



Table of Contents

Airway Section:

- AP-1. BIAD Combitube
- AP-2. BIAD King
- AP-3. BIAD LMA
- AP-4. BIAD i-Gel
- AP-5. Cricothyrotomy Surgical
- AP-6. Intubation Oral Tracheal
- AP-7. Intubation Nasal
- AP-8. Video Laryngoscopy Glide Scope
- AP-9. Drug Assisted Airway
- AP-10. Tracheostomy Tube Change
- AP-11. Endotracheal Tube Introducer
- AP-12. Intubation Confirmation CO2 Detector
- AP-13. Foreign Body Obstruction

Assessment Section:

- ASP-1. Adult
- ASP-2. Pain
- ASP-3. Pediatric
- ASP-4. Blood Glucose Analysis
- ASP-5. Capnography
- ASP-6. Pulse Oximetry
- ASP-7. Reperfusion Checklist
- ASP-8. Stroke Screen RACE
- ASP-9. Temperature Measurement
- ASP-10. Orthostatic Blood Pressure
- ASP-11. Verbal De-escalation



Table of Contents

Cardiac Section:

- CSP-1. 12-Lead ECG
- CSP-2. Cardioversion
- CSP-3. Cardiac External Pacing
- CSP-4. Cardiopulmonary Resuscitation
- CSP-5. Defibrillation Automated
- CSP-6. Defibrillation Manual
- CSP-7. Defibrillation Dual or Double

Parenteral Access Section:

- PAS-1. Arterial Blood Draw
- PAS-2. Arterial Line Maintenance
- PAS-3. Venous Blood Draw
- PAS-4. Central Line Maintenance
- PAS-5. Epidural Maintenance
- PAS-6. Intraventricular Catheter Maintenance
- PAS-7. Existing Catheters
- PAS-8. External Jugular Access
- PAS-9. Venous Extremity
- PAS-10. Femoral Line
- PAS-11. Intraosseous
- PAS-12. Swan Ganz Maintenance

Respiratory Section:

- RSP-1. Suctioning Advanced
- RSP-2. Suctioning Basic
- RSP-3. Nebulizer Inhalation Therapy
- RSP-4. NIPPV
- RSP-5. Respirator Operation
- RSP-6. Ventilator Operation



Table of Contents

Universal Section:

- USP-1. Childbirth
- USP-2. Decontamination
- USP-3. Gastric Tube Insertion
- USP-4. Injection SQ/IM
- USP-5. Restraints Physical
- USP-6. Restraints Therapeutic Take Down
- USP-7. Urinary Catheterization
- USP-8. Rhino Nasal Packing

Wound Care/Trauma Section:

- WTP-1. Chest Decompression
- WTP-2. Spinal Motion Restriction
- WTP-3. Splinting
- WTP-4. General
- WTP-5. Hemostatic Agent
- WTP-6. Taser Probe Removal
- WTP-7. Tourniquet
- WTP-8 Deleted
- WTP-9. Blood Administration



Airway: BIAD-Combitube

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications for Blind Insertion Airway Device (BIAD) Use:

- Inability to adequately ventilate a patient with a Bag Valve Mask (BVM) or longer EMS transport distances require a more advanced airway.
- Appropriate intubation is impossible due to patient access or difficult airway anatomy.
- Inability to secure an endotracheal tube in a patient who does not have a gag reflex where at least one failed intubation attempt has occurred.
- Patient must be ≥ 5 feet and ≥ 16 years of age and must be unconscious.

Procedure:

1. Preoxygenate the patient.
 2. Lubricate the tube.
 3. Grasp the patient's tongue and jaw with your gloved hand and pull forward.
 4. Gently insert the tube until the teeth are between the printed rings.
 5. Inflate line 1 (blue pilot balloon) leading to the pharyngeal cuff with 100 cc of air.
 6. Inflate line 2 (white pilot balloon) leading to the distal cuff with 15 cc of air.
 7. **Ventilate the patient through the longer blue tube.**
 - Auscultate for breath sounds and sounds over the epigastrium.
 - Look for the chest to rise and fall.
 8. **If breath sounds are positive and epigastric sounds are negative, continue ventilation through the blue tube. The tube is in the esophagus.**
 - In the esophageal mode, stomach contents can be aspirated through the #2, white tube relieving gastric distention.
 9. If breath sounds are negative and epigastric sounds are positive, attempt ventilation through the shorter, #2 white tube and reassess for lung and epigastric sounds. If breath sounds are present and the chest rises, you have intubated the trachea and continue ventilation through the shorter tube.
 10. The device is secured by the large pharyngeal balloon.
 11. **Confirm tube placement using end-tidal CO₂ detector or esophageal bulb device.**
 12. **EtCO₂ monitoring is mandatory following placement of a BIAD once available on scene**
 13. **It is strongly recommended that an Airway Evaluation Form be completed with any BIAD use.**
- **Endotracheal intubation with a Combitube in Place (Only if ventilation unsuccessful):**
 - If you cannot ventilate with the Combitube in place, you should remove the tube, open and suction the airway, and ventilate with a BVM prior to intubation or re-establishment of another BIAD.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle.



Airway: BIAD King

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications for Blind Insertion Airway Device (BIAD) Use:

- Inability to adequately ventilate a patient with a Bag Valve Mask or longer EMS transport distances require a more advanced airway.
- Appropriate intubation is impossible due to patient access or difficult airway anatomy.
- Inability to secure an endotracheal tube in a patient who does not have a gag reflex where at least one failed intubation attempt has occurred.
- Patient must be unconscious.

Procedure:

1. Preoxygenate the patient.
2. Select the appropriate tube size for the patient.
3. Lubricate the tube.
4. Grasp the patient's tongue and jaw with your gloved hand and pull forward.
5. Gently insert the tube rotated laterally 45-90 degrees so that the blue orientation line is touching the corner of the mouth. Once the tip is at the base of the tongue, rotate the tube back to midline. Insert the airway until the base of the connector is in line with the teeth and gums.
6. Inflate the pilot balloon with 45-90 ml of air depending on the size of the device used.
7. **Ventilate the patient while gently withdrawing the airway until the patient is easily ventilated.**
8. Auscultate for breath sounds and sounds over the epigastrium and look for the chest to rise and fall.
9. The large pharyngeal balloon secures the device.
10. **Confirm tube placement using end-tidal CO₂ detector.**
11. **EtCO₂ monitoring is mandatory following placement of a BIAD once available on scene**
12. **It is strongly recommended that an Airway Evaluation Form be completed with any BIAD use.**

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle.



Standards Procedure (Skill) Airway Section

Airway: BIAD-Laryngeal Mask Airway (LMA)

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications for Blind Insertion Airway Device (BIAD) Use:

- Inability to adequately ventilate a patient with a Bag Valve Mask or longer EMS transport distances require a more advanced airway.
- Inability to secure an endotracheal tube in a patient who does not have a gag reflex where at least one failed intubation attempt has occurred.
- Appropriate intubation is impossible due to patient access or difficult airway anatomy.
- **This airway does not prevent aspiration of stomach contents.**

Clinical Contraindications:

- Deforming Facial Trauma
- Pulmonary Fibrosis
- Morbid Obesity

Procedure:

1. Select the appropriate tube size for the patient.
2. Check the tube for proper inflation and deflation.
3. Completely deflate the tube prior to insertion.
4. Lubricate with a water-soluble jelly.
5. Pre-Oxygenate the patient with 100% Oxygen
6. Insert the LMA into the hypopharynx until resistance is met.
7. Inflate the cuff until a seal is obtained.
8. Connect the LMA to an ambu bag and assess for breath sounds and air entry.
9. **Confirm tube placement using end-tidal CO₂ detector or esophageal bulb device.**
10. Monitor oxygen saturation with pulse oximetry and heart rhythm with ECG
11. **EtCO₂ monitoring is mandatory following placement of a BIAD once available on scene**
12. Re-verify LMA placement after every move and upon arrival in the ED
13. Document the procedure, time, and result (success) on/with the patient care report (PCR)
14. **It is strongly recommended that an Airway Evaluation Form be completed with any BIAD use.**

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation once per certification cycle.



Standards Procedure (Skill) Airway Section

Airway: BIAD-i-Gel

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications for Blind Insertion Airway Device (BIAD) Use:

- Inability to adequately ventilate a patient with a Bag Valve Mask or longer EMS transport distances require a more advanced airway.
- Inability to secure an endotracheal tube in a patient who does not have a gag reflex.
- Appropriate intubation is impossible due to patient access or difficult airway anatomy.
- Do not leave in place for ≥ 4 hours.
- **This airway does not prevent aspiration of stomach contents.**

Clinical Contraindications:

- Deforming Facial Trauma
- Pulmonary Fibrosis
- Morbid Obesity

Procedure:

1. Pre-Oxygenate the patient with 100% Oxygen
2. Select the appropriate tube size for the patient.
3. Remove the device from the protective cradle and carefully for any signs of damage.
4. Place water-soluble jelly in the middle of the protective cradle.
5. Lubricate the back of the i-Gel on the non-inflatable cuff and ensure no lubricant is in the cuff.
5. Lubricate each side and the tip of the non-inflatable cuff.
6. Grasp along the integral bite block and face the cuff outlet toward the patient's chin.
7. Insert the i-Gel into the mouth in the direction of the hard palate.
8. Glide the device down and back along the hard palate with continuous, gentle pressure, until
9. Connect the i-Gel to an BVM and assess for breath sounds and air entry.
10. **Confirm tube placement using end-tidal CO₂ detector or esophageal bulb device.**
11. Monitor oxygen saturation with pulse oximetry and heart rhythm with ECG
12. **EtCO₂ monitoring is mandatory following placement of a BIAD once available on scene**
13. Re-verify i-Gel placement after every move and upon arrival in the ED
43. Document the procedure, time, and result (success) on/with the patient care report (PCR)
15. **It is strongly recommended that an Airway Evaluation Form be completed with any BIAD use.**

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation once per certification cycle.



Airway: Cricothyrotomy-Surgical

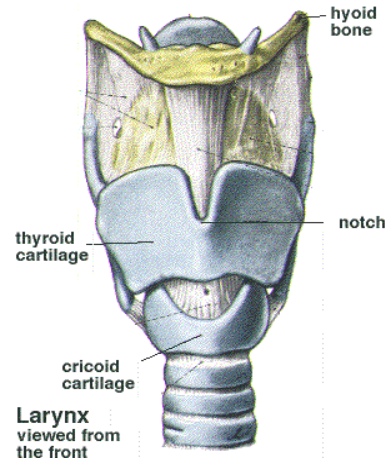
P **PARAMEDIC** P

Clinical Indications:

- Failed Airway Protocol
- Management of an airway when standard airway procedures cannot be performed or have failed in a patient ≥ 12 years old.

EQUIPMENT:

- Chlorhexidine
- #10 or #11 blade scalpel
- Bougie
- 6.0 mm endotracheal tube
- 10ml Syringe
- BVM
- Quantitative ETCO₂



PROCEDURE:

1. Position the patient supine and extend the neck as needed to improve anatomic view.
2. Prep neck with Chlorhexidine
3. Using your non-dominant hand, stabilize the larynx and locate the following landmarks: thyroid cartilage (Adam's apple) and cricoid cartilage. The cricothyroid membrane lies between these cartilages.
4. Make an approximately a 3cm vertical incision 0.5cm deep through the skin and fascia, over the cricothyroid membrane. With finger, dissect the tissue and locate the cricothyroid membrane.
5. Make approximately a 1.5cm horizontal incision through the cricothyroid membrane.
6. With your finger, bluntly dilate the opening through the cricothyroid membrane.
7. Insert the bougie curved-tip first through the incision and angled towards the patient's feet.
8. Advance the bougie into the trachea feeling for "clicks" of tracheal rings and until "hangup" when it cannot be advanced any further. This confirms tracheal position.
9. Advance a 6.0 mm endotracheal tube or trach tube (ensure all air aspirated out of cuff) over the bougie and into the trachea.
10. Remove bougie while stabilizing ETT ensuring it does not become dislodged
11. Inflate the cuff with 5 – 10ml of air.
12. Confirm appropriate proper placement by symmetrical chest-wall rise, auscultation of equal breath sounds over the chest and a lack of epigastric sounds with ventilations using bag-valve-mask, condensation in the ETT, and quantitative waveform capnography.
13. Secure the ETT.
14. Reassess tube placement frequently, especially after movement of the patient.
15. Ongoing monitoring of ETT placement and ventilation status using waveform capnography is required for all patients.

Airway: Intubation Oral Tracheal

A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Inability to adequately ventilate a patient with a Bag Valve Mask or longer EMS transport distances require a more advanced airway.
- An unconscious patient without a gag reflex who is apneic or is demonstrating inadequate respiratory effort.
- A component of Drug Assisted Intubation

Procedure:

1. Prepare, position and oxygenate the patient with 100% Oxygen.
2. Select proper ET tube (and stylette, if used), have suction ready.
3. Using laryngoscope, visualize vocal cords. (Use Sellick maneuver/BURP to assist you).
4. Limit each intubation attempt to 30 seconds with BVM between attempts.
5. Visualize tube passing through vocal cords.
- 6. Confirm and document tube placement using an end-tidal CO₂ monitoring.**
7. Inflate the cuff with 3-to10 cc of air; secure the tube to the patient's face.
8. Auscultate bilaterally for equal breath sounds and absence of sounds over the epigastrium. If you are unsure of placement, remove tube and ventilate patient with bag- valve mask.
9. Consider using a Blind Insertion Airway Device if intubation efforts are unsuccessful.
10. If Available apply end tidal carbon dioxide monitor (Capnography) and record readings on scene, en route to the hospital, and at the hospital.
11. Document ETT size, time, result (success), and placement location by the centimeter marks either at the patient's teeth or lips on/with the patient care report (PCR). Document all devices used to confirm initial tube placement. Also document positive or negative breath sounds before and after each movement of the patient.
12. Consider placing an NG or OG tube to clear stomach contents after the airway is secured with an ET tube.
- 13. Continuous End-tidal (EtCO₂) monitoring is mandatory following placement of an endotracheal tube and document at least every 5 minutes.**
- 4. It is strongly recommended that an Airway Evaluation Form be completed with all intubations**

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle.



Standards Procedure (Skill) Airway Section

Airway: Intubation Nasotracheal

A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- A spontaneously breathing patient in need of intubation (inadequate respiratory effort, evidence of hypoxia or carbon dioxide retention, or need for airway protection).
- Rigidity or clenched teeth prohibiting other airway procedures.
- Patient must be 12 years of age or older.

