APPENDIX A

Procedures
SUPRAGLOTTIC AIRWAY
USE OF THE KING LTS-D™ AIRWAY

PCR-1

EMT, AEMT & PARAMEDIC

A. Use of the *KING LT(S)-D Airway* is indicated in the following situations:
   1. Cardiopulmonary arrest.
      a. In cardiopulmonary arrest the King LT(S) – D Airway may be used as the **primary** airway.
      b. Assess ABCs, defibrillation, when indicated, takes precedence over placement of the King LT(S)-D airway.
      c. Begin chest compressions. ***Do not interrupt*** **compressions for placement of the King LT(S)-D airway.**
   2. Respiratory arrest.

B. Airway protection in *critical p*atients with a loss of protective gag reflex when access to ET intubation is not available.

C. Contraindications for use of the KING LT(S)-D Airway are:
   1. Responsive patients with an intact gag reflex.
   2. Patients with known esophageal disease.
   3. Patients who have ingested caustic substances.
   4. Airway obstruction.
   5. Patients under 4 feet in height – **EMT Contraindication only**

D. **EMT –** Determining patient's height, choose the correct KING LT(S)-D size.
   1. Patients 4 - 5 feet, tube size 3, yellow in color.
   2. Patients 5 - 6 feet, tube size 4, red in color.
   3. Patients greater than 6 feet, tube size 5, purple in color

E. **AEMT & PARAMEDIC –** Determining patient's height for patients less than 4 feet in height:
   1. Patients 3.5 - 4 feet, tube size 2.5, orange in color.
   2. Patients 3 - 3.5 feet, tube size 2, green in color.

F. Attach a pulse oximeter, and monitor oxygen saturation.

G. If vomitus, blood or other foreign material is present in the hypopharynx, rapid and aggressive suctioning and/or manual removal must be done prior to attempting placement of the King LT(S)-D Airway.

H. Test the cuff inflation system by injecting the maximum recommended volume of air in the cuffs. Remove all air from cuffs prior to insertion.
   1. Refer to Sizing Information chart for the maximum recommended volume of air.

I. Apply a water-based lubricant to the beveled distal tip and posterior aspect of the tube, taking care to avoid introduction of lubricant in or near the ventilatory openings.

J. Have a spare KING LT(S)-D ready and prepared for immediate use.

USE OF THE KING LTS-D™ AIRWAY (continued)

K. Ventilate patient with a bag-valve-mask (BVM) prior to insertion of the King LT(S)-D airway for 1 - 2 minutes prior to intubation attempt and ensure gag reflex is not intact.

L. Position the patient's head. The ideal head position for insertion of the KING LT(S)-D is the "sniffing position".
   1. However, the angle and shortness of the tube also allows it be inserted with the head in a neutral position.

M. Hold the KING LT(S)-D at the connector with dominant hand. With non-dominant hand hold mouth open and apply chin lift unless contraindicated by C-spine precautions or patient position.

N. With the KING LT(S)-D rotated laterally 45-90° such that the blue orientation line is touching the corner of the mouth, introduce tip into mouth and advance behind base of tongue.
   1. Never force the tube into position.

O. As tube tip passes under tongue, rotate tube back to midline (blue orientation line faces chin).

P. Without exerting excessive force, advance KING LT(S)-D until base of connector aligns with teeth or gums.

Q. Fully inflate cuffs using the maximum volume of the syringe included in the kit.
   1. For KING LT(S)-D typical inflation volumes see Sizing Information chart.

R. Attach the BVM to the 15 mm connector of the KING LT(S)-D. While gently bagging the patient to assess ventilation, simultaneously withdraw the airway until ventilation is easy and free flowing (large tidal volume with minimal airway pressure).

S. Confirm proper position by auscultation, chest movement, and verification of ETCO2 by capnography, when available.

T. Readjust cuff inflation to seal any air leaks.

U. Secure KING LT(S)-D to patient using tape or other accepted means. A bite block can also be used, if desired.
   1. DO NOT COVER THE PROXIMAL OPENING OF THE GASTRIC ACCESS LUMEN OF THE KING LTS-D.

V. **PARAMEDIC –** KING LTS-D ONLY – The gastric access lumen allows the insertion of up to an 18 Fr diameter gastric tube into the esophagus and stomach. Lubricate gastric tube prior to insertion.

