

Kittitas County Prehospital Care Protocols

SUBJECT: PROTOCOLS FOR THE EMT-IV THERAPY

The purpose of this document is to provide written protocols for EMT-IV Therapy endorsed and practicing in Kittitas County in conjunction with the Washington State Department of Health Intravenous Therapy Special Skill Curriculum.

I. Cardiovascular Problems

A. Chest Pain

1. Administer O₂ at 15 L/min per non-rebreather mask.
2. On scene time should be < 15 minutes.
3. Rendezvous with ALS if available.
4. Expedite transport to the closest Cardiac facility.
5. While enroute to the receiving facility, establish peripheral IV access with **Isotonic Crystalloid** @ TKO.

B. Cardiopulmonary Arrest

1. Verify cardiopulmonary arrest.
2. Initiate CPR and ventilate per pocket mask or BVM with supplemental O₂ @ 15 L/min.
3. If ALS is not available, transport per medical control.
4. Enroute to the receiving facility, establish peripheral IV access with **Isotonic Crystalloid** @ TKO.
 - Discontinue IV attempts after three unsuccessful attempts at peripheral venipuncture or 90 seconds.
 - Attempt I.O. line placement

C. Pediatric Cardiopulmonary Arrest

1. Verify cardiopulmonary arrest.
2. Initiate CPR and ventilate via pocket mask or pediatric BVM with supplemental O₂ @ 15 L/min.

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3. If ALS is not available, initiate transport or rendezvous.
4. While enroute to the receiving facility, establish peripheral IV access with **Isotonic Crystalloid** @ TKO.
 - Discontinue IV attempts after one unsuccessful attempt at peripheral venipuncture.
 - Attempt I.O. line placement

D. Syncope/Stroke

1. Administer O₂ at 15 L/min per non-rebreather mask.
2. While en route to the receiving facility, establish peripheral IV access with **Isotonic Crystalloid** @ TKO. Ideally, 18 ga IV in unaffected arm (affected arm is acceptable if necessary).
3. On scene time should be < 15 minutes.
4. Expedite transport to closest Stroke center

E. Congestive Heart Failure with Acute Pulmonary Edema

1. Administer O₂ at 15 L/min per non-rebreather mask.
2. Provide positive –pressure ventilation, as necessary.
3. While enroute to the receiving facility, establish peripheral IV access with **Isotonic Crystalloid** @ TKO.

II. Diabetes Mellitus

1. Establish and maintain airway.
2. Administer O₂ @ 15 L/min per non-rebreather mask.
3. If good airway and patient is conscious, administer large amount of some type of sugar solution orally, juice or sandwich.
4. While enroute to the receiving facility, establish peripheral IV access with **Isotonic Crystalloid** @ TKO.

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5. Perform blood glucose check. If blood sugar is > 500 and there is no sign of CHF, give 500 cc fluid Bolus.

III. Hypotension—Unknown Etiology

1. Establish and maintain airway.
2. Administer O₂ @ 15 L/min per non-rebreather mask.
3. If trauma is present, refer to trauma protocols.
4. Establish large-bore IV catheter with **Isotonic Crystalloid** and titrate fluid to challenge patient's BP and clinical findings. If there are no signs of CHF, give 500cc ~ 10 minutes fluid bolus en route. If there is no improvement in BP, provider should contact medical control.
5. If no improvement from IV fluid challenge and no signs of pulmonary edema, while enroute to the receiving facility, establish a second IV with **Isotonic Crystalloid**, and run both up to approximately 1500 ml.