Procedure:

1. Premedicate the patient with nasal spray.
2. Select the largest and least obstructed nostril and insert a lubricated nasal airway to help dilate the nasal passage.
3. Preoxygenate the patient. Lubricate the tube. The use of a BAAM device is recommended.
4. Remove the nasal airway and gently insert the tube keeping the bevel of the tube toward the septum.
5. Continue to pass the tube listening for air movement and looking for to and fro vapor condensation in the tube. As the tube approaches the larynx, the air movement gets louder.
6. Gently and evenly advance the tube through the glottic opening on the inspiration. This facilitates passage of the tube and reduces the incidence of trauma to the vocal cords.
7. Upon entering the trachea, the tube may cause the patient to cough, buck, strain, or gag. Do not remove the tube! This is normal, but be prepared to control the cervical spine and the patient, and be alert for vomiting.
8. Auscultate for bilaterally equal breath sounds and absence of sounds of the epigastrium. Observe for symmetrical chest expansion. The 15mm adapter usually rests close to the nostril with proper positioning.
9. Inflate the cuff with 5-10 cc of air.
- 10. Confirm tube placement using an end-tidal CO₂ monitoring or esophageal bulb device.**
11. Secure the tube.
12. Reassess airway and breath sounds after transfer to the stretcher and during transport. These tubes are easily dislodged and require close monitoring and frequent reassessment.
13. Document the procedure, time, and result (success) on/with the patient care report (PCR).
- 14. End-tidal (EtCO₂) monitoring is mandatory following placement of an endotracheal tube.**
- 15. It is strongly recommended that an Airway Evaluation Form be completed with all intubations**

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Airway: Video Laryngoscopy Glidescope

Clinical Indications:

- Patient requires advanced airway.

A	AEMT	A
P	PARAMEDIC	P

Procedure:

1. Preoxygenate the patient and use in conjunction with procedure ASP - 6.
2. Select the appropriate ETT size and GlideRite Rigid Stylette for the patient. Ready suction.
3. Power on GlideScope and allow 30 seconds for anti-fog mechanism to warm.
4. Using GlideScope visualize the vocal cords and facilitate the intubation:

In the mouth: looking directly into the patient’s mouth and with the VL blade in left hand, introduce GlideScope VL into the midline of the oral pharynx. Look into the mouth to prevent soft tissue damage.

At the screen: With GlideScope VL inserted, look to monitor to identify the epiglottis, then manipulate the scope to obtain the best glottic view.

In the mouth: Looking directly into the patient’s mouth, not at screen, carefully guide the distal tip of the ETT into position near the tip of the GlideScope VL. Insert the ETT behind or adjacent to the VL blade.

At the screen: Look to the monitor to complete tracheal intubation. Gently rotate or angle the ETT to redirect as needed.

Avoid excessive lifting or pushing of the glottis with the VL blade.

Reducing the elevation applied to the VL blade may facilitate intubation.

Advance the ETT while simultaneously withdrawing the stylette with the thumb.

Withdraw the stylette approximately 5 cm (2 inches).

Do not insert the stylette into the larynx during intubation – this will prevent passing into the glottis.

Secure and verify the proper ETT placement.



5. Auscultate for breath sounds and sounds over the epigastrium and look for the chest to rise and fall.
6. Secure the ETT tube with tape or mechanical tube holder.
7. **Confirm tube placement using end-tidal CO₂ detector.**
8. **End-tidal (EtCO₂) monitoring is mandatory following placement of an endotracheal tube.**
12. **Complete the Airway Evaluation Form.**

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle.



North Carolina College of Emergency Physicians Standards Procedure (Skill) Airway: Drug Assisted Airway

Clinical Indications:

P **PARAMEDIC** **P**

- Need for advanced airway control in a patient who has a gag reflex or trismus (jaw clenching)
- Failure to protect the airway. Unable to ventilate and / or oxygenate. Impending airway compromise
- A minimum of 2 EMT-Paramedics on scene able to participate in patient care
- This protocol is only for use in patients with patients longer than a Length-based Resuscitation Tape except in agencies utilizing Ketamine for pediatric airway management with direct online medical control via system medical director or assistant medical director.

Clinical Contraindications:

- Refer to drug list for contraindications regarding use of Succinylcholine and Rocuronium.

Procedure:

1. Perform focused neurological exam
2. Evaluate for difficult airway (LEMON)-see appendix
3. Prepare equipment (intubation kit, BVM, suction, DAI medications, BIAD, Cricothyrotomy kit, waveform capnography, other airway adjuncts as available)
4. Pre-oxygenate patient with 100% oxygen via NRB mask or BVM. Apneic oxygenation: May continue high-flow oxygen via NC during entire procedure
5. Monitor oxygen saturation with pulse oximetry and heart rhythm with ECG
6. Ensure functioning IV / IO access. Two (2) IV sites are preferable
8. In-line c-spine stabilization by second caregiver (in setting of trauma)
9. Administer Etomidate or Ketamine by rapid IV push
10. Administer Succinylcholine or Rocuronium, await fasciculation and jaw relaxation
11. Perform external laryngeal manipulation to improve view during laryngoscopy with the right hand.
12. Intubate trachea or place BIAD if intubation unsuccessful or felt to be unsuccessful during procedure.
13. Verify ET placement through auscultation, Capnography, and Pulse Oximetry
14. May repeat Succinylcholine or Rocuronium if inadequate relaxation
15. Release cricoid pressure (if utilized) and secure tube
- 16. Continuous Capnography and Pulse Oximetry is required for DAI. Pre-intubation, minimal during intubation, and post-intubation readings must be recorded in the PCR.**
17. Re-verify tube placement after every move and upon arrival in the ED
18. Document ETT or BIAD size, time, result (success), and placement location by the centimeter marks either at the patient's teeth or lips on/with the patient care report (PCR). Document all devices/methods used to confirm initial tube placement initially and with patient movement.
19. Consider placing a gastric tube to clear stomach contents after the airway is secured.
- 20. Completion of the Airway Evaluation Form is required including a signature from the receiving physician at the Emergency Department confirming proper tube placement.**

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle.



Airway: Tracheostomy Tube Change

A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Presence of Tracheostomy site.
- Urgent or emergent indication to change the tube, such as obstruction that will not clear with suction, dislodgement, or inability to oxygenate/ventilate the patient without other obvious explanation.

Procedure:

1. Have all airway equipment prepared for standard airway management, including equipment of orotracheal intubation and failed airway.
2. Have airway device (endotracheal tube or tracheostomy tube) of the same size as the tracheostomy tube currently in place as well as 0.5 size smaller available (e.g., if the patient has a #6.0 Shilley, then have a 6.0 and a 5.5 tube).
3. Lubricate the replacement tube(s) and check the cuff.
4. Remove the tracheostomy tube from mechanical ventilation devices and use a bag-valve apparatus to pre-oxygenate the patient as much as possible.
5. Once all equipment is in place, remove devices securing the tracheostomy tube, including sutures and/or supporting bandages.
6. If applicable, deflate the cuff on the tube. If unable to aspirate air with a syringe, cut the balloon off to allow the cuff to lose pressure.
7. Remove the tracheostomy tube.
8. Insert the replacement tube. Confirm placement via standard measures except for esophageal detection (which is ineffective for surgical airways).
9. If there is any difficulty placing the tube, re-attempt procedure with the smaller tube.
10. If difficulty is still encountered, use standard airway procedures such as oral bag-valve mask or endotracheal intubation (as per protocol). **More difficulty with tube changing can be anticipated for tracheostomy sites that are immature – i.e., less than two weeks old. Great caution should be exercised in attempts to change immature tracheotomy sites.**
11. Document procedure, confirmation, patient response, and any complications in the PCR

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment for this skill should include direct observation at least once per certification cycle.



Airway: Endotracheal Tube Introducer (Bougie)

Clinical Indications:

- Patients meet clinical indications for oral intubation
- Initial intubation attempt(s) unsuccessful
- Predicted difficult intubation

A	AEMT	A
P	PARAMEDIC	P

Contraindications:

- Three attempts at orotracheal intubation (utilize failed airway protocol)
- Age less than eight (8) or ETT size less than 6.5 mm

Procedure:

1. Prepare, position and oxygenate the patient with 100% oxygen;
2. Select proper ET tube without stylet, test cuff and prepare suction;
3. Lubricate the distal end and cuff of the endotracheal tube (ETT) and the distal 1/2 of the Endotracheal Tube Introducer (Bougie) (note: Failure to lubricate the Bougie and the ETT may result in being unable to pass the ETT);
4. Using laryngoscopic techniques, visualize the vocal cords if possible using Sellick's/BURP as needed;
5. Introduce the Bougie with curved tip anteriorly and visualize the tip passing the vocal cords or above the arytenoids if the cords cannot be visualized;
6. Once inserted, gently advance the Bougie until you meet resistance or "hold-up" (if you do not meet resistance you have a probable esophageal intubation and insertion should be re-attempted or the failed airway protocol implemented as indicated);
7. Withdraw the Bougie ONLY to a depth sufficient to allow loading of the ETT while maintaining proximal control of the Bougie;
8. Gently advance the Bougie and loaded ET tube until you have hold-up again, thereby assuring tracheal placement and minimizing the risk of accidental displacement of the Bougie;
9. While maintaining a firm grasp on the proximal Bougie, introduce the ET tube over the Bougie passing the tube to its appropriate depth;
10. If you are unable to advance the ETT into the trachea and the Bougie and ETT are adequately lubricated, withdraw the ETT slightly and rotate the ETT 90 degrees COUNTER clockwise to turn the bevel of the ETT posteriorly. If this technique fails to facilitate passing of the ETT you may attempt direct laryngoscopy while advancing the ETT (this will require an assistant to maintain the position of the Bougie and, if so desired, advance the ETT);
11. Once the ETT is correctly placed, hold the ET tube securely and remove the Bougie;
12. Confirm tracheal placement according to the intubation protocol, inflate the cuff with 3 to 10 cc of air, auscultate for equal breath sounds and reposition accordingly;
13. When final position is determined secure the ET tube, reassess breath sounds, apply end tidal CO₂ monitor, and record and monitor readings to assure continued tracheal intubation.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle.



Standards Procedure (Skill) Airway Section Airway Intubation Confirmation – End-Tidal CO₂ Detector

Clinical Indications:

- The End-Tidal CO₂ detector shall be used with any Endotracheal Tube or Blind Insertion Airway Device use.

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

End-tidal (EtCO₂) monitoring is mandatory following placement of an advanced airway.

Procedure:

- Attach End-Tidal CO₂ detector to the Blind Insertion Airway Device or the Endotracheal Tube.
- Note color change. A color change or CO₂ detection will be documented on each respiratory failure or cardiac arrest patient.
- The CO₂ detector shall remain in place with the airway and monitored throughout the prehospital care and transport unless continuous Capnography is used. Any loss of CO₂ detection or color change is to be documented and monitored as procedures are done to verify or correct the airway problem.
- Tube placement should be verified frequently and always with each patient move or loss of color change in the End-Tidal CO₂ detector.
- Document the procedure and the results on/with the Patient Care Report (PCR) as well as on the Airway Evaluation Form.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Airway: Foreign Body Obstruction

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Sudden onset of respiratory distress often with coughing, wheezing, gagging, or stridor due to a foreign-body obstruction of the upper airway.

Procedure:

1. Assess the degree of foreign body obstruction
 - Do not interfere with a mild obstruction allowing the patient to clear their airway by coughing.
 - In severe foreign-body obstructions, the patient may not be able to make a sound. The victim may clutch his/her neck in the universal choking sign.
2. **For an infant**, deliver 5 back blows (slaps) followed by 5 chest thrusts repeatedly until the object is expelled or the victim becomes unresponsive.
3. **For a child**, perform a subdiaphragmatic abdominal thrust (Heimlich Maneuver) until the object is expelled or the victim becomes unresponsive.
4. **For adults**, a combination of maneuvers may be required.
 - First, subdiaphragmatic abdominal thrusts (Heimlich Maneuver) should be used in rapid sequence until the obstruction is relieved.
 - If abdominal thrusts are ineffective, chest thrusts should be used. Chest thrusts should be used primarily in morbidly obese patients and in the patients who are in the late stages of pregnancy
5. If the victim becomes unresponsive, begin CPR immediately but look in the mouth before administering any ventilations. If a foreign-body is visible, remove it.
6. **Do not perform blind finger sweeps in the mouth and posterior pharynx. This may push the object farther into the airway.**
7. In unresponsive patients, AEMT and Paramedic level professionals should visualize the posterior pharynx with a laryngoscope to potentially identify and remove the foreign-body using Magill forceps.
8. Document the methods used and result of these procedures in the patient care report (PCR).

Certification Requirements:

Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.

Airway: Post-Endotracheal Intubation Checklist

A	AEMT	A
P	EMT- P	P

Clinical Indication:

- Immediately after Endotracheal Intubation Procedure is performed.

Procedure:

1. Ensure cuff of endotracheal tube is inflated per Endotracheal Intubation procedure.
2. Monitor continuous (EtCO₂) waveform capnography to ensure that waveform is consistent with correct airway placement.
3. If no waveform capnography (ETCO₂) is observed on the monitor, **IMMEDIATELY** remove endotracheal tube from airway and provide Bag Valve Mask ventilations with appropriate oxygen source connected and flowing.
 - Escalate per protocol and as needed with airway adjuncts and BIAD. If BIAD is utilized as a rescue device, immediately confirm placement with ETCO₂ waveform capnography.
4. If cricothyrotomy procedure is being considered, follow protocol for procedure as indicated. After placement confirm that ETCO₂ waveform is present.
5. Provide the patient with Bag Valve ventilations and ensure appropriate oxygen source is flowing.
6. Listen to the lungs for equal breath sounds in the upper and lower lung fields, bilaterally; also, check for the absence of sounds over the epigastrium / center of the upper abdomen.
7. Continue appropriate ventilation by bag ventilation or confirm clinically appropriate ventilator settings on the ventilator. Re-confirm Bag Valve ventilations or that ventilator is connected to appropriate oxygen source that is flowing.
8. Secure the airway device with a commercially available product. If ETT, document placement location by the centimeter mark either at the patient's teeth or lips on the patient care report (PCR).
9. If using a mechanical ventilator follow RSP 6 Procedure: Ventilator Operation
10. Document all devices used to confirm initial tube placement. Also, document presence or absence of breath sounds before and after each movement of the patient.
11. Re-check and document vital signs immediately after intubation and at least every 5 minutes.
12. Follow post-intubation protocol for analgesia, sedation and neuro-muscular blockade as indicated.
13. It is strongly recommended that an airway evaluation form be completed with all intubations.