USE OF THE KING LTS-D™ AIRWAY (continued)

W. If patient regains consciousness or begins to fight the tube, restrain if necessary, and immediately remove the KING LT(S)-D Airway as follows:

1. Turn patient on his/her side.
2. Completely deflate cuffs.
3. Gently remove the KING LT(S)-D Airway.
4. Be prepared for the patient to vomit, and suction as needed.
5. Assure that patient's airway is patent and respirations are adequate, and assist ventilations as necessary.
6. Administer oxygen via nasal cannula 1 - 4 lpm or non-rebreather 10 - 15 lpm. If available, use pulse oximetry to titrate saturation to 94% or greater.

ADVANCED AIRWAY MANAGEMENT
ENDOTRACHEAL INTUBATION

PARAMEDIC

The following is meant to provide a general protocol for endotracheal intubation and other advanced airway management procedures performed by the Paramedic. This procedure should be initiated in a short period of time, to prevent delay in the provision of adequate ventilation.

A. Indications:
   1. Hypoxia and/or hypoventilation refractory to non-invasive airway/respiratory management.
   2. Airway protection to minimize aspiration in the setting of sustained altered mental status with a Glasgow Coma Scale Score <8.
   3. Impending airway edema in the setting of respiratory tract burns or anaphylaxis.

B. Contraindications:
   1. Waveform capnography not immediately available.
   2. Rescue airway device not available in the event of multiple failed intubation attempts.

C. Technique:
   1. Preoxygenate with positive pressure ventilation while preparing for definitive airway management.
   2. Using a laryngoscope and proper sized blade, perform direct laryngoscopy.
      a. Visualize the vocal cords and advance ET tube to the appropriate depth.
   3. Consider Rapid Sequence Intubation if muscle tone impeded necessary ET intubation.
   4. The number of attempts at ET intubation should be limited to 2 for a single provider, if a second paramedic is on scene a third attempt may be considered before placement of a rescue airway device.
   5. Note airway placement using appropriate landmarks such as patient's teeth or gum line.
   6. Tube position should be reassessed subsequent to significant movement of the patient.

D. Confirmation of placement (must be verified by a paramedic):
   1. Visualization of ET tube passage between the vocal cords.
   2. Observation of symmetric upper chest wall movement with ventilation.
   3. Detection of ETCO2 shall be confirmed within 60 seconds of ET intubation placement.
   4. Auscultation of bilaterally equal breath sounds and noting absence of gurgling on auscultation over the epigastrium.

E. If a difficult airway is suspected an airway bougie may be helpful if available.

APPENDIX A

CONTINUOUS POSITIVE AIRWAY PRESSURE – C-PAP

PCR-3

EMT, EMT/IV, AEMT, PARAMEDIC

A. Indications for use of C-PAP are a patient who is in respiratory distress with signs and symptoms consistent with asthma, COPD, pulmonary edema, CHF, or pneumonia **and** who are:
   1. Awake and able to follow commands.
   2. Over 12 years old and able to fit the C-PAP mask.
   3. Have the ability to maintain an open airway.
   4. **And** exhibit two or more of the following:
      a. a respiratory rate greater than 25 breaths per minute.
      b. SPO2 of less than 94% at any time.
      c. use of accessory muscles during respirations.

B. Contraindications for use of C-PAP are:
   1. Patient is in respiratory arrest/apneic.
   2. Patient is suspected of having a pneumothorax or has suffered trauma to the chest.
   3. Patient has a tracheostomy.
   4. Patient is actively vomiting or has upper GI bleeding.

C. The following is the procedure for use of the C-PAP:
   1. EXPLAIN THE PROCEDURE TO THE PATIENT.
   2. Ensure adequate oxygen supply to ventilation device.
   3. Place the patient on continuous pulse oximetry.
   4. Place the patient on cardiac monitor (if available) and record rhythm strips with vital signs.
   5. Place the delivery device over the mouth and nose.
   6. Secure the mask with provided straps or other provided devices.
   7. Start at 5 cm H2O of PEEP valve increase if needed based on patient's condition.
   8. Check for air leaks.
   9. Monitor and document the patient's respiratory response to treatment.
   10. Check and document vital signs every 5 minutes.
   11. Continue to coach patient to keep mask in place and readjust as needed.
   12. Contact medical control to advise them of C-PAP initiation.
   13. If respiratory status deteriorates, remove device and consider intermittent positive pressure ventilation via BVM and/or placement of King Airway or ET intubation.
   14. **AEMT, PARAMEDIC –** Administer appropriate medication as certified (continuous nebulized Albuterol for COPD/Asthma and repeated administration of nitroglycerin spray or tablets for CHF).