IV. Trauma

1. Establish and maintain airway.
 - Administer O₂ at 15 L/min per non-rebreather mask.
2. Serial vital signs.
3. Unless extended extrication or multiple patients, on-scene time should be approximately 10 minutes.
4. In all cases that may result in significant blood loss and/or severe trauma:
 - a. While enroute to the receiving facility, establish large-bore IV catheter with **Isotonic Crystalloid**, and if systolic BP \geq 90 mm Hg run @ an appropriate rate to maintain BP.
 - b. If systolic BP < 90 mm Hg, run wide open and establish a second large bore IV; aim to maintain systolic BP to at least 90 mm Hg.
5. In severe trauma, as many procedures as possible should be performed en route to the receiving facility. Venipunctures may be performed at the scene, so long as transport will not be delayed by doing so.

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V. Pediatric

1. Administer O₂ @ 15 L/min per non-rebreather mask. If not tolerated, administer blow-by oxygen.
2. Perform other BLS procedures as indicated, in accordance with protocols.
3. In the patient with significant blood loss and/or severe trauma, while en route to the receiving facility:
 - a. Establish peripheral IV line with **Isotonic Crystalloid**, and bolus @ 20 cc/kg, using a pressure infusion device or syringe.
 - b. Discontinue procedure for children (no signs of puberty) after one attempt at peripheral venipuncture.
4. Intraosseous Infusion: To establish a route for drug or fluid administration for an infant or child who needs immediate life-saving intervention and there is an inability to establish a peripheral line within 90 seconds.

VI. Obstetrical Emergencies

1. Obtain history and perform detailed physical exam.
2. Administer O₂ @ 15 L/min per non-rebreather mask.
3. If scene delivery is imminent, establish a large-bore IV catheter with **Isotonic Crystalloid** running @ TKO.
4. If scene delivery is not imminent, while enroute to the receiving facility, establish a large-bore IV catheter with **Isotonic Crystalloid** running @ TKO.

VII. Other Protocols

1. The IV Technician should discontinue procedure after three unsuccessful attempts at venipuncture for adults (within 90 seconds) and one unsuccessful attempt at venipuncture for pediatric patients.
2. Intraosseous (I.O.) line placement for Adults and Pediatric Patients - When venous access cannot be obtained rapidly
 - a. Chief Indications
 - i. Compensated and uncompensated shock
 - ii. Cardiac Arrest

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- b. Contraindications
 - i. Known fracture of the bone chosen for line placement
 - ii. There is infection present in the leg chosen for line placement
 - iii. I.O. should not be attempted on the same leg more than once
 - c. Sites for Intraosseous needle insertion
 - i. Proximal Tibia
 - ii. Distal Femur
 - iii. Distal Tibia
3. IV Technicians may not establish saline locks unless intending to start an IV. Saline-locks may be established to avoid the risk of inadvertent rapid-fluid administration and the inconvenience of manipulating IV tubing and fluid bags while moving and handling patients. IV Technicians may attend patients with saline locks established by hospital personnel.
 4. Cannulation of the external jugular vein is not permissible by IV Technicians.
 5. Peripheral IV access should be established enroute to the receiving facility, unless on scene time is extended for other reasons.
 6. At no time, should establishing peripheral access take precedence over basic life support procedures.
 7. When requested by Law Enforcement, blood draws may be performed if peripheral access is going to be established as part of patient care. Treatment and transport should not be delayed to perform a blood draw.

Local Transfers (in county): IV Technicians may attend and serve as the lead provider on local, inter-facility transfers for patients who have been administered medications.

Out of town Transfers: IV Technicians may attend and serve as the lead provider on out-of-town, inter-facility transfers for patients who have received medication > 30 minutes prior to transport.
 8. NO BLOOD PRODUCTS may be given.
 9. For situations not described in these protocols, or for other basic life support procedures, the EMT-IV Technician is to operate under the current *Washington State EMT Protocols and the Intravenous Therapy Field Protocols*.
 10. **STORAGE OF FLUIDS** – All Crystalloid Solutions should be stored in accordance with manufacturer's instructions. Fluids must be protected from

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extreme heat and cold. Caution should be taken when transporting and administering fluids in an uncontrolled environment.

Note: WA State and MPD approved training and skill maintenance must be completed and maintained.