptor Blocker(s)</td>
</tr>
<tr>
<td>ASA</td>
<td>Aspirin</td>
</tr>
<tr>
<td>AMI</td>
<td>Acute Myocardial Infarction</td>
</tr>
<tr>
<td>AVPU</td>
<td>Alert, Verbal, Painful, Unresponsive (Stimuli)</td>
</tr>
<tr>
<td>BP</td>
<td>Blood Pressure</td>
</tr>
<tr>
<td>BS</td>
<td>Breath sounds/Blood sugar</td>
</tr>
<tr>
<td>BBB</td>
<td>Bundle Branch Block</td>
</tr>
<tr>
<td>BLS</td>
<td>Basic Life Support</td>
</tr>
<tr>
<td>BSA</td>
<td>Body surface area</td>
</tr>
<tr>
<td>BSI</td>
<td>Body substance isolation</td>
</tr>
<tr>
<td>BVM</td>
<td>Bag-valve mask</td>
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<tr>
<td>Ca</td>
<td>Cancer</td>
</tr>
<tr>
<td>Cath-Lab</td>
<td>Catheterization Laboratory</td>
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<tr>
<td>CBG</td>
<td>Capillary Blood Glucose</td>
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<tr>
<td>CC</td>
<td>Chief Complaint</td>
</tr>
<tr>
<td>CHF</td>
<td>Congestive heart failure</td>
</tr>
<tr>
<td>CO</td>
<td>Carbon Monoxide</td>
</tr>
<tr>
<td>CO₂</td>
<td>Carbon Dioxide</td>
</tr>
<tr>
<td>c/o</td>
<td>Complaining of</td>
</tr>
<tr>
<td>COPD</td>
<td>Chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>CP</td>
<td>Chest pain</td>
</tr>
<tr>
<td>CPAP</td>
<td>Continuous Positive Airway Pressure</td>
</tr>
<tr>
<td>CPR</td>
<td>Cardiopulmonary resuscitation</td>
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<tr>
<td>CVA</td>
<td>Cerebrovascular accident</td>
</tr>
<tr>
<td>DKA</td>
<td>Diabetic Ketoacidosis</td>
</tr>
<tr>
<td>DOA</td>
<td>Dead on arrival</td>
</tr>
<tr>
<td>DOB</td>
<td>Date of birth</td>
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<tr>
<td>DM</td>
<td>Diabetes Mellitus</td>
</tr>
<tr>
<td>DNR</td>
<td>Do not resuscitate</td>
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<tr>
<td>DVT</td>
<td>Deep vein thrombosis</td>
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<tr>
<td>ECG</td>
<td>Electrocardiogram</td>
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<tr>
<td>ED</td>
<td>Emergency Department</td>
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<tr>
<td>ETCO₂</td>
<td>End Tidal Carbon Dioxide</td>
</tr>
<tr>
<td>ETI</td>
<td>Endotracheal intubation</td>
</tr>
<tr>
<td>ETT</td>
<td>Endotracheal tube</td>
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<tr>
<td>ETOH</td>
<td>Alcohol (ethanol)</td>
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<tr>
<td>ER</td>
<td>Emergency Room</td>
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<tr>
<td>F</td>
<td>Female</td>
</tr>
<tr>
<td>fx</td>
<td>Fracture</td>
</tr>
<tr>
<td>g</td>
<td>gauge</td>
</tr>
<tr>
<td>GI</td>
<td>Gastrointestinal</td>
</tr>
<tr>
<td>GCS</td>
<td>Glasgow coma scale</td>
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<td>GSW</td>
<td>Gun-shot wound</td>
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<td>gtt</td>
<td>Drop</td>
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<tr>
<td>HCTZ</td>
<td>Hydrochlorothiazide</td>
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<tr>
<td>HEENT</td>
<td>Head, ears, eyes, nose, throat</td>
</tr>
<tr>
<td>Hg</td>
<td>Mercury</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency virus</td>
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<tr>
<td>HP-CPR</td>
<td>High Performance CPR</td>
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<tr>
<td>H₂O</td>
<td>Water</td>
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<tr>
<td>HR</td>
<td>Heart Rate</td>
</tr>
<tr>
<td>hr(s)</td>
<td>Hour(s)</td>
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<tr>
<td>HTN</td>
<td>Hypertension</td>
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<tr>
<td>IDDM</td>
<td>Insulin dependent diabetes mellitus</td>
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<td>IM</td>
<td>Intramuscular</td>
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<tr>
<td>IO</td>
<td>Intraosseous</td>
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<td>Intravenous</td>
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<td>IVP</td>
<td>Intravenous push</td>
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<td>JVD</td>
<td>Jugular vein distension</td>
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<tr>
<td>KVO</td>
<td>Keep vein open</td>
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<tr>
<td>kg</td>
<td>Kilogram</td>
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<td>KRMC</td>
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<tr>
<td>LLQ</td>
<td>Left lower quadrant</td>
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<tr>
<td>LOC</td>
<td>Level of consciousness\loss of consciousness</td>
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<tr>
<td>LPM</td>
<td>Liter per minute</td>
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<tr>
<td>LUQ</td>
<td>Left Upper Quadrant</td>
</tr>
<tr>
<td>M</td>
<td>Male</td>
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<tr>
<td>mcg</td>
<td>Microgram</td>
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<tr>
<td>mg</td>
<td>milligram</td>
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<td>MCI</td>
<td>Mass Casualty Incident</td>
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<td>mL</td>
<td>Milliliter</td>
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<tr>
<td>NC</td>
<td>Nasal cannula</td>
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<td>NKDA</td>
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<td>NIDDM</td>
<td>Non-insulin dependent diabetes mellitus</td>
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<td>NRM</td>
<td>Non-rebreather mask</td>
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<td>Abbreviation</td>
<td>Definition</td>
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<tr>
<td>NS</td>
<td>Normal saline</td>
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<td>NSR</td>
<td>Normal sinus rhythm</td>
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<tr>
<td>NTG</td>
<td>Nitroglycerine</td>
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<tr>
<td>N/V</td>
<td>Nausea / vomiting</td>
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<tr>
<td>O₂</td>
<td>Oxygen</td>
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<td>Oxygen saturation</td>
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<tr>
<td>OD</td>
<td>Overdose</td>
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<td>Police Department</td>
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<tr>
<td>PEA</td>
<td>Pulseless electrical activity</td>
</tr>
<tr>
<td>PERL</td>
<td>Pupils equal and reactive to light</td>
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<tr>
<td>PE</td>
<td>Pulmonary embolism</td>
</tr>
<tr>
<td>PJC</td>
<td>Premature Junctional Contraction</td>
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<tr>
<td>PMS</td>
<td>Pulse, Motor function, Sensation</td>
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<tr>
<td>POLST</td>
<td>Physician’s Orders for Life Sustaining Treatment</td>
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<td>PSVT</td>
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<td>Patient</td>
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<tr>
<td>PVC</td>
<td>Premature ventricular contraction</td>
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<td>PWD</td>
<td>Pink, warm, dry</td>
</tr>
<tr>
<td>Q</td>
<td>Every</td>
</tr>
<tr>
<td>RLQ</td>
<td>Right lower quadrant</td>
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<td>ROM</td>
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<td>S/S</td>
<td>Signs and symptoms</td>
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<td>ST-Elevation Myocardial Infarction</td>
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<td>Supraventricular Tachycardia</td>
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<td>TIA</td>
<td>Transient ischemic attack</td>
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<td>TKO</td>
<td>to keep (vein) open</td>
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<td>with</td>
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<td>WNL</td>
<td>Within normal limits</td>
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<td>without</td>
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<td>x</td>
<td>Times</td>
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APPENDIX F

SPECIAL CONSIDERATIONS

For the following specific medical/traumatic issues, consider early contact with online medical control for further guidance.

I. Compartment Syndrome  
II. Crush Injuries  
III. Suspension Trauma  
IV. Epistaxis  
V. OB Patient