D. Removal procedure for C-PAP is as follows:
   1. C-PAP therapy needs to be continuous, and should not be removed, unless the patient cannot tolerate the mask or experiences respiratory arrest or begins to vomit.
   2. Intermittent positive pressure ventilation with a BVM, placement of a King Airway and/or ET intubation should be considered if the patient is removed from C-PAP therapy.

CONTINUOUS POSITIVE AIRWAY PRESSURE – C-PAP (continued)

E. Special Considerations
   1. Patient should be transported by a paramedic unit.
      a. If a paramedic unit is not immediately available consider a rendezvous.
   2. Do not remove C-PAP until hospital therapy is ready to be placed on patient.
   3. Watch patient for gastric distention, which can result in vomiting.
   4. Procedure may be performed on patient with Do Not Resuscitate Order.
   5. Due to changes in preload and after load of the heart during C-PAP therapy, a complete set of vital signs must be obtained every 5 minutes.

CRICOTHYROIDOTOMY

PARAMEDIC

A. The following situations may warrant the use of needle or surgical Cricothyroidotomy:
   1. Acute upper airway obstruction not relieved by advanced airway maneuvers, and unable to ventilate by BVM.
   2. Patients in respiratory arrest secondary to massive facial injuries, which prevents orotracheal or BVM ventilation.
   3. Patients with neck/tracheal injury, where ET or King Airway intubation attempts have been unsuccessful, and unable to ventilate by BVM.

B. While continuing attempts to ventilate, place the patient in a supine position and hyperextend the head and neck. If a spinal injury is suspected, the head and neck should be maintained in a neutral, in-line position.

C. Locate the patient's cricothyroid membrane and prep the area with providone-iodine swabs.

D. To perform a needle cricothyroidotomy:
   1. Attach a 12-gauge catheter over-the-needle (16-gauge for pediatric patients) device to a 10 cc syringe; fill the syringe with 1 - 2 cc NaCl.
   2. Insert the needle/catheter in the midline, through the skin and membrane. Direct the needle posterior and caudally at a 45° angle to the trachea.
   3. Advance the needle and catheter while maintaining negative pressure with the syringe. Air should readily fill the syringe when the trachea is entered.
   4. Advance the catheter over the needle until the hub is flush with the skin, and then remove the needle and syringe.
   5. Connect a #3.0 ET tube adapter to the catheter, then attach a bag-valve device and begin ventilations.
   6. Check for adequacy of ventilations.
   7. Dress and secure the wound site.

E. If long transport time and unable to maintain the airway, perform surgical cricothyroidotomy as follows:
   1. Make a horizontal incision, approximately 2 - 3 cm long, cutting through the skin and membrane with a #11 scalpel blade angled away from the head.
   2. Using one hand on the larynx to stabilize it (use an assistant if necessary), insert the scalpel handle, and rotate 90° to spread the cartilage.
   3. Insert a small-cuffed ET tube (5.0 - 6.0 mm) into the cricothyroid membrane, directing the tube distally into the trachea.
   4. Inflate the cuff, attach a bag-valve-device, and ventilate.
   5. Check for adequacy of ventilations.
   6. Dress and secure the wound site.

Cricothyroidotomy

APPENDIX A

PCR-5

NASAL INTUBATION

PARAMEDIC

This protocol is meant as a guideline to highlight essential steps in the intubation process. The key factor to successful nasal intubation is picking the right patient and circumstances to perform the maneuver. The ideal patient is comatose, profoundly lethargic or potentially sedated. The patient must be breathing spontaneously and have no potential midface nasal fractures or significant trauma. Ideal patients for this procedure would include drug overdoses, strokes/bleeds, and nearly obtunded COPD/CHF patients.

A. The patient should be assessed for the need of intubation, including:
   1. Impending airway closure
   2. Inability to protect airway
   3. Impending respiratory failure
   4. Profound hypoxemia despite oxygen therapy

B. The patient must be breathing spontaneously, have a patent nasal passage, no evidence of significant nasal or midface trauma or factures, be cooperative or obtunded.

C. The straightest and least congested nasal passage should be identified and prepped with **AFRIN nasal spray** if possible.

D. A 6.5 or 7.0 ET tube should be coated with Lidocaine jelly and bent into a “C” shaped curve. NO STYLET SHOULD BE USED.

E. The patient may be sedated with **VERSED 2 - 10 mg** IV or **MORPHINE 2 - 10 mg** IV.

F. Insert the ET tube into the nasal passage and attempt to push it into the lower pharynx. Do not force the tube if substantial resistance is met.

G. Position the head in the sniffing position if spine injury is not a concern.

H. Listen over the ET tube opening and watch for rise and fall of the chest, then advance tube into the trachea at the beginning of a spontaneous breath, and advance it as far as possible.

I. Confirm placement by
   1. Watching for chest rise.
   2. Auscultation of the lateral lung fields and epigastrium with a stethoscope.
   3. Capnography reading.

J. If not successful after three attempts then proceed to a different airway management technique.

APPENDIX A

RAPID SEQUENCE INTUBATION (RSI) WITH NEUROMUSCULAR BLOCKADE

PARAMEDIC

A. Ensure patency of IV or IO line.

B. Preoxygenate with a non-rebreather:
   1. Add nasal cannula, 8 lpm if second oxygen source is available.

C. Prepare: Equipment, meds, team, patient (basic airway management, positioning):
   S: Suction (suction source and correct catheter size). Check it is working and on.
   O: Oxygenation AND apparatus: correct size mask, oxygen source, saturation monitoring, ETCO2 monitoring
   A: Airway tools: Oral airways, tubes, blades, and adjuncts. ET tubes – One size larger and one size smaller, stylet-rigid vs standard, 10cc syringe. Laryngoscope with correct blade. Back-up laryngoscopes with working bulb.
   P: Positioning (of patient, of team). Pillow, blanket or shoulder roll. Consider elevating head or shoulders of an obese patient (ramped or head elevated position) to align the external auditory meatus and the sternal notch horizontally.
   P: Pharmacologic tools: drugs for intubation.
   P: Plan. What next? Second intubator, rescue device, surgical airway?

   Monitoring required: EKG, BP, saturations, ETCO2.

D. In adult patients with the potential for an elevated ICP (e.g., head injury; IC bleed; hypertensive crises), or those with ventricular dysrhythmias or bronchospasms, premedicate with **LIDOCAINE 1 mg/kg IV** prior to administration of **SUCCINYLCHOLINE**.

E. Administer **ETOMIDATE 0.3 mg/kg, IV** unless unconscious and unresponsive.
   1. For pediatrics, consider **VERSED 0.2 mg/kg (maximum dose of 10 mg)**
      OR
      1 year or older, **KETAMINE 2 mg/kg q 10-15 minutes** as clinically indicated.

F. In children and adolescents, administer **ATROPINE 0.02 mg/kg (minimum of 0.1 mg, and a maximum of 0.5 mg) IV**.

G. Approximately 45-60 seconds following administration of **ETOMIDATE**, administer
   SUCCINYLCHOLINE 1.5 mg/kg IV
   OR
   ROCURONIUM 0.1 mg/kg

H. Proceed with ET intubation in accordance with applicable protocol.

I. If patient becomes combative or requires additional sedation during transport, administer repeated doses of **VERSED 2 - 10 mg IV** or **MORPHINE 2 - 10 mg IV** or **FENTANYL at 50 mcg**, up to a total of **300 mcg**. If still unable to control patient, administer **ROCURONIUM 0.1 - 0.2 mg/kg IV.**

J. Place nasogastric tube, if time allows, for decompression

APPENDIX A

PCR-7

SUSPECTED TENSION PNEUMOTHORAX

PARAMEDIC

A. In the event of a suspected tension pneumothorax and the patient is deteriorating rapidly, perform the following:
   1. Prepare all necessary equipment.
   2. Identify the second intercostal space at the mid-clavicular line.
   3. Prepare the site with providone-iodine swabs.
   4. Use a 12-gauge catheter over-the-needle (16-gauge for pediatric patients) device, attached to a one-way flutter valve, or an MPD-approved commercial device.
   5. Insert the needle above the third rib, into the second intercostal space, until a “pop” is heard.
   6. Advance the catheter an additional 1 - 2 cm, and withdraw the needle (or as recommended by the manufacturer, if using a commercial device).
   7. Secure with tape and a bulky dressing.

B. Continually monitor lung sounds and respiratory status.

IV THERAPY AND BLOOD DRAWS
INTRODUCTION

EMT IV, AEMT & PARAMEDIC

The following protocol is meant to serve as a general procedural guideline when performing venipunctures, venous cannulations, intraosseous infusions and blood draws. If this is a legal blood draw, refer to PCR-9.

ASEPTIC TECHNIQUE

A. Whenever possible, sterile procedures must be used when performing venipuncture and venous cannulation.
   1. Prepare the venipuncture site with a providone-iodine solution, and allow to dry prior to initiating the procedure.
   2. If necessary in order to facilitate visualization of the vein, the providone-iodine solution may be wiped away (after drying) with an alcohol swab.

GENERAL PROCEDURES

A. Venipunctures may be performed only when clinically indicated and in accordance with applicable protocols.

B. In the conscious, non-critical patient, no **more than *two* attempts at peripheral venipuncture** should be performed before the procedure is abandoned.

C. If the patient is critical and unconscious, and venipuncture attempts have been unsuccessful, consider intraosseous (IO).

D. If patient already has a central line, consider use of the central line.

LEGAL BLOOD DRAWS

EMT IV, AEMT & PARAMEDIC

A. Blood may be drawn as indicated in the protocols, and must occur at the time intravenous procedures are being performed.

B. Prior to connecting IV tubing and fluid, attach a Vacutainer® or syringe and fill one blue-top, one green-top, and one lavender-top, and one red-top blood tube.

C. Label blood tubes appropriately (patient's name, the date, time, EMS provider's initials) and tape to the IV bag.

D. Legal Alcohol Determination:
   1. Blood may be drawn for legal determination at the request of law enforcement, as provided by RCW 46.61.520, RCW 46.61.522. This may be done only if at least **one** of the following conditions are met:
      a. The patient's condition indicates the need for IV therapy as required per protocol.
      b. **The procedure would *not* result in a delay that could potentially be detrimental to the patient.**
      c. The patient is unconscious.
      d. The patient is under arrest for the crime of vehicular homicide or vehicular assault.
      e. The patient is under arrest for the crime of driving while under the influence of intoxicating liquor or drugs causing an accident in which another person is injured and there is a reasonable likelihood that such a person may die as a result of the injuries sustained.
   2. Law enforcement must complete and sign the Yakima County *Direction to Take Blood Draw, Appendix E form* and return it to the provider while at the scene.
   3. Attach the completed form to your agency's copy of the MIR/PCR (a copy may also be attached to the patient's hospital chart).
   4. Document the procedure on the medical incident report form.

INTERFACILITY TRANSPORT OF PATIENTS

PARAMEDIC

A. Paramedics may transport patients with blood or other blood products, if the blood products have been running for at least a ½ hour before the interfacility transport.
   1. If there is the possibility that the blood product bag will need to be changed during the transport, then a nurse must accompany the patient.
   2. Paramedics may not start a blood transfusion.

B. Paramedics may transport patients without a nurse on board when the medication drips include those drugs listed on the "Prehospital Medication List," which is located inside this document.
   1. If the drug a patient is receiving is not listed in the *Formulary,* the drug should be discontinued or a nurse must accompany the patient during transport.
   2. If the drug cannot be discontinued -see letter C below.

C. **JUST IN TIME MEDICATION/EQUIPMENT PROTOCOL**
   Purpose: The purpose of this protocol is to allow for the safe and timely transfer of patients who are receiving medications, including medications delivered by continuous infusion not covered by current Yakima County EMS protocols. The intent of the MPD is to have formal training provided for the more common medications administered during interfacility transfer. In order for a paramedic to assume care for a patient on a medication not addressed in the current Yakima County EMS protocols, the following procedure must be followed:

D. Transporting ambulance must have a copy of the current Nursing Drug Handbook (ISBN-13: 978-1496353597) or a current drug reference approved by the MPD available in the ambulance.

E. A pharmacist, nurse, or provider will provide an in-service of adequate length (usually 10-15 minutes) to insure that the transferring paramedic has sufficient knowledge to safely accomplish the transfer. At a minimum, the in-service will include:
   1. Potential drug interactions with all drugs currently being administered to the patient, as well as all drugs in the current Yakima County formulary.
   2. Dosing parameters.
   3. Side effects and corrective actions.
   4. The paramedic will be provided with a copy of the manufacturer's package insert and will be given the opportunity to read and ask questions related to the information.

F. A provider from the transferring facility with knowledge of the patient and medications will be available by phone to provide direction for the duration of the transfer.

G. The transferring provider will provide orders for the medication(s) to be administered.

H. If the medication is being administered by continuous infusion, the facility will provide an in-service on the pump. This in-service will include at a minimum the following:
   1. Basic operation of the pump.
   2. Troubleshooting problems such as pump failure, air in line, etc.
   3. Complete list of error codes with corrective actions. This can either be written by the transferring facility or provided by the manufacturer.

JUST IN TIME MEDICATION/EQUIPMENT PROTOCOL

4. A staff member who has experience with the pump will be available by phone for the duration of the transfer.

I. Transfers using this protocol will undergo 100% QA/QI review.

J. Once training has been instituted for a particular medication and the training has been made available on Ninth Brain, a paramedic must complete the training and be certified in the particular medication within 90 days. This protocol will not be applied to a medication 91 days or greater after the training has been made available. If the paramedic has not been certified on that medication 91 days or greater after the training has been instituted, he/she may not accept the transfer.

APPENDIX A

FLUID THERAPY

PCR-11

AEMT & PARAMEDIC

A. Indications for IV fluid therapy include:
   1. There is a high risk of internal hemorrhage
   2. Signs of shock
   3. Hypotension
   4. Hypovolemia
   5. Hyperglycemia
   6. Alcohol Withdrawals with Delirium Tremens

B. Special Considerations
   1. Avoid extremities where a dialysis shunt is present. This may be used as a last and final option if access is important to the patient's survival.
   2. Avoid extremities where a fracture exists. If multiple extremity fractures exist place IV above the fracture site.

C. The amount of fluid given to a patient will vary based on the patient's condition and needs for fluid, their size, weight and age. The following is meant to be utilized as a guideline and is not meant to replace the judgment of the Advanced EMT or Paramedic providing care.
   1. Trauma Patients
      a. Bolus Normal Saline as necessary to maintain a Systolic BP of 90mmHg.
   2. Medical Patients
      a. 200 ml bolus of Normal Saline, followed by repeat vital signs including lung sounds**.**
         i. Until improved mentation is achieved.
         ii. The patient has relief in symptoms (i.e., decreased DT's, increased BP or decrease in heart rate if tachycardic)
   1. Pediatric Patients
      a. 20 ml/kg bolus of Normal Saline, followed by repeat vital signs
         i. It is recommended that a Buretrol 60 drop set containing a 150 ml chamber, be utilized on infants & children less than 7.5 kg or 15 lbs.
         ii. Any infant or child who is classified as "Pink" or "Grey" inside the pediatric resuscitation tape.

IO PROCEDURES

AEMT & PARAMEDIC

A. The IO should be used on patients who:
   1. Need IV fluids or medications and a peripheral IV cannot be established in 90 seconds and exhibit 1 or more of the following:
      a. An altered mental status (GCS of 8 or less).
      b. Respiratory compromise (SpO2 < 80% after appropriate oxygen therapy, respiratory rate < 10/min or > 40/min).
      c. Hemodynamic instability (Systolic BP < 90mmHg)
   2. Should be considered PRIOR to peripheral IV attempts in the following situations:
      a. Cardiac arrest (medical or traumatic).
      b. Profound hypovolemia with alteration of mental status.

B. Contraindications for use of the IO are as follows:
   1. Fracture of the tibia or femur (consider alternate tibia).
   2. Previous orthopedic procedures (IO within 24 hours, knee replacement – consider alternate tibia).
   3. Pre-existing medical condition involving that extremity.
   4. Infection at insertion site (consider alternate tibia).
   5. Inability to locate landmarks (significant edema).
   6. Excessive tissue at insertion site (obesity).

C. Procedure
   1. Choose appropriate intraosseous needle set and assemble equipment.
   2. Locate and palpate the appropriate insertion site of the proximal tibia.
   3. Use sterile technique to prep the site.
   4. Position the driver at the insertion site with the needle set at 90-degree angle to the bone. Gently pierce the skin with the needle set until the tip touches the bone.
   5. Check to ensure that at least one black line is visible. If no black line is visible, the needle set may not reach the medullary space. Consider an alternative site or a longer needle set.
   6. Penetrate the bone cortex by squeezing driver's trigger and applying gentle, consistent, steady downward pressure (all the driver to do the work).
   7. Release the driver's trigger and stop the insertion process when the hub is almost flush with the skin.
   8. Remove the driver from needle set while stabilizing the catheter hub.
   9. Remove stylet from catheter by turning counter-clockwise.
   10. **Syringe bolus:** flush the catheter with 10 ml of normal saline.
       a. **PARAMEDIC –** If the patient is responsive consider **LIDOCAINE 40 mg slow (or 2ml) 2%**.
   11. Connect IV using IO connector, secure and dress IO site.
   12. Begin infusion utilizing a pressure delivery system, if available.
   13. Continue to monitor IO site.

C. Special Considerations with use of the IO:
   1. Pain:
      a. Insertion of the IO in conscious patients causes mild to moderate discomfort but is usually no more painful than a large bore IV.
      b. IO infusion can cause severe discomfort for conscious patients.

APPENDIX A

PCR-13

TOURNIQUET PLACEMENT

EMR, EMT, AEMT & PARAMEDIC

A. If bleeding continues and cannot be controlled, consider placement of a tourniquet.
   1. Use any commercially available tourniquet to control bleeding.
   2. Place tourniquet proximal to site of bleeding.
   3. Tighten tourniquet until bleeding stops.
      a. Monitor patient's blood pressure and site of injury.
      b. In the event that bleeding continues tighten the tourniquet further.
   4. The tourniquet should be visible to all, and not under clothing.
      a. In the event that issues such as heat loss, hypothermia, or other issue exists place a tag, or write on patient's forehead in order to clearly identify that a tourniquet has been placed.
      b. Document time tourniquet is placed on the tourniquet itself and in your MIR.
      c. Notify receiving facility of tourniquet.
      d. DO NOT REMOVE. Tourniquets may only be removed by receiving hospital.

APPENDIX A

PCR-14

INTRANASAL MUCOSAL ATMOIZATION

EMT, AEMT, PARAMEDIC

The Intranasal Mucosal Atomization Device should be used on patients who have persistent seizure activity, suspected narcotic overdose, and sedation when IV access is unattainable or a life threatening condition exists.

A. Contraindications
   1. When IV access is obtainable.
   2. If unable to clear blood or mucus from the nostrils.
   3. Physiological abnormalities or injury.
   4. Facial Trauma

B. Procedure:
   1. Inspect nostrils for mucus, blood, or other obstructions that might inhibit absorption.
      a. Obstructions must be suctioned.
   2. Narcotic Overdose, Altered Mental Status/Unresponsive
      a. Pre-Filled Delivery Device – Place and hold the tip of the nozzle in either nostril until your fingers touch the bottom of the patient's nose. Press the plunger firmly to release the dose.
      b. **PARAMEDIC – NARCAN 4 mg**, attach atomizer to syringe. Administer one-half of the volume in each nostril, unless using an approved pre-filled delivery device.
   3. **PARAMEDIC –** For persistent seizures and sedation draw up **VERSED 10 mg**, attach atomizer to syringe. Administer one-half of the volume in each nostril.
   4. **PARAMEDIC –** Behavioral emergencies draw up **VERSED 10 mg,** attach atomizer to syringe. Administer one-half of the volume in each nostril.

Intranasal Mucosal Atomizer