Airway: Post Intubation Checklist

Procedure (continued):

14. Record ETCO₂ monitor readings on scene, en-route to hospital, and at the hospital after patient is moved to a hospital stretcher.
15. Verify tube placement frequently and always with each movement of patient.
16. Consider placing an NG or OG tube to clear stomach contents after airway device is secured with ET tube or Supraglottic airway with a gastric tube port.
17. Assess for worsening abdominal distention with every delivered breath, or concern of aspiration of gastric contents.

Certification Requirements:

Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS system.



Assessment: Adult

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Any patient requesting a medical evaluation that is too large to be measured with a Length-based **2017** Resuscitation Tape.

Procedure:

- Scene size-up, including universal precautions, scene safety, environmental hazards assessment, need for additional resources, by-stander safety, and patient/caregiver interaction
- Assess need for additional resources.
- Initial assessment includes a general impression as well as the status of a patient’s airway, breathing, and circulation.
- Assess mental status (e.g., AVPU) and disability (e.g., GCS).
- Control major hemorrhage and assess overall priority of patient.
- Perform a focused history and physical based on patient’s chief complaint.
- Assess need for critical interventions.
- Complete critical interventions and perform a complete secondary exam to include a baseline set of vital signs as directed by protocol.
- Maintain an on-going assessment throughout transport; to include patient response/possible complications of interventions, need for additional interventions, and assessment of evolving patient complaints/conditions.
- Document all findings and information associated with the assessment, performed procedures, and any administration of medications on the PCR.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Assessment / Screening Section Pain Assessment and Documentation

Clinical Indications:

- Any patient with pain.

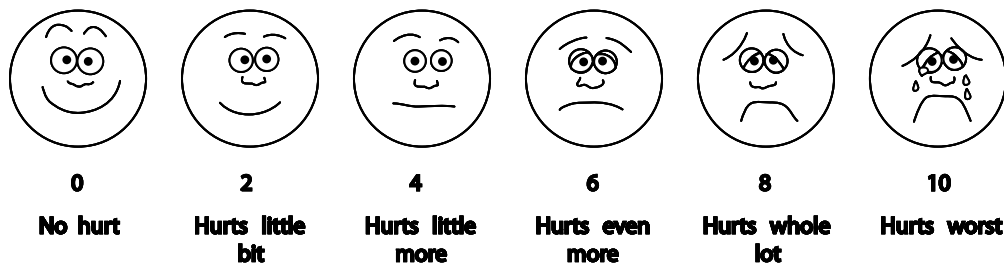
Definitions:

- Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage.
- Pain is subjective (whatever the patient says it is).

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Procedure:

- Initial and ongoing assessment of pain intensity and character is accomplished through the patient's self report.
- Pain should be assessed and documented in the PCR during initial assessment, before starting pain control treatment, and with each set of vitals.
- Pain should be assessed using the appropriate approved scale.
- Three pain scales are available: the 0 – 10, the Wong - Baker "faces", and the FLACC.
 - 0 – 10 Scale: the most familiar scale used by EMS for rating pain with patients. It is primarily for adults and is based on the patient being able to express their perception of the pain as related to numbers. Avoid coaching the patient; simply ask them to rate their pain on a scale from 0 to 10, where 0 is no pain at all and 10 is the worst pain ever.
 - Wong – Baker "FACES" scale: this scale is primarily for use with pediatrics but may also be used with geriatrics or any patient with a language barrier. The faces correspond to numeric values from 0-10. This scale can be documented with the numeric value.



From Hockenberry MJ, Wilson D, Winkelstein ML: Wong's Essentials of Pediatric Nursing, ed. 7, St. Louis, 2005, p. 1259. Used with permission. Copyright, Mosby.

- FLACC scale: this scale has been validated for measuring pain in children with mild to severe cognitive impairment and in pre-verbal children (including infants).

CATEGORIES	SCORING		
	0	1	2
FACE	No particular expression or smile	Occasional grimace or frown, withdrawn, disinterested.	Frequent to constant quivering chin, clenched jaw.
LEGS	Normal position or relaxed.	Uneasy, restless, tense.	Kicking, or legs drawn up.
ACTIVITY	Lying quietly, normal position moves easily.	Squirming, shifting back and forth, tense.	Arched, rigid or jerking.
CRY	No cry, (awake or asleep)	Moans or whimpers; occasional complaint	Crying steadily, screams or sobs, frequent complaints.
CONSOLABILITY	Content, relaxed.	Reassured by occasional touching hugging or being talked to, distractable.	Difficulty to console or comfort

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Assessment: Pediatric

Clinical Indications:

- Any child that can be measured with a Length-based Resuscitation Tape.

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Procedure:

- Scene size-up, including universal precautions, scene safety, environmental hazards assessment, need for additional resources, by-stander safety, and patient/caregiver interaction
- Assess patient using the pediatric triangle of ABCs:
 - Airway and appearance: speech/cry, muscle tone, inter-activeness, look/gaze, movement of extremities
 - Work of breathing: absent or abnormal airway sounds, use of accessory muscles, nasal flaring, body positioning
 - Circulation to skin: pallor, mottling, cyanosis
- Establish spinal immobilization if suspicion of spinal injury
- Establish responsiveness appropriate for age (AVPU, GCS, etc.)
- Color code using Broselow-Luten tape
- Assess disability (pulse, motor function, sensory function, papillary reaction)
- Perform a focused history and physical exam. Recall that pediatric patients easily experience hypothermia and thus should not be left uncovered any longer than necessary to perform an exam.
- Record vital signs (BP > 3 years of age, cap refill < 3 years of age)
- Include Immunizations, Allergies, Medications, Past Medical History, last meal, and events leading up to injury or illness where appropriate.
- Treat chief complaint as per protocol

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Blood Glucose Analysis

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Patients with suspected hypoglycemia (diabetic emergencies, change in mental status, bizarre behavior, etc.)

Procedure:

1. Gather and prepare equipment.
2. Blood samples for performing glucose analysis can be obtained through a finger-stick or when possible simultaneously with intravenous access.
3. Place correct amount of blood on reagent strip or site on glucometer per the manufacturer's instructions.
4. Time the analysis as instructed by the manufacturer.
5. Document the glucometer reading and treat the patient as indicated by the analysis and protocol.
6. Repeat glucose analysis as indicated for reassessment after treatment and as per protocol.
7. Perform Quality Assurance per manufacture recommendation.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Capnography

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Capnography shall be used when available with the use of all invasive airway procedures including endotracheal, nasotracheal, cricothyrotomy, or Blind Insertion Airway Devices (BIAD).
- Capnography should also be used when possible with CPAP.

Procedure:

1. Attach capnography sensor to the BIAD, endotracheal tube, or oxygen delivery device.
2. Note CO₂ level and waveform changes. These will be documented on each respiratory failure, cardiac arrest, or respiratory distress patient.
3. The capnometer shall remain in place with the airway and be monitored throughout the prehospital care and transport.
4. Any loss of CO₂ detection or waveform indicates an airway problem and should be documented.
5. The capnogram should be monitored as procedures are performed to verify or correct the airway problem.
6. Document the procedure and results on/with the Patient Care Report (PCR) and the Airway Evaluation Form.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Pulse Oximetry

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Patients with suspected hypoxemia.

Procedure:

1. Apply probe to patient's finger or any other digit as recommended by the device manufacturer.
2. Allow machine to register saturation level.
3. Record time and initial saturation percent on room air if possible on/with the patient care report (PCR).
4. Verify pulse rate on machine with actual pulse of the patient.
5. Monitor critical patients continuously until arrival at the hospital. If recording a one-time reading, monitor patients for a few minutes as oxygen saturation can vary.
6. Document percent of oxygen saturation every time vital signs are recorded and in response to therapy to correct hypoxemia.
7. In general, normal saturation is 97-99%. Below 94%, suspect a respiratory compromise.
8. Use the pulse oximetry as an added tool for patient evaluation. Treat the patient, not the data provided by the device.
9. The pulse oximeter reading should never be used to withhold oxygen from a patient in respiratory distress or when it is the standard of care to apply oxygen despite good pulse oximetry readings, such as chest pain. Supplemental oxygen is not required if the oxyhemoglobin saturation is $\geq 94\%$, unless there are obvious signs of heart failure, dyspneic, or hypoxic to maintain to 94%.
10. Factors which may reduce the reliability of the pulse oximetry reading include but are not limited to:
 - Poor peripheral circulation (blood volume, hypotension, hypothermia)
 - Excessive pulse oximeter sensor motion
 - Fingernail polish (may be removed with acetone pad)
 - Carbon monoxide bound to hemoglobin
 - Irregular heart rhythms (atrial fibrillation, SVT, etc.)
 - Jaundice
 - Placement of BP cuff on same extremity as pulse ox probe.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Reperfusion Checklist

Clinical Indications:

Rapid evaluation of a patient with suspected acute stroke and/or acute myocardial infarction (STEMI) to:

- Determine eligibility and potential benefit from fibrinolysis..
- Rapid identification of patients who are not eligible for fibrinolysis and will require interventional therapy.

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Procedure:

1. Follow the appropriate protocol for the patient’s complaint to assess and identify an acute condition which could potentially benefit from fibrinolysis. If a positive finding is noted on one of the following assessments, proceed to step 2.
 - Perform a 12-lead ECG to identify an acute ST elevation myocardial infarction (STEMI).
 - Perform the Los Angeles Pre-hospital Stroke Screen to identify an acute stroke
2. Complete the Reperfusion Check Sheet to identify any potential contraindications to fibrinolysis. (See Appendix)
 - Systolic Blood Pressure greater than 180 mm Hg
 - Diastolic Blood Pressure greater than 110 mm Hg
 - Right vs. Left Arm Systolic Blood Pressure difference of greater than 15 mm Hg
 - History of structural Central Nervous System disease (age >= 18, history of aneurysm or AV-malformation, tumors, masses, hemorrhage, etc.)
 - Significant closed head or facial trauma within the previous 3 months
 - Recent (within 6 weeks) major trauma, surgery (including laser eye surgery), gastrointestinal bleeding, or severe genital-urinary bleeding
 - Bleeding or clotting problem or on blood thinners
 - CPR performed greater than 10 minutes
 - Currently Pregnant
 - Serious Systemic Disease such as advanced/terminal cancer or severe liver or kidney failure.
3. Identify if the patient is currently in heart failure or cardiogenic shock. For these patients, a percutaneous coronary intervention is more effective.
 - Presence of pulmonary edema (rales greater than halfway up lung fields)
 - Systemic hypoperfusion (cool and clammy)
4. If any contraindication is noted using the check list and an acute Stroke is suspected by exam or a STEMI is confirmed by ECG, activate the EMS Stroke Plan or EMS STEMI Plan for fibrinolytic ineligible patients. This may require the EMS Agency, an Air Medical Service, or a Specialty Care Transport Service to transport directly to an specialty center capable of interventional care within the therapeutic window of time.
5. Record all findings in the Patient Care Report (PCR).

Certification Requirements:

Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.

Stroke Screen: RACE Scale

Clinical Indications:

- Suspected Stroke Patient

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Procedure:

1. Assess and treat suspected stroke patients as per protocol
Refer to UP 14 Suspected Stroke.
Assess patient's blood glucose level (Must be 60 – 400 mg / dL)
2. Evaluate patient following the 6 assessments listed in RACE Scale below.

Facial Palsy – Ask the patient to show teeth, or to smile

- 0 Absent facial palsy (facial movement symmetrical)
- 1 Mild facial palsy (facial movement slightly asymmetrical)
- 2 Moderate / severe facial palsy (facial movement completely asymmetrical)

Arm motor Function – Patient extends arms to 90 degrees if sitting or 45 degrees if supine.

- 0 Normal/mild arm motor dysfunction (upholds both arms 10 or more seconds)
- 1 Moderate arm motor dysfunction (Upholds either arm < 10 seconds)
- 2 Severe arm dysfunction (Unable to raise either arm against gravity)

Leg Motor Function – Patient separately raises legs 30 degrees from the supine position

- 0 Normal / mild leg motor dysfunction (Upholds each leg 5 or more seconds)
- 1 Moderate leg motor dysfunction (Upholds either leg < 5 seconds)
- 2 Severe leg motor dysfunction (Unable to raise either leg against gravity)

Head and Gaze Deviation – Ask the patient to look to the left, then to the right.

- 0 Absent: head & gaze deviation absent (eye movement to both sides w/o head deviation)
- 1 Present: head & gaze deviation present (Patient's eyes or head deviate to one side)

Aphasia OR Agnosia (Only do one assessment, not both)

If **right hemiparesis or without motor impairment**: first ask the patient to close their eyes; second ask them to make a fist with left hand.

- 0 Absent aphasia (performs both tasks correctly)
- 1 Moderate aphasia (performs one of two tasks correctly)
- 2 Severe aphasia (Unable to perform either task correctly)

OR

If **left hemiparesis**: First show the patient his or her left arm and ask, “whose arm is this?,” Second, ask the patient, “Can you move your arms and clap your hands?”

- 0 Absent agnosia (recognizes arm and attempts to move weakened arm)
- 1 Moderate agnosia (does not recognize arm **OR** is unaware of arm weakness)
- 2 Severe agnosia (does not recognize arm **AND** is unaware of arm weakness)

3. If RACE Scale is 1 or greater, stroke is suspected. If RACE Scale is 4 or greater, Large Vessel Occlusion (LVO) is suspected. Transport based on Stroke EMS and Triage Destination Plan.

4. All sections of the RACE Stroke Assessment Form on ePCR should be completed.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Temperature Measurement

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Monitoring body temperature in a patient with suspected infection, hypothermia, hyperthermia, or to assist in evaluating resuscitation efforts.

Procedure:

- For adult patients that are conscious, cooperative, and in no respiratory distress, an oral temperature is preferred (steps 2 to 4 below). For infants or adults that do not meet the criteria above, a rectal temperature is preferred (steps 6 to 8 below).
- To obtain an oral temperature, ensure the patient has no significant oral trauma and place the thermometer under the patient’s tongue with appropriate sterile covering.
- Have the patient seal their mouth closed around thermometer.
- If using an electric thermometer, leave the device in place until there is indication an accurate temperature has been recorded (per the “beep” or other indicator specific to the device). If using a traditional thermometer, leave it in place until there is no change in the reading for at least 30 seconds (usually 2 to 3 minutes). Proceed to step 8.
- Prior to obtaining a rectal temperature, assess whether the patient has suffered any rectal trauma by history and/or brief examination as appropriate for patient’s complaint.
- To obtain a rectal temperature, cover the thermometer with an appropriate sterile cover, apply lubricant, and insert into rectum no more than 1 to 2 cm beyond the external anal sphincter.
- Follow guidelines in step 5 above to obtain temperature.
- Record time, temperature, method (oral, rectal), and scale (C° or F°) in Patient Care Report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Assessment / Screening Section

Orthostatic Blood Pressure Measurement

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Patient situations with suspected blood, fluid loss, or dehydration with no indication for spinal immobilization. Orthostatic vital signs are not routinely recommended.
- Patients \geq 8 years of age, or patients larger than the Broselow-Luten tape
- Orthostatic Vital Signs are not sensitive nor specific for volume loss / dehydration and may induce syncope in some cases. Assessment of orthostatic vital signs are not routinely recommended. Local Medical Director should indicate and educate on situations where they may be helpful.

Procedure:

1. Gather and prepare standard sphygmomanometer and stethoscope.
2. With the patient supine, obtain pulse and blood pressure.
3. Have the patient sit upright.
4. After 30 seconds, obtain blood pressure and pulse.
5. If the systolic blood pressure falls more than 30 mmHg or the pulse rises more than 20 bpm, the patient is considered to be orthostatic.
6. If a patient experiences dizziness upon sitting or is obviously dehydrated based on history or physical exam, formal orthostatic examination should be omitted and fluid resuscitation initiated.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Verbal De-escalation

Agency Name:		SATISFACTORY <input type="checkbox"/>
Provider Name:	Paramedic	
Instructor Name:	EMT AEMT Paramedic Physician	UNSATISFACTORY <input type="checkbox"/>

Instructor:		EMR	
1. Evaluate providers skill performance using the check off list below.			
2. Circle performance indicator:		B	B
YES = Provider completed skill with no assistance from instructor.		A	A
NO = Provider unable to complete skill satisfactorily following instructor intervention.			
IL = Provider able to complete skill satisfactorily following Instructor Led (teaching) intervention.		P	P
Satisfactory performance indicated with ≥ 8 YES / IL completions. (Combination of both YES and IL)			

YES	NO	IL	Verbalizes indications for Verbal de-escalation techniques: 1. Behavioral Health Crisis 2. Behavior Activity Rating Score ≥ 5
-----	----	----	--

YES	NO	IL	Verbalizes contraindications: None
-----	----	----	------------------------------------

YES	NO	IL	Demonstrates respect of patient's personal space <ul style="list-style-type: none"> Maintain about 6 feet of distance and do not position yourself between the patient and only exit Both you and patient should be able to exit the room without feeling blocked-in
-----	----	----	---

YES	NO	IL	Does not provoke patient during interaction <ul style="list-style-type: none"> Your body language must convey that you want to listen and that you do not want to inflict harm <ul style="list-style-type: none"> Your hands should be visible and open Do not face the patient head-on. Always stand at an angle Avoid prolonged staring or direct eye contact Make sure others are not provoking the patient (providers, family members, bystanders, providers, police officers)
-----	----	----	---

YES	NO	IL	Establishes rapport, initiates and maintains verbal contact <ul style="list-style-type: none"> One person should make and maintain verbal contact, introduce yourself and explain your role <ul style="list-style-type: none"> Multiple providers talking to the patient will create confusion and may escalate patient's behavior Emphasize you are there to keep the patient safe Ask the patient their name and how they want to be addressed
-----	----	----	--

YES	NO	IL	Use concise statements when talking <ul style="list-style-type: none"> Agitation creates problems in a patient's ability to process information Keep your conversation simple and short in nature allowing time for patient to process information Repeat your statements, requests, or commands to ensure understanding <ul style="list-style-type: none"> This is called a loop, you may need to repeat 2 – 12 times before patient understands
-----	----	----	---

YES	NO	IL	Identify wants, feelings, and stress causing the crisis <ul style="list-style-type: none"> "When you called 911, how did you think we could help you?" "I would like to know what caused you to become upset today so we can help you" Identifying a need can help to quickly de-escalate the situation
-----	----	----	---

YES	NO	IL	Listen closely to patient <ul style="list-style-type: none"> You should be able to repeat back what is said by the patient <ul style="list-style-type: none"> "Tell me if I have all this right" "Let me make sure I understand what you said"
-----	----	----	---

YES	NO	IL	Agree or agree to disagree <ul style="list-style-type: none"> If statements are truthful, then agree with the truth Agree in principle, maybe patient's statement is not true, but you can agree, that in general, the idea is true Agree with the odds, anyone may be upset by the same circumstances Do not agree with delusions, at that point you can agree to disagree
-----	----	----	--

YES	NO	IL	Set clear limits on acceptable behavior <ul style="list-style-type: none"> Set limits in a positive, matter-of-fact manner, and not in a threatening manner Inform the patient that harm to self or other providers will not be tolerated If the patient's behavior is frightening to providers, tell the patient so Remind the patient you are there to help, keep them safe, but the providers cannot be abused in the process
-----	----	----	---

YES	NO	IL	Offer choices to patient (if available) and remain positive in your interactions <ul style="list-style-type: none"> Offer choices that are realistic and that may provide comfort such as drinks, food, blankets, etc. If medication is needed, offer choice between PO and IM/IV, offer medication early in encounter
-----	----	----	---

YES	NO	IL	Debrief provider team following the incident (if restraints necessary, debrief patient as well) What went well? What could have gone better? What did we learn? Who needs to know?
-----	----	----	--

Instructor notes:



Verbal De-escalation

Clinical Information for Verbal De-escalation

Objective of Procedure:

- Verbal engagement with patient and establishing collaborative relationship with patient
- Preventing violent behavior
- Avoiding use of restraints
- Reducing patient anger and frustration
- Maintaining staff and patient safety
- Enabling patients to manage their emotions and regain personal control

Scope of Practice: EMR EMT AEMT Paramedic

Indications:

1. Behavioral Health Crisis
2. Behavior Activity Rating Score ≥ 5

Contraindications:

None

Clinical Presentation:

Patient experiencing a behavioral crisis defined as:

- Significantly deviates from society's expectations and commonly held normal behavior
 - Behavior that is unusual for patient's baseline
 - Bizarre
 - Threatening
 - Dangerous to self and/or others
 - Alarming to patient, family, or bystanders
 - Interferes with the patients ability to perform basic life functions and activities of daily living
- Behavior Activity Rating Score ≥ 5

Potential Complications:

- Injury to patient, provider, or bystander
- Need to move to restraint procedure
- Exacerbation of agitated condition

Procedure references:

1. Palmer J. (2019). Joint Commission Issues De-escalation Guidebook for Healthcare Facilities and Workers. Patient Safety and Quality Healthcare (PSQH). <https://www.psqh.com/analysis/joint-commission-issues-de-escalation-guidebook-for-healthcare-facilities-and-workers/>
2. Richmond JS, Berlin JS, Fishkind AV, et al. (2012). Verbal De-escalation of the Agitated Patient: Consensus Statement of the American Association for Emergency Psychiatry Project BETA De-escalation Workgroup. West J Emerg Med 13(1):17-25. doi: 10.5811/westjem.2011.9.6864



Cardiac: 12 Lead ECG

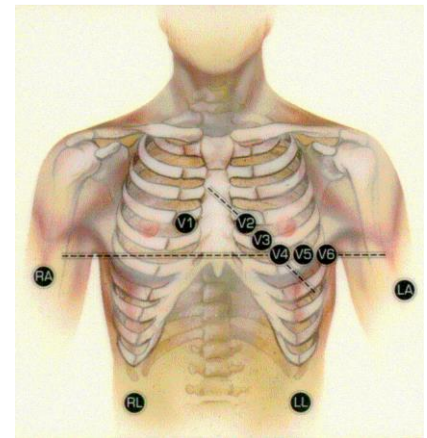
Clinical Indications:

- Suspected cardiac patient
- Suspected tricyclic overdose
- Electrical injuries
- Syncope

B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Procedure:

1. Assess patient and monitor cardiac status.
2. Administer oxygen as patient condition warrants.
3. If patient is unstable, definitive treatment is the priority. If patient is stable or stabilized after treatment, perform a 12 Lead ECG.
4. Prepare ECG monitor and connect patient cable with electrodes.
5. Enter the required patient information (patient name, etc.) into the 12 lead ECG device.
6. Expose chest and prep as necessary. Modesty of the patient should be respected.
7. Apply chest leads and extremity leads using the following landmarks:
 - RA -Right arm
 - LA -Left arm
 - RL -Right leg
 - LL -Left leg
 - V1 -4th intercostal space at right sternal border
 - V2 -4th intercostal space at left sternal border
 - V3 -Directly between V2 and V4
 - V4 -5th intercostal space at midclavicular line
 - V5 -Level with V4 at left anterior axillary line
 - V6 -Level with V5 at left midaxillary line
8. Instruct patient to remain still.
9. Press the appropriate button to acquire the 12 Lead ECG.
10. If the monitor detects signal noise (such as patient motion or a disconnected electrode), the 12 Lead acquisition will be interrupted until the noise is removed.
11. Once acquired, transmit the ECG data by fax to the appropriate hospital.
12. Contact the receiving hospital to notify them that a 12 Lead ECG has been sent.
13. Monitor the patient while continuing with the treatment protocol.
14. Download data as per guidelines and attach a copy of the 12 lead to the PCR.
15. Document the procedure, time, and results on/with the patient care report (PCR)



Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Cardiac: Cardioversion

P PARAMEDIC P

Clinical Indications:

- Unstable patient with a tachydysrhythmia (rapid atrial fibrillation, supraventricular tachycardia, ventricular tachycardia)
- Patient is not pulseless (the pulseless patient requires unsynchronized cardioversion, i.e., defibrillation)

Procedure:

1. Ensure the patient is attached properly to a monitor/defibrillator capable of synchronized cardioversion.
2. Have all equipment prepared for unsynchronized cardioversion/defibrillation if the patient fails synchronized cardioversion and the condition worsens.
3. Consider the use of pain or sedating medications.
4. Set energy selection to the appropriate setting.
5. Set monitor/defibrillator to synchronized cardioversion mode.
6. Make certain all personnel are clear of patient.
7. Press and hold the shock button to cardiovert. Stay clear of the patient until you are certain the energy has been delivered. NOTE: It may take the monitor/defibrillator several cardiac cycles to “synchronize”, so there may a delay between activating the cardioversion and the actual delivery of energy.
8. Note patient response and perform immediate unsynchronized cardioversion/defibrillation if the patient’s rhythm has deteriorated into pulseless ventricular tachycardia/ventricular fibrillation, following the procedure for Defibrillation-Manual.
9. If the patient’s condition is unchanged, repeat steps 2 to 8 above, using escalating energy settings.
10. Repeat until maximum setting or until efforts succeed. Consider discussion with medical control if cardioversion is unsuccessful after 2 attempts.
11. Note procedure, response, and time in the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle., or other mechanisms as deemed appropriate by the local EMS System.



Cardiac: External Pacing

P PARAMEDIC **P**

Clinical Indications:

- Patients with symptomatic bradycardia (less than 60 per minute) with signs and symptoms of inadequate cerebral or cardiac perfusion such as:
 - Chest Pain
 - Hypotension
 - Pulmonary Edema
 - Altered Mental Status, Confusion, etc.
 - Ventricular Ectopy
- Asystole, pacing must be done early to be effective.
- PEA, where the underlying rhythm is bradycardic and reversible causes have been treated.

Procedure:

1. Attach standard four-lead monitor.
2. Apply defibrillation/pacing pads to chest and back:
 - One pad to left mid chest next to sternum
 - One pad to mid left posterior chest next to spine.
3. Rotate selector switch to pacing option.
4. Adjust heart rate to 70 BPM for an adult and 100 BPM for a child.
5. Note pacer spikes on EKG screen.
6. Slowly increase output until capture of electrical rhythm on the monitor.
7. If unable to capture while at maximum current output, stop pacing immediately.
8. If capture observed on monitor, check for corresponding pulse and assess vital signs.
9. Consider the use of sedation or analgesia if patient is uncomfortable.
10. Document the dysrhythmia and the response to external pacing with ECG strips in the PCR.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle.



Standards Procedure (Skill) Cardiac Section

Cardiac: Cardiopulmonary Resuscitation (CPR)

Clinical Indications:

- Basic life support for the patient in cardiac arrest

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Procedure:

1. Assess the patient's level of responsiveness.
2. If no response, open the patient's airway with the head-tilt, chin-lift and look, listen, and feel for respiratory effort. If the patient may have sustained C-spine trauma, use the modified jaw thrust while maintaining immobilization of the C-spine. For infants, positioning the head in the sniffing position is the most effective method for opening the airway.
3. Check for pulse (carotid for adults and older children, brachial for infants) for at least 10 seconds. If no pulse, begin chest compressions based on chart below:

Age	Location	Depth	Rate
Infant	Over sternum, between nipples (inter-mammary line), 2-3 fingers	At least 1/3 AP diameter of chest About 1.5 inches 4 cm	Continuous compressions at least 100 – 120/minute
Child	Over sternum, just cephalad from xyphoid process, heel of one hand	At least 1/3 AP diameter of chest About 2 inches 5 cm	Continuous compressions at least 100 – 120/minute
Adult	Over sternum, just cephalad from xyphoid process, hands with interlocked fingers	At least 2 inches 5 cm	Continuous compressions at least 100 – 120/minute

4. If patient is an adult, go to step 5. If no respiratory effort in a pediatric patient, give two ventilations. If air moves successfully, go to step 5. If air movement fails, proceed to the Airway Obstruction Procedure.
5. Go to Cardiac Arrest Procedure. Begin ventilations in the adult as directed in the Cardiac Arrest Procedure
6. Provide 1 breath every 6 seconds with the BVM or BIAD. Use EtCO₂ to guide your ventilations as directed in the Cardiac Arrest Protocol.
7. Chest compressions should be provided in an uninterrupted manner. Only brief interruptions (< 5 seconds with a maximum of 10 seconds) are allowed for rhythm analysis, defibrillation, and performance of procedures
8. Document the time and procedure in the Patient Care Report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Cardiac: Defibrillation-Automated

Clinical Indications:

- Patients in cardiac arrest (pulseless, non-breathing).
- Age < 8 years, use Pediatric Pads if available.

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Contraindication:

- Pediatric patients who are so small that the pads cannot be placed without touching one another.

Procedure:

1. **If multiple rescuers available, one rescuer should provide uninterrupted chest compressions while the AED is being prepared for use.**
2. Apply defibrillator pads per manufacturer recommendations. Based on 2010 guidelines, place pads preferably in AP or AL position when implanted devices (pacemakers, AICDs) occupy preferred pad positions and attempt to avoid placing directly over device.
3. Remove any medication patches on the chest and wipe off any residue.
4. If necessary, connect defibrillator leads: white to the anterior chest pad and the red to the posterior pad.
5. Activate AED for analysis of rhythm.
6. **Stop CPR and clear the patient** for rhythm analysis. Keep interruption in CPR as brief as possible.
7. Defibrillate if appropriate by depressing the “shock” button. **Assertively state “CLEAR” and visualize that no one, including yourself, is in contact with the patient prior to defibrillation.** The sequence of defibrillation charges is preprogrammed for monophasic defibrillators. Biphasic defibrillators will determine the correct joules accordingly.
8. Begin CPR (chest compressions and ventilations) immediately after the delivery of the defibrillation.
9. After 2 minutes of CPR, analyze rhythm and defibrillate if indicated. Repeat this step every 2 minutes.
10. If “no shock advised” appears, perform CPR for two minutes and then reanalyze.
11. Transport and continue treatment as indicated.
12. **Keep interruption of CPR compressions as brief as possible. Adequate CPR is a key to successful resuscitation.**
13. **If pulse returns please use the Post Resuscitation Protocol**

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle.



Standards Procedure (Skill) Cardiac Section

Cardiac: Defibrillation-Manual

P PARAMEDIC P

Clinical Indications:

- Cardiac arrest with ventricular fibrillation or pulseless ventricular tachycardia

Procedure:

1. **Ensure that Chest Compressions are adequate and interrupted only when absolutely necessary.**
2. Clinically confirm the diagnosis of cardiac arrest and identify the need for defibrillation.
3. After application of an appropriate conductive agent if needed, apply defibrillation hands free pads (recommended to allow more continuous CPR) or paddles to the patient's chest in the proper position
 - Paddles: right of sternum at 2nd ICS and anterior axillary line at 5th ICS
 - Pads: anterior-posterior position

For patients with implanted pacers/defibrillators, paddles or pads can be in AP or AL positions. The presence of implanted pacers/defibrillators should not delay defibrillation. Attempt to avoid placing paddles or pads directly above device.

4. Set the appropriate energy level
5. Charge the defibrillator to the selected energy level. **Continue chest compressions while the defibrillator is charging.**
6. If using paddles, assure proper contact by applying 25 pounds of pressure on each paddle.
7. **Hold Compressions, assertively state, "CLEAR" and visualize that no one, including yourself, is in contact with the patient.**
8. Deliver the countershock by depressing the discharge button(s) when using paddles, or depress the **shock button** for hands free operation.
9. Immediately resume chest compressions and ventilations for 2 minutes. After 2 minutes of CPR, analyze rhythm and check for pulse only if appropriate for rhythm.
10. Repeat the procedure every two minutes as indicated by patient response and ECG rhythm.
11. Keep interruption of CPR compressions as brief as possible. Adequate CPR is a key to successful resuscitation.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle.



Cardiac: Defibrillation-Dual or Double

P PARAMEDIC P

Clinical Indications:

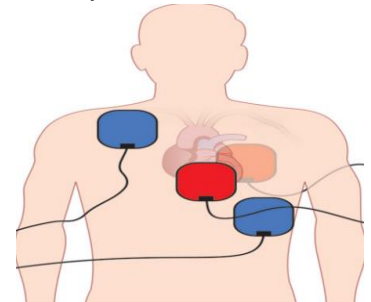
- Cardiac arrest with persistent ventricular fibrillation or pulseless ventricular tachycardia.
- Refractory ventricular fibrillation or pulseless ventricular tachycardia where ≥ 3 shocks delivered.

Procedure:

1. Ensure that Chest Compressions are adequate and interrupted only when absolutely necessary.

2. Clinically confirm the diagnosis of cardiac arrest and identify the need for defibrillation.
3. Prepare sites for second pad set attachment and apply defibrillation hands free pads:

- Pads: First defibrillator pads in anterior-posterior position
- Pads: Second defibrillator pads in anterior-lateral position:
- Ensure pads are not in contact with one another.



For patients with implanted pacers/defibrillators:
Avoid placing paddles or pads directly above device.

4. Set the appropriate energy level and assure controls for both defibrillator / monitors are accessible to provider performing defibrillation.
5. At next pulse / rhythm check, if refractory or persistent VF/VT continues:
Charge the defibrillator to the selected energy level.
Continue chest compressions while the defibrillator is charging.
6. Optional: Agencies may provide a single shock at this point with the second defibrillator / monitor to provide a change in energy vector delivered to the heart then move to step 7 if VF / VT persists.
- 7. When both monitor / defibrillators have reached selected energy setting:**
Hold Compressions, assertively state, "CLEAR" and visualize that no one, including yourself, is in contact with the patient.
2 options at this point:
Option 1 (double simultaneous): Provider depresses both defibrillator shock buttons simultaneously.
Option 2 (dual sequential): Provider depresses monitor 1 shock button and then immediately following, depresses monitor 2 shock button.
8. Immediately resume chest compressions and ventilations for 2 minutes. After 2 minutes of CPR, analyze rhythm and check for pulse only if appropriate for rhythm.
9. Repeat the procedure every two minutes as indicated by patient response and ECG rhythm.
10. Keep interruption of CPR compressions as brief as possible. Adequate CPR is a key to successful resuscitation.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle.



Parenteral Access: Arterial Blood Draw

Clinical Indications:

P PARAMEDIC P

- Arterial blood gas (ABG) analysis
- Other needs for arterial blood as indicated by medical control

Procedure:

1. Assemble ABG kit, ice, alcohol wipes, and gloves.
2. Determine if there is any history of trauma or any other difficulties with circulation to either hand. If a problem does exist, do not use that extremity for the blood draw.
3. Palpate the radial pulse just proximal to the wrist.
4. Clean the skin with an alcohol wipe.
5. Insert the ABG syringe at a 45 to 60 degree angle over the area of the pulse.
6. Slowly advance the syringe, watching for return of arterial blood. You do not need to aspirate but rather allow the syringe to fill from the arterial pressure.
7. Once the sample has been acquired, remove and discard the needle in an approved fashion.
8. Place the small airtight cap over the needle port on the syringe. Remove air from the sample by inverting the syringe and pressing the plunger on the syringe until a small amount of the sample enters the airtight cap.
9. Place the sample on ice as soon as possible
10. Hold pressure over the blood draw sight for at least 5 minutes before checking to ensure hemostasis.
11. Record procedure, time, and any complications in patient care report (PCR)

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Parenteral Access Section

Parenteral Access: Arterial Line Maintenance

Clinical Indications:

P PARAMEDIC P

- Transport of a patient with an existing arterial line.

Procedure:

1. Make certain arterial line is secured prior to transport, including intersection of arterial catheter and IV/Monitoring lines.
2. Use available equipment for monitoring of arterial pressures via arterial line.
3. Do not use the arterial line for administration of any fluids or medications.
4. If there is any question regarding dislodgement of the arterial line and bleeding results, remove the line and apply direct pressure over the site for at least five minutes before checking to ensure hemostasis.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Parenteral Access: Venous Blood Draw

Clinical Indications:

- Collection of a patient’s blood for laboratory analysis

A	AEMT	A
P	PARAMEDIC	P

Procedure:

1. Utilize universal precautions as per OSHA.
2. Select vein and prep as usual.
3. Select appropriate blood-drawing devices.
4. Draw appropriate tubes of blood for lab testing.
5. Assure that the blood samples are labeled with the correct information (a minimum of the patients name, along with the date and time the sample was collected).
6. Deliver the blood tubes to the appropriate individual at the hospital.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Parenteral Access Section

Parenteral Access: Central Line Maintenance

Clinical Indications:

P PARAMEDIC **P**

- Transport of a patient with a central venous pressure line already in place

Procedure:

1. Prior to transportation, ensure the line is secure.
2. Medications and IV fluids may be administered through a central venous pressure line. Such infusions must be held while the central venous pressure is transduced to obtain a central venous pressure, but may be restarted afterwards.
3. Do not manipulate the central venous catheter.
4. If the central venous catheter becomes dysfunctional, does not allow drug administration, or becomes dislodged, contact medical control.
5. Document the time of any pressure measurements, the pressure obtained, and any medication administration in the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Parenteral Access Section

Parenteral Access: Epidural Catheter Maintenance

Clinical Indications:

P **PARAMEDIC** **P**

- Presence of an epidural catheter in a patient requiring transport

Procedure:

1. Prior to transport, ensure catheter is secure and that transport personnel are familiar with medication(s) being delivered and devices used to control medication administration.
2. No adjustments in catheter position are to be attempted.
3. No adjustments in medication dosage or administration are to be attempted without direct approval from on-line medical control.
4. Report any complications immediately to on-line medical control.
5. Document the time and dose of any medication administration or rate adjustment in the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Parenteral Access Section

Parenteral Access: Ventricular Catheter Maintenance

P **PARAMEDIC** **P**

Clinical Indications:

- Transport of a patient with an intra-ventricular catheter in place

Procedure:

1. Prior to transport, ensure the catheter is secure.
2. Prior to transport, determine from the referring hospital/physician the desired patient position (e.g., supine, head of bed elevated 30 degrees, etc.).
3. Prior to transport, determine the height at which the drain is to be maintained, given the patient position desired from #2 above (if applicable).
4. Do not manipulate or move the drain.
5. If the patient or height of the drain is altered, immediately correct based on the pre-determined configuration in step 2 and 3 above.
6. Report any problems immediately to on-line medical control.
7. Document the time and any adjustments or problems in the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Parenteral Access Section

Parenteral Access: Existing Catheters

Clinical Indications:

P **PARAMEDIC** **P**

- Inability to obtain adequate peripheral access.
- Access of an existing venous catheter for medication or fluid administration.
- Central venous access in a patient in cardiac arrest.

Procedure:

1. Clean the port of the catheter with alcohol wipe.
2. Using sterile technique, withdraw 5-10 ml of blood and discard syringe in sharps container.
3. Using 5cc of normal saline, access the port with sterile technique and gently attempt to flush the saline.
4. If there is no resistance, no evidence of infiltration (e.g., no subcutaneous collection of fluid), and no pain experienced by the patient, then proceed to step 5. If there is resistance, evidence of infiltration, pain experienced by the patient, or any concern that the catheter may be clotted or dislodged, do not use the catheter.
5. Begin administration of medications or IV fluids slowly and observe for any signs of infiltration. If difficulties are encountered, stop the infusion and reassess.
6. Record procedure, any complications, and fluids/medications administered in the Patient Care Report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Parenteral Access Section

Parenteral Access: External Jugular Access

A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- External jugular vein cannulation is indicated in a critically ill patient ≥ 8 years of age who requires intravenous access for fluid or medication administration and in whom an extremity vein is not obtainable.
- External jugular cannulation can be attempted initially in life threatening events where no obvious peripheral site is noted.

Procedure:

1. Place the patient in a supine head down position. This helps distend the vein and prevents air embolism.
2. Turn the patient's head toward the opposite side if no risk of cervical injury exists.
3. Prep the site as per peripheral IV site.
4. Align the catheter with the vein and aim toward the same side shoulder.
5. "Tourniqueting" the vein lightly with one finger above the clavicle, puncture the vein midway between the angle of the jaw and the clavicle and cannulate the vein in the usual method.
6. Attach the IV and secure the catheter avoiding circumferential dressing or taping.
7. Document the procedure, time, and result (success) on/with the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Parenteral Access: Venous-Extremity

Clinical Indications:

- Any patient where intravenous access is indicated (significant trauma, emergent or potentially emergent medical condition).

A	AEMT	A
P	PARAMEDIC	P

Procedure:

- Saline locks may be used as an alternative to an IV tubing and IV fluid in every protocol at the discretion of the ALS professional.
- Paramedic/AEMT can use intraosseous access where threat to life exists as provided for in the Venous Access-Intraosseous procedure.
- Use the largest catheter bore necessary based upon the patient's condition and size of veins.
- Fluid and setup choice is preferably:
 - Lactated Ringers with a macro drip (10 gtt/cc) for burns
 - Normal Saline with a macro drip (10 gtt/cc) for medical conditions, trauma or hypotension
 - Normal Saline with a micro drip (60 gtt/cc) for medication infusions
- Inspect the IV solution for expiration date, cloudiness, discoloration, leaks, or the presence of particles.
- Connect IV tubing to the solution in a sterile manner. Fill the drip chamber half full and then flush the tubing bleeding all air bubbles from the line.
- Place a tourniquet around the patient's extremity to restrict venous flow only.
- Select a vein and an appropriate gauge catheter for the vein and the patient's condition.
- Prep the skin with an antiseptic solution.
- Insert the needle with the bevel up into the skin in a steady, deliberate motion until the bloody flashback is visualized in the catheter.
- Advance the catheter into the vein. **Never** reinsert the needle through the catheter. Dispose of the needle into the proper container without recapping.
- Draw blood samples when appropriate.
- Remove the tourniquet and connect the IV tubing or saline lock.
- Open the IV to assure free flow of the fluid and then adjust the flow rate as per protocol or as clinically indicated.

Rates are preferably:

- Adult: KVO: 60 cc/hr (1 gtt/ 6 sec for a macro drip set)
- Pediatric: KVO: 30 cc/hr (1 gtt/ 12 sec for a macro drip set)

If shock is present:

- Adult: 500 cc fluid boluses repeated as long as lungs are dry and BP < 90. Consider a second IV line.
- Pediatric: 20 cc/kg boluses repeated PRN for poor perfusion.

- Cover the site with a sterile dressing and secure the IV and tubing.
- Label the IV with date and time, catheter gauge, and name/ID of the person starting the IV.
- Document the procedure, time and result (success) on/with the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Parenteral Access Section

Parenteral Access: Femoral Line – Page 1 of 2

P **PARAMEDIC** **P**

Clinical Indications:

- Central venous access in a patient with an urgent need for fluid or medication administration.
- Inability to obtain adequate peripheral access.
- Patient aged greater than 16 years.
- No evidence of pelvic trauma.
- No evidence of trauma in the extremity in which the catheter is to be placed.

Procedure:

1. Obtain central access kit with 6.0 to 8.0 French cordis and equipment to place catheter by Selinger technique.
2. Completely expose the groin area on the side where the catheter is to be placed.
3. Palpate the femoral pulse in the inguinal crease. Recall that the inguinal ligament connects the pubic symphysis with the anterior, superior iliac spine and that all attempts at access should be made inferior to this ligament to avoid inadvertent entry into the abdominal cavity.
4. Once the femoral pulse has been palpated distal to the ilio-inguinal ligament, prep a large area of the skin with Betadine.
5. Use sterile gloves and place sterile drapes around the Betadine-prepped field.
6. With one hand, palpate the femoral pulse. The femoral vein will be located medially when compared with the femoral artery.
7. With the introducing needle from the kit, enter the skin over the anticipated position of the femoral vein. Gently aspirate as the needle is advanced. Angle the needle approximately 45 to 60 degrees in reference to the skin on the thigh.
8. Once non-pulsatile, venous blood is obtained, stop advancing the needle and hold the needle in position. Remove the syringe and observe the hub for pulsatile flow. If the blood appears arterial and/or is pulsatile, immediately remove the needle and apply direct pressure over the site. Once bleeding is controlled, return to step 7 above or consider the other extremity, if there are no contraindications.
9. If the needle appears to be in the femoral vein, insert the guide wire with sterile technique. Stop advancing the wire if there is any resistance; you may gently withdraw the wire and attempt re-insertion so long as sterility is maintained.
10. Stop advancing the wire in order to leave approximately 10 cm of the wire external to the hub of the needle.
- 11. DO NOT LET GO OF THE WIRE.**
12. Holding the wire in the distal hand, remove the needle over the wire. Once the needle reaches the end of the wire, use the proximal hand to control the wire and the distal hand to remove the needle from the wire.
13. Use the scalpel to create a small incision in the skin at the base of the wire. Make certain the incision extends completely to the wire so there is no skin tag.

CONTINUED VENOUS ACCESS: FEMORAL LINE - PAGE 2



Standards Procedure (Skill) Parenteral Access Section Parenteral Access: Femoral Line – Page 1 of 2

14. Place the catheter over the wire; use the wire a guide to place the catheter. Some
15. Gentle force may be required as the catheter enters the skin; this should not, however, require excessive force. Again, one hand should always maintain control of the wire.
16. Once the catheter is completely inserted, remove the wire.
17. Attach a syringe to the port of the catheter, release the clamp, and aspirate for blood. There should be an easy flow of venous blood.
18. Once all of the air has been removed from the catheter by aspirating blood, re-clamp the line.
19. Attach the desired IV fluid/blood/etc and begin infusion. **Note that “wide-open” lines will deliver large amounts of fluid quickly – monitor the patient’s fluid status closely.**
20. Secure the catheter with sterile dressing or sutures.
21. Document procedure, complications, and clinical results in the patient care report (PCR)

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle.

Standards Procedure (Skill) Parenteral Access Section

Parenteral Access: Intraosseous

A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Rapid, regular IV access is unavailable with any of the following:
- Cardiac arrest.
- Multisystem trauma with severe hypovolemia.
- Severe dehydration with vascular collapse and/or loss of consciousness.
- Respiratory failure / Respiratory arrest.
- Burns.

Contraindications:

- Fracture proximal to proposed intraosseous site.
- History of Osteogenesis Imperfecta
- Current or prior infection at proposed intraosseous site.
- Previous intraosseous insertion or joint replacement at the selected site.

Procedure:

1. Don personal protective equipment (gloves, eye protection, etc.).
 - **Proximal tibia:** Identify anterior-medial aspect of the proximal tibia (bony prominence below the knee cap). The insertion location will be 1-2 cm (2 finger widths) below this.
 - **Distal tibia:** If above site is not suitable, and patient is an adult, identify the anterior-medial aspect of the distal tibia (2 cm proximal to the medial malleolus).
 - **Distal femur:** If above site is not suitable, and patient is a pediatric, identify the patella with the leg out-stretched to prevent bending of the knee. The insertion site is approximately 1 cm above the patella and approximately 1 – 2 cm medially.
 - **Proximal humerus:** Acceptable insertion site for adult patients. Locate the insertion site 1 – 2 cm above the surgical neck on the most prominent aspect of the greater tubercle. This is located on the lateral aspect of the ball of the humerus. Direct the needle at a 45 degree angle or toward the opposite hip.
3. Prep the site recommended by the device manufacturer with an antiseptic solution.
4. For manual pediatric devices, hold the intraosseous needle at a 90 degree angle to bone surface, aimed away from the nearby joint and epiphyseal plate, twist the needle handle with a rotating grinding motion applying controlled downward force until a “pop” or “give” is felt indicating loss of resistance. Do not advance the needle any further.
5. For the EZ-IO intraosseous device, hold the intraosseous needle at a 90 degree angle to bone surface, aimed away from the nearby joint and epiphyseal plate, power the driver until a “pop” or “give” is felt indicating loss of resistance. Do not advance the needle any further. Blue (25mm) IO needle is typically recommended for tibial IO placement (adults and children), Yellow (45 mm) IO needle is typically utilized for proximal humerus, and Pink (15 mm) should only be utilized in neonates. IO needle choice may vary based on a patients body habitus, or abnormal weight for age.
6. For the Bone Injection Gun (BIG), find and mark the manufacturers recommended site. Position the device and pull out the safety latch. Trigger the BIG at 90° to the bone surface and remove the injection device.

Standards Procedure (Skill) Parenteral Access Section

Parenteral Access: Intraosseous

A	AEMT	A
P	PARAMEDIC	P

7. Remove the stylette and place in an approved sharps container.
8. Attach a syringe filled with at least 5 ml NS; For IO manual devices only, verify placement by aspirating bone marrow. Inject at least 5 ml of NS to clear the lumen of the needle. Look for infiltrations around site.
9. Attach the IV line and adjust flow rate. A pressure bag may assist with achieving desired flows.
10. Stabilize and secure the needle with dressings and tape.
11. Paramedics and AEMT may administer 20 to 50 mg (1 to 2.5 ml) of 2% Lidocaine in adult patients who experience infusion-related pain. This may be repeated prn to a maximum of 60 mg (3 ml).
For infant/child dose is 0.5mg/kg, Not to exceed 40mg.
12. Following the administration of any IO medications, flush the IO line with 10 ml of IV fluid.
13. Document the procedure, time, and result (success) on/with the patient care report (PCR).

Certification Requirements:

Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation at least once per certification cycle.



Standards Procedure (Skill) Parenteral Access Section Parenteral Access: Swan-Ganz Catheter Maintenance

P PARAMEDIC P

Clinical Indications:

- Transport of a patient with a Swan-Ganz catheter that is in place prior to transport.

Procedure:

1. Make certain catheter is secure prior to transport.
2. Under the supervision of the nurse or physician caring for the patient, make certain the transport personnel are aware of the depth at which the catheter is secured.
3. **UNDER NO CIRCUMSTANCES SHOULD TRANSPORT PERSONNEL ADVANCE THE SWAN-GANZ CATHETER.**
4. The sterile plastic sheath that surrounds the catheter should not be manipulated.
5. The ports of the catheter may be used to continue administration of medications or IV fluids that were initiated prior to transport. These should be used as any other IV port with attention to sterile technique.
6. If applicable, measurements from the catheter may be obtained during transport and used to guide care as per local protocols and medical control orders.
7. If at anytime during the transport difficulties with the function of the Swan-Ganz catheter is noted, contact medical control.
8. Document the time and any adjustments or problems associated with the catheter in the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Respiratory Section

Airway: Suctioning-Advanced

A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Obstruction of the airway (secondary to secretions, blood, or any other substance) in a patient currently being assisted by an airway adjunct such as a naso-tracheal tube, endotracheal tube, Combitube, tracheostomy tube, or a cricothyrotomy tube.

Procedure:

1. Ensure suction device is in proper working order.
2. Preoxygenate the patient as is possible.
3. Attach suction catheter to suction device, keeping sterile plastic covering over catheter.
4. Using the suprasternal notch and the end of the airway into the catheter will be placed as guides, measure the depth desired for the catheter (judgment must be used regarding the depth of suctioning with cricothyrotomy and tracheostomy tubes).
5. If applicable, remove ventilation devices from the airway.
6. With the thumb port of the catheter uncovered, insert the catheter through the airway device.
7. Once the desired depth (measured in #4 above) has been reached, occlude the thumb port and remove the suction catheter slowly.
8. A small amount of Normal Saline (10 ml) may be used if needed to loosen secretions for suctioning.
9. Reattach ventilation device (e.g., bag-valve mask) and ventilate the patient
10. Document time and result in the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Respiratory Section

Respiratory: Suctioning-Basic

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Obstruction of the airway (secondary to secretions, blood, or any other substance) in a patient who cannot maintain or keep the airway clear.

Procedure:

1. Ensure suction device is in proper working order with suction tip in place.
2. Preoxygenate the patient as is possible.
3. Explain the procedure to the patient if they are coherent.
4. Examine the oropharynx and remove any potential foreign bodies or material which may occlude the airway if dislodged by the suction device.
5. If applicable, remove ventilation devices from the airway.
6. Use the suction device to remove any secretions, blood, or other substance.
7. The alert patient may assist with this procedure.
8. Reattach ventilation device (e.g., bag-valve mask) and ventilate or assist the patient
9. Record the time and result of the suctioning in the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Respiratory Section

Respiratory: Nebulizer Inhalation Therapy

Clinical Indications:

- Patients experiencing bronchospasm.

B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Procedure:

1. Gather the necessary equipment.
2. Assemble the nebulizer kit.
3. Instill the premixed drug (such as Albuterol or other approved drug) into the reservoir well of the nebulizer.
4. Connect the nebulizer device to oxygen at 4 - 6 liters per minute or adequate flow to produce a steady, visible mist.
5. Instruct the patient to inhale normally through the mouthpiece of the nebulizer. The patient needs to have a good lip seal around the mouthpiece.
6. The treatment should last until the solution is depleted. Tapping the reservoir well near the end of the treatment will assist in utilizing all of the solution.
7. Monitor the patient for medication effects. This should include the patient's assessment of his/her response to the treatment and reassessment of vital signs, ECG, and breath sounds.
8. Assess and document peak flows before and after nebulizer treatments.
9. Document the treatment, dose, and route on/with the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Respiratory Section

Respiratory: NIPPV

(Non-Invasive Positive Pressure)

Clinical Indications:

- Non-Invasive Positive Airway Pressure (NIPPV) is indicated in all patients whom inadequate ventilation is suspected.

This could be as a result of Pulmonary Edema, CHF, COPD, Pneumonia, or Asthma.

- Agencies may utilize Continuous and/or Bi-Level Positive Airway Pressure Devices

B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Contraindications:

- Decreased Mental Status.
- Facial features or deformities that prevent an adequate mask seal.
- Excessive respiratory secretions.

Procedure:

1. Ensure adequate oxygen supply to ventilation device.
2. Explain the procedure to the patient.
3. Consider use of Anxiolytics to ease anxiety & increase compliance with NIPPV.
4. Place the delivery mask over the mouth and nose. Consider use of Nasal Airway as needed
Oxygen should be flowing thru the mask at this point
5. Secure the mask with provided straps starting with the lower straps until minimal air leak occurs

6. If the Positive Pressure is adjustable on the NIPPV device adjust and slowly titrate to achieve a positive pressure as follows:

Continuous pressure device:

5 – 25 cmH₂O for Pulmonary Edema, CHF, COPD, Asthma, Drowning, possible aspiration, or pneumonia.

Bi-Level pressure device:

IPAP 10 – 15 over EPAP 5 – 7 cmH₂O for Pulmonary Edema, CHF, COPD, Asthma, Drowning, possible aspiration, or pneumonia.

During titration keep IPAP – EPAP at least a difference of 5 cmH₂O

25 cmH₂O is maximum pressure that should be utilized with NIPPV.

Increasing positive pressure can cause hypotension.

Use caution or remove and re-evaluate with Systolic Blood Pressures consistently < 100 mmHg.

7. Evaluate the response of the patient assessing breath sounds, oxygen saturation, and general appearance.
8. Titrate oxygen levels to the patient's response. Many patients respond to low FIO₂ (30-50%).
9. Encourage the patient to allow forced ventilation to occur. Observe closely for signs of complications. The patient must be breathing for use of the NIPPV device.
10. Document time and response on patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Respiratory: Respirator Operation

Clinical Indications:

- Transport of an intubated patient

A	AEMT	A
P	PARAMEDIC	P

Procedure:

1. Confirm the placement of tube as per airway protocol.
2. Ensure adequate oxygen delivery to the respirator device.
3. Preoxygenate the patient as much as possible with bag-valve mask.
4. Remove BVM and attach tube to respiration device.
5. Per instructions of device, set initial respiration values. For example, set an inspiratory:expiratory ratio of 1:4 (for every 1 second of inspiration, allow 4 seconds and expiration) with a rate of 12 to 20.
6. Assess breath sounds. Allow for adequate expiratory time. Adjust respirator setting as clinically indicated.
- 7. It is required that patients on a transport ventilator should be monitored continuously through Capnography and Pulse Oximetry. The ventilatory rate should adjusted to maintain a pulse oximetry of >90 (preferably $\geq 94\%$) while maintaining a pCO₂ of 30-35.**
8. If any worsening of patient condition, decrease in oxygen saturation, or any question regarding the function of the respirator, remove the respirator and resume bag-valve mask ventilations.
9. Document time, complications, and patient response on the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Respiratory Section

Respiratory: Ventilator Operation

P PARAMEDIC P

Clinical Indications:

- Management of the ventilation of a patient during a prolonged or interfacility transport of an intubated patient.

Procedure:

1. Transporting personnel should review the operation of the ventilator with the treating personnel (physician, nurse, or respiratory therapy) in the referring facility prior to transport if possible.
2. All ventilator settings, including respiratory rate, FiO_2 , mode of ventilation, and tidal volumes should be recorded prior to initiating transport. Additionally, the recent trends in oxygen saturation experienced by the patient should be noted.
3. Prior to transport, specific orders regarding any anticipated changes to ventilator settings as well as causes for significant alarm should be reviewed with the referring medical personnel as well as medical control.
4. Once in the transporting unit, confirm adequate oxygen delivery to the ventilator.
5. Frequently assess breath sounds to assess for possible tube dislodgment during transfer.
6. Frequently assess the patient's respiratory status, noting any decreases in oxygen saturation or changes in tidal volumes, peak pressures, etc.
7. Note any changes in ventilator settings or patient condition in the PCR.
8. Consider placing an NG or OG tube to clear stomach contents.
9. **End-tidal (EtCO₂) monitoring is mandatory following placement of an endotracheal tube.**
10. If any significant change in patient condition, including vital signs or oxygen saturation or there is a concern regarding ventilator performance/alerts, remove the ventilator from the endotracheal tube and use a bag-valve mask with 100% O₂. Contact medical control immediately.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Childbirth

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Imminent delivery with crowning

Procedure:

1. Delivery should be controlled so as to allow a slow controlled delivery of the infant. This will prevent injury to the mother and infant.
2. Support the infant's head as needed.
3. Check the umbilical cord surrounding the neck. If it is present, slip it over the head. If unable to free the cord from the neck, double clamp the cord and cut between the clamps.
4. Suction the airway with a bulb syringe.
5. Grasping the head with hands over the ears, gently pull down to allow delivery of the anterior shoulder.
6. Gently pull up on the head to allow delivery of the posterior shoulder.
7. Slowly deliver the remainder of the infant.
8. Clamp the cord 2 inches from the abdomen with 2 clamps and cut the cord between the clamps.
9. Record APGAR scores at 1 and 5 minutes.
10. Follow the **Newly Born Protocol** for further treatment.
11. The placenta will deliver spontaneously, usually within 5 minutes of the infant. Do not force the placenta to deliver.
12. Massaging the uterus may facilitate delivery of the placenta and decrease bleeding by facilitating uterine contractions.
13. Continue transport to the hospital.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Universal Section

Decontamination

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Any patient who may have been exposed to significant hazardous materials, including chemical, biological, or radiological weapons.

Procedure:

- In coordination with HazMAT and other Emergency Management personnel, establish hot, warm and cold zones of operation.
- Ensure that personnel assigned to operate within each zone have proper personal protective equipment.
- In coordination with other public safety personnel, assure each patient from the hot zone undergoes appropriate initial decontamination. This is specific to each incident; such decontamination may include:
 - Removal of patients from Hot Zone
 - Simple removal of clothing
 - Irrigation of eyes
 - Passage through high-volume water bath (e.g., between two fire apparatus) for patients contaminated with liquids or certain solids. Patients exposed to gases, vapors, and powders often will not require this step as it may unnecessarily delay treatment and/or increase dermal absorption of the agent(s).
- Initial triage of patients should occur after step #3. Immediate life threats should be addressed prior to technical decontamination.
- Assist patients with technical decontamination (unless contraindicated based on #3 above). This may include removal of all clothing and gentle cleansing with soap and water. All body areas should be thoroughly cleansed, although overly harsh scrubbing which could break the skin should be avoided.
- Place triage identification on each patient. Match triage information with each patient's personal belongings which were removed during technical decontamination. Preserve these personnel effects for law enforcement.
- Monitor all patients for environmental illness.
- Transport patients per local protocol.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Gastric Tube Insertion

Clinical Indications:

P **PARAMEDIC** **P**

- Gastric decompression in intubated patients or for administration of activated charcoal in patients with altered mental status.

Procedure:

1. Estimate insertion length by superimposing the tube over the body from the nose to the stomach.
2. Flex the neck **if not contraindicated** to facilitate esophageal passage.
3. Liberally lubricate the distal end of the tube and pass through the patient's nostril along the floor of the nasal passage. Do not orient the tip upward into the turbinates. This increases the difficulty of the insertion and may cause bleeding.
4. In the setting of an intubated patient or a patient with facial trauma, oral insertion of the tube may be considered or preferred after securing airway.
5. Continue to advance the tube gently until the appropriate distance is reached.
6. Confirm placement by injecting 20cc of air and auscultate for the swish or bubbling of the air over the stomach. Additionally, aspirate gastric contents to confirm proper placement.
7. Secure the tube.
8. Decompress the stomach of air and food either by connecting the tube to suction or manually aspirating with the large catheter tip syringe.
9. Document the procedure, time, and result (success) on/with the patient care report (PCR).

Hurricane Spray / Benzocaine / Lidocaine Gel may be used to facilitate placement

In awake patients, swallowing a small amount of water will help pass the tube.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Universal Section

Injections: Subcutaneous and Intramuscular

B	<i>EMT*</i>	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- When medication administration is necessary and the medication must be given via the SQ or IM route (not auto-injector), or as an alternative route in selected medications.

Procedure:

- Receive and confirm medication order or perform according to standing orders.
- Prepare equipment and medication expelling air from the syringe.
- Explain the procedure to the patient and reconfirm patient allergies.
- The most common site for subcutaneous injection is the arm.
 - Injection volume should not exceed 1 cc.
- The possible injection sites for intramuscular injections include the arm, buttock and thigh.
 - Injection volume should not exceed 1 cc for the arm
 - Injection volume should not exceed 2 cc in the thigh or buttock.
- The thigh should be used for injections in pediatric patients and injection volume should not exceed 1 cc.
- Expose the selected area and cleanse the injection site with alcohol.
- Insert the needle into the skin with a smooth, steady motion

SQ: 45-degree angle
skin pinched

IM: 90-degree angle
skin flattened

- Aspirate for blood
- Inject the medication.
- Withdraw the needle quickly and dispose of properly without recapping.
- Apply pressure to the site.
- Monitor the patient for the desired therapeutic effects as well as any possible side effects.
- Document the medication, dose, route, and time on/with the patient care report (PCR).

** EMT may administer Epinephrine for anaphylaxis, by IM route, if approved by the system medical director.*

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Standards Procedure (Skill) Universal Section

Restraints: Physical

Agency Name: _____

Provider Name: _____ Paramedic

Instructor Name: _____ EMT AEMT Paramedic Physician

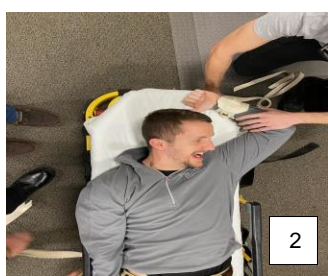
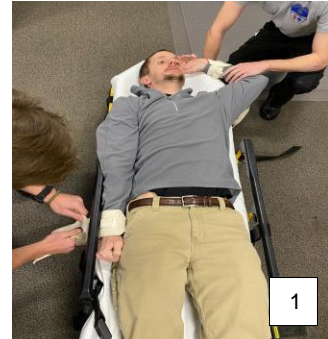
SATISFACTORY

UNSATISFACTORY

Instructor:
 1. Evaluate providers skill performance using the check off list below.
 2. Circle performance indicator.
 YES = Provider completed skill with no assistance from instructor.
 NO = Provider unable to complete skill satisfactorily following instructor intervention.
 IL = Provider able to complete skill satisfactorily following Instructor Led (teaching) intervention.
Satisfactory performance indicated with ≥ 12 YES / IL completions. (Combination of both YES and IL)

	EMR		
B	EMT	B	
A	AEMT	A	
P	Paramedic	P	

YES NO IL	<u>Verbalizes indications for physical restraints:</u> 1. Used to ensure the physical safety of the patient, provider, or others 2. Clear and immediate danger to the patient (self), provider, or others 3. When less restrictive alternatives are unsuccessful (e.g.. verbal de-escalation) 4. Delay in restraint will subject patient (self) , providers, or others to risk of serious harm
YES NO IL	<u>Verbalizes contraindications for physical restraints:</u> 1. Patient has medical decision-making capacity and refuses care 2. Patient is not a danger to self, provider, or others 3. Less restrictive alternatives have not been considered or used
YES NO IL	<u>Verbalizes assessment of resource needs:</u> Request Law Enforcement if indicated Contact Medical Control if indicated Call for additional providers if indicated <u>Withdraw from scene if unsafe</u>
YES NO IL	<u>Assemble appropriate equipment and personnel:</u> 1. 3 – 6 providers preferably 2. Don appropriate PPE 3. Soft nylon or leather restraints specifically manufactured for use as restraints
YES NO IL	<u>Remove potential items from all providers that can be used as weapons:</u> 1. Stethoscope, shears or scissors, hemostats, writing pens, badges, pins 2. Window punch, pocket knives, communication devices
YES NO IL	<u>Team leader assign roles to providers and discusses plans and strategies:</u> Team leader explains procedure to patient: If patient standing and will not follow directions use Procedure USP – 6. <u>If patient already on cot or flat surface:</u> <ul style="list-style-type: none"> 1 Provider to control the head and airway 1 Provider for each extremity <u>Team leader attempts verbal instructions to move patient to cot if possible:</u> <ul style="list-style-type: none"> 2 Providers take control of both wrists and elbows 2 Providers take control of both ankles and knees 1 Provider controls head/airway and 1 Provider is available for medications May place in lateral decubitus position – DO NOT place prone:
YES NO IL	Soft nylon or leather manufacture restraints are applied to wrist and ankles Secure restraints to cot with quick-release tie Examine patient for potential injuries following restrain application
YES NO IL	Both lower extremities restrained extended, cross restraints beneath lower extremities One upper extremity restrained extended by patient's side One upper extremity restrained flexed over patient's head Do not tie restraint to cot undercarriage
YES NO IL	Assess pulse, motor, and sensory immediately following application Perform pulse, motor, and sensory assessments every 15 minutes afterwards
YES NO IL	Patient must remain under constant observation by EMS at all times Appropriate monitoring equipment required based on clinical circumstances
YES NO IL	<u>Patient care report documentation requirements (restraint checklist recommended):</u> Indication for restraint use Type of restrain applied and time of application Pulse, motor, and sensory exams and time of exam



1

2

2

Instructor notes:



Restraints: Physical

Clinical Information for physical restraints

Objective of Procedure:

To protect a patient from self-harm and/or protection of providers or others on scene
Used when less restrictive alternatives have failed
Used as last resort

Scope of Practice: EMR, EMT, AEMT, and Paramedic

Indications:

Physically combative patient not responding to less restrictive means of de-escalation
Immediate danger of self-harm or harm to providers, or others on scene

Contraindications:

Less restrictive techniques have not been used or considered prior to physical restraint
Intact medical decision-making capacity refusing treatment and not a danger to self or others

Clinical Presentation:

Behavioral health crisis
Altered Mental Status with combativeness
Agitation and violence

Potential Complications:

Positional asphyxiation
Injury to patient, providers, or others
Increased mental stress to patient
Injury following escape from restraints
Bodily fluid exposure

Positioning Considerations:

Do not place patient in a supine position or place objects on top of patient
One arm should be restrained above the head
Both legs should be restrained fully extended
May place in a lateral decubitus position, supine is preferred
Head of bed should be elevated to about 30°

Procedure references:

1. Kowalski JM. (2019). Physical and Chemical Restraint. Roberts and Hedges' Clinical Procedures in Emergency Medicine and Acute Care. 7th ed.(pp 1481 - 1498). Philadelphia, PA. Elsevier.
2. Heiner JD, Moore GP. (2018). The combative and difficult. Rosen's Emergency Medicine: Concepts and Clinical Practice. 9th ed. (pp 2375 - 2386). Philadelphia, PA. Elsevier.
3. Booth JS. (2018, Dec 19). Four-Point Restraint. Retrieved from <https://emedicine.medscape.com/article/1941454-overview>.
4. Bradley S. (2017). Psychiatric Emergencies. AAOS Emergency Care and Transportation of the Sick and Injured. 11th ed. (pp.802 – 827). Burlington, MA. Jones and Bartlett Learning.



Standards Procedure (Skill) Universal Section

Restraints: Therapeutic Take Down



Agency Name: _____

Provider Name: _____ Paramedic

Instructor Name: _____ EMT AEMT Paramedic Physician

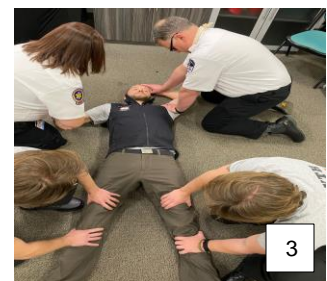
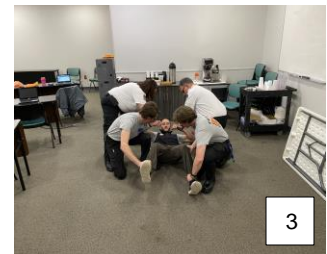
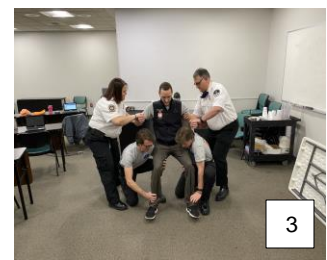
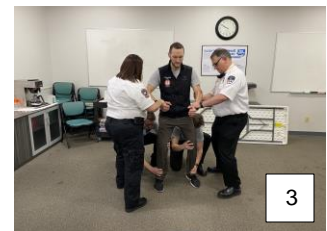
SATISFACTORY

UNSATISFACTORY

Instructor:
 1. Evaluate providers skill performance using the check off list below.
 2. Circle performance indicator.
 YES = Provider completed skill with no assistance from instructor.
 NO = Provider unable to complete skill satisfactorily following instructor intervention.
 IL = Provider able to complete skill satisfactorily following Instructor Led (teaching) intervention.
Satisfactory performance indicated with ≥ 12 YES / IL completions. (Combination of both YES and IL)

	EMR		
B	EMT	B	
A	AEMT	A	
P	Paramedic	P	

YES NO IL	<u>Verbalizes indications for physical restraints:</u> 1. Used to ensure the physical safety of the patient, provider, or others 2. Clear and immediate danger to the patient (self), provider, or others 3. When less restrictive alternatives are unsuccessful (e.g., verbal de-escalation) 4. Delay in restraint will subject patient (self), providers, or others to risk of serious harm	1
YES NO IL	<u>Verbalizes contraindications for physical restraints:</u> 1. Patient has medical decision-making capacity and refuses care 2. Patient is not a danger to self, provider, or others 3. Less restrictive alternatives have not been considered or used	1
YES NO IL	<u>Verbalizes assessment of resource needs:</u> Request Law Enforcement if indicated Contact Medical Control if indicated Call for additional providers if indicated <u>Withdraw from scene if unsafe</u>	2
YES NO IL	<u>Assemble appropriate equipment and personnel:</u> 1. 4 – 6 providers preferably 2. Don appropriate PPE 3. Soft nylon or leather restraints specifically manufactured for use as restraints	2
YES NO IL	<u>Remove potential items from all providers that can be used as weapons:</u> 1. Stethoscope, shears or scissors, hemostats, writing pens, badges, pins 2. Window punch, pocket knives, communication devices	
YES NO IL	<u>Team leader assign roles to providers and discusses plans and strategies:</u> Team leader explains procedure to patient If patient already on cot: 1 Provider to control the head and airway 1 Provider for each extremity 1 Provider to administer medications, if indicated If patient standing or walking: Team leader attempts verbal instructions to move patient to cot if possible 2 Providers approach from front and take control of both wrists and elbows 2 Providers approach from rear and take control of both ankles and knees 1 Provider controls head/airway and 1 Provider is available for medications	3
YES NO IL	<u>With patient supine on cot (may place in lateral decubitus – DO NOT place prone):</u> 2 Providers approach from front and take control of both wrists and elbows 2 Providers approach from rear and take control of both ankles and knees 1 Provider controls head/airway and 1 Provider is available for medications	
YES NO IL	Soft nylon or leather manufacture restraints are applied to wrist and ankles Secure restraints to cot with quick-release tie Examine patient for potential injuries following restrain application	
YES NO IL	Assess pulse, motor, and sensory immediately following application Perform pulse, motor, and sensory assessments every 15 minutes afterwards	
YES NO IL	Patient must remain under constant observation by EMS at all times Appropriate monitoring equipment required based on clinical circumstances	
YES NO IL	<u>Patient care report documentation requirements (restraint checklist recommended):</u> Indication for restraint use Type of restrain applied and time of application Pulse, motor, and sensory exams and time of exam	



Instructor notes:



Standards Procedure (Skill) Universal Section

Restraints: Therapeutic Take Down



Clinical Information for physical restraints

Objective of Procedure:

To protect a patient from self-harm and/or protection of providers or others on scene
Used when less restrictive alternatives have failed
Used as last resort

Scope of Practice: EMR, EMT, AEMT, and Paramedic

Indications:

Physically combative patient not responding to less restrictive means of de-escalation
Immediate danger of self-harm or harm to providers, or others on scene

Contraindications:

Less restrictive techniques have not been used or considered prior to physical restraint
Intact medical decision-making capacity refusing treatment and not a danger to self or others

Clinical Presentation:

Behavioral health crisis
Altered Mental Status with combativeness
Agitation and violence

Potential Complications:

Positional asphyxiation
Injury to patient, providers, or others
Increased mental stress to patient
Injury following escape from restraints
Bodily fluid exposure

Positioning Considerations:

Do not place patient in a supine position or place objects on top of patient
One arm should be restrained above the head
May place in a lateral decubitus position, supine is preferred
Head of bed should be elevated to about 30°

Procedure references:

1. Kowalski JM. (2019). Physical and Chemical Restraint. Roberts and Hedges' Clinical Procedures in Emergency Medicine and Acute Care. 7th ed.(pp 1481 - 1498). Philadelphia, PA. Elsevier.
2. Heiner JD, Moore GP. (2018). The combative and difficult. Rosen's Emergency Medicine: Concepts and Clinical Practice. 9th ed. (pp 2375 - 2386). Philadelphia, PA. Elsevier.
3. Booth JS. (2018, Dec 19). Four-Point Restraint. Retrieved from <https://emedicine.medscape.com/article/1941454-overview>.
4. Bradley S. (2017). Psychiatric Emergencies. AAOS Emergency Care and Transportation of the Sick and Injured. 11th ed. (pp.802 – 827). Burlington, MA. Jones and Bartlett Learning.



Standards Procedure (Skill) Universal Section

Urinary Catheterization

Agency Name:		SATISFACTORY	<input type="checkbox"/>
Provider Name:	Paramedic		
Instructor Name:	EMT AEMT Paramedic Physician	UNSATISFACTORY	<input type="checkbox"/>

Instructor:

1. Evaluate providers skill performance using the check off list below.

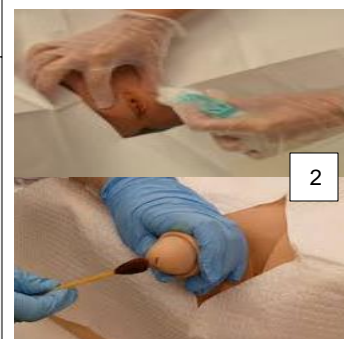
2. Circle performance indicator.

P
Paramedic
P

YES = Provider completed skill with no assistance from instructor.
 NO = Provider unable to complete skill satisfactorily following instructor intervention.
 IL = Provider able to complete skill satisfactorily following Instructor Led (teaching) intervention.

Satisfactory performance indicated with ≥ 12 YES / IL completions. (Combination of both YES and IL)

YES	NO	IL	<u>Verbalizes indications for urinary catheterization:</u> 1. Monitoring patient's fluid state and/or response to therapy during transport 2. Collection of urine sample for laboratory analysis 3. Maintaining and monitoring chronic indwelling urinary catheter
YES	NO	IL	<u>Verbalizes contraindications for urinary catheterization:</u> 1. Suspected or known trauma to the abdomen, pelvis, or genitalia 2. Grossly bloody urine 3. Pediatric patient
YES	NO	IL	<u>Prepare patient and explain the procedure:</u> 1. Explain procedure to patient and the need for sterility 2. Ensure privacy and good lighting 3. Use a chaperone for assistance and observation regardless of age or gender
YES	NO	IL	<u>Assemble appropriate equipment:</u> 1. Use or pre-packaged commercial kit is recommended containing: Sterile gloves, sterile lubricant, sterile water Forceps, cotton balls, and cleansing pads Urinary catheter and collection bag Male catheter size: 14 – 16 Fr. Female catheter size: 12 – 14 Fr.
YES	NO	IL	<u>Insertion of urinary catheter:</u> 1. Wash hands before and after procedure with soap/water or alcohol-based product 2. Open urinary catheter kit maintaining sterility of contents 3. Don sterile gloves and arrange kit contents for efficient use 4. Attach sterile water syringe to catheter balloon, inflate with 10 mL, and deflate while checking for leaks 5. Attach urinary catheter to collection bag and clamp port 6. Apply drapes to patient in sterile fashion 7. Using your non-dominant hand expose the urinary meatus, hand remains in place until catheter is placed with urine flow and is now unsterile Female: spread the labia apart Male: Retract foreskin exposing entire glans and hold penis straight and perpendicular to the trunk 8. Using your dominant hand, clean the meatus with Betadine, circling out from the male meatus and top to bottom in female 10. Lubricate the catheter tip with sterile lubricant 11. Gently place the catheter tip into the urinary meatus and advance slowly until you have flow of urine, then advance an additional 2 inches Stop immediately if you feel resistance and cannot advance the catheter 12. Inflate the catheter balloon with 10 mL of sterile water and place gently traction on the catheter by withdrawing until you feel resistance. 13. Place the collection bag in a dependent condition relative to the genitalia and secure the catheter to the abdomen or thigh with device supplied
YES	NO	IL	<u>Patient care report documentation requirements:</u> 1. Time of insertion, volume of urine obtained on placement, and total volume at end of call 2. Any complications noted



Instructor notes:



Urinary Catheterization

Clinical Information for urinary catheterization

Objective of Procedure:

To introduce or maintain a urinary catheter when urine function has been compromised by illness or surgery.
To monitor fluid output.

Scope of Practice: Paramedic

Indications:

Monitoring patient's fluid state and/or response to therapy during transport
Collection of urine sample for laboratory analysis
Maintaining and monitoring chronic indwelling urinary catheter

Contraindications:

Suspected or known trauma to the abdomen, pelvis, or genitalia
Grossly bloody urine
Pediatric patient

Clinical Presentation:

Medical illness requiring assessment of urine output due to ongoing therapy
Chronic indwelling catheter in urethral, condom, or suprapubic location

Potential Complications:

Trauma to urethra and/or bladder
Urinary infection and/or sepsis
Bodily fluid exposure

Positioning Considerations:

Prone to head of bed elevated to about 30°
Male: Lower extremities can be extended
Female: Lower extremities with knees bent and elevated and abducted

Procedure references:

1. Ortega R, Ng L, Sekhar Pavan, et al. (2008, April 3). Female Urethral Catheterization. Retrieved from <https://www.nejm.org/doi/full/10.1056/nejmvcm0706671>
2. Thomsen TW, Setnik GS. (2006, May 25). Male Urethral Catheterization. Retrieved from <https://www.nejm.org/doi/full/10.1056/nejmvcm054648>.



Standards Procedure (Skill) Universal Section

Rhino Nasal Packing Insertion

Clinical Indications:

- Patients with severe epistaxis
- Direct Pressure / Compression of nose failed to control bleeding

A	AEMT	A
P	PARAMEDIC	P

Contraindications:

- Severe Bleeding causing airway compromise- secure airway first
- History of recent nasal / sinus surgery in last 6 weeks

Procedure:

1. Blow nose to remove any poorly formed clots.
2. Apply well-aimed direct pressure by firmly pinching the nose with thumb and pointer finger.
3. Lean forward to minimize swallowing blood.
4. Spit blood out of mouth.
5. Do not let the patient swallow blood, as it is very irritating to the stomach.
6. Maintain pressure for 10-15 minutes before inspecting.
7. Proceed to below for nasal packing



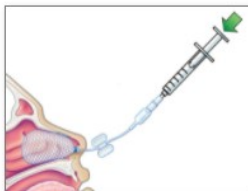
Step 1:

Remove device from envelope packaging, and blue plastic tube encasing if present. Soak in sterile water for at least a FULL 30 seconds.



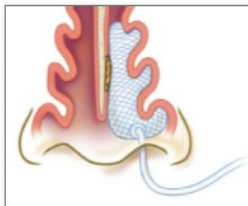
Step 2:

Insert tamponade into the patient's nostril parallel to the septal floor, or following along superior aspect of the hard palate, until the blue indicator is just past the nares (inside opening of nostril).



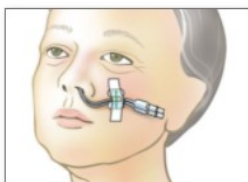
Step 3:

Using a 20cc syringe, slowly inflate the RAPID RHINO device with AIR only. Monitor the pilot cuff for direct tactile feedback; stop inflation when the pilot cuff becomes rounded and feels firm when squeezed.



Step 4:

Inflate the cuff to provide a gentle, low pressure tamponade delivering the CMC fabric directly to the bleed site.



Step 5:

When there is sufficient pressure in balloon(s), allow the patient to sit for 15-20 minutes prior to discharge. Swelling in the nasal anatomy will reduce and the balloon(s) may need to be inflated more to avoid movement of the device.

After assessment of the pilot cuff, tape inflation catheter(s) to the patient's cheek for discharge.



Chest Decompression

P **PARAMEDIC** **P****Clinical Indications:**

- Patients with hypotension (SBP <90), clinical signs of shock, and at least one of the following signs:
 - Jugular vein distention.
 - Tracheal deviation away from the side of the injury (often a late sign).
 - Absent or decreased breath sounds on the affected side.
 - Hyper-resonance to percussion on the affected side.
 - Increased resistance when ventilating a patient.
- Patients in traumatic arrest with chest or abdominal trauma for whom resuscitation is indicated. These patients may require bilateral chest decompression even in the absence of the signs above.

Procedure:

1. Don personal protective equipment (gloves, eye protection, etc.).
2. Administer high flow oxygen.
3. Identify and prep the site:
 - Locate the second intercostals space in the mid-clavicular line on the same side as the pneumothorax.
 - If unable to place anteriorly, lateral placement may be used at the fourth ICS mid-axillary line.
 - Prepare the site with providone-iodine ointment or solution.
4. Insert the catheter (10 -14 gauge for adults) into the skin over the third rib and direct it just over the top of the rib (superior border) into the interspace.
5. Advance the catheter through the parietal pleura until a “pop” is felt and air or blood exits under pressure through the catheter, then advance catheter only to chest wall.
6. Remove the needle, leaving the plastic catheter in place.
7. Secure the catheter hub to the chest wall with dressings and tape.
8. Consider placing a finger cut from an exam glove over the catheter hub. Cut a small hole in the end of the finger to make a flutter valve. Secure the glove finger with tape or a rubber band. (Note – don’t waste much time preparing the flutter valve; if necessary control the air flow through the catheter hub with your gloved thumb.)

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System. Assessment should include direct observation once per certification cycle.



Spinal Motion Restriction

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Need for Spinal Motion Restriction as determined by protocol.
- **Guidelines for appropriate use of long spine board (LSB) OR any equivalent device below:**

1. **Spine boards or similar rigid devices, should NOT be used during transport or during inter-facility transfers.** They should be utilized for extrication and / or patient transfers, as well as support for chest compressions. They DO NOT improve outcomes and can induce pain, agitation / anxiety, respiratory compromise, and decreased tissue perfusion at pressure points.
2. Devices such as the long or short spine board, scoop stretcher, soft-body splints, etc., should be considered extrication devices rather than transport-devices. Instead, use of Spinal Motion Restriction which includes a rigid cervical collar, manual in-line spine stabilization, maintaining spinal alignment with movement and transfers, and securing to the ambulance stretcher.
3. Penetrating trauma to head, torso, or back with no evidence of spinal injury does not require Spinal Motion Restriction.

Procedure:

1. Gather LSB, scoop, ambulance cot, or other Spinal Motion Restriction device, securing devices, and appropriate C-collar.
2. Explain the procedure to the patient and assess / record neurological exam and pulse status.
3. Place the patient in an appropriately sized C-collar while maintaining in-line stabilization of the C-spine by second provider. In-line stabilization should not involve traction / tension, but rather maintain the head in a neutral, midline position while the first rescuer applies the collar.
4. Once the collar is secure, the second rescuer should still maintain their position to ensure stabilization (the collar is helpful but will not do the job by itself.)
5. If indicated, place patient on a Spinal Motion Restriction device with log-roll or similar technique dependent on circumstances, if patient is supine or prone. During extrication or where otherwise unable to be placed prone or supine, place on Spinal Motion Restriction device by the safest method available that allows maintenance of in-line spinal stability.
6. Stabilize the patient with straps / head rolls / tape / other devices as needed. Once the head is secured to the Spinal Motion Restriction device / stretcher, the second rescuer may release manual in-line stabilization. **Once the patient arrives at the stretcher, REMOVE the rigid Spinal Motion Restriction device while maintaining spinal alignment using log-roll or multi-rescuer lift techniques and transfer and secure to the stretcher for transport.**
7. NOTE: Spinal precautions may be achieved by many methods. Never force a patient into a certain position to immobilize them. Such situations may require a second rescuer to maintain manual stabilization throughout the transport to the hospital. Special equipment such as football players in full pads and helmet may remain immobilized with helmet and pads in place.
8. Document the time of the procedure in the patient care report (PCR).

Certification Requirements:

Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Splinting

Clinical Indications:

- Immobilization of an extremity for transport, either due to suspected fracture, sprain, or injury.
- Immobilization of an extremity for transport to secure medically necessary devices such as intravenous catheters

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Procedure:

1. Assess and document pulses, sensation, and motor function prior to placement of the splint. If no pulses are present and a fracture is suspected, consider reduction of the fracture prior to placement of the splint.
2. Remove all clothing from the extremity.
3. Select a site to secure the splint both proximal and distal to the area of suspected injury, or the area where the medical device will be placed.
4. Do not secure the splint directly over the injury or device.
5. Place the splint and secure with Velcro, straps, or bandage material (e.g., kling, kerlex, cloth bandage, etc.) depending on the splint manufacturer and design.
6. Document pulses, sensation, and motor function after placement of the splint. If there has been a deterioration in any of these 3 parameters, remove the splint and reassess
7. If a femur fracture is suspected and there is no evidence of pelvic fracture or instability, the following procedure may be followed for placement of a femoral traction splint:
 - Assess neurovascular function as in #1 above.
 - Place the ankle device over the ankle.
 - Place the proximal end of the traction splint on the posterior side of the affected extremity, being careful to avoid placing too much pressure on genitalia or open wounds. Make certain the splint extends proximal to the suspected fracture. If the splint will not extend in such a manner, reassess possible involvement of the pelvis
 - Extend the distal end of the splint at least 6 inches beyond the foot.
 - Attach the ankle device to the traction crank.
 - Twist until moderate resistance is met.
 - Reassess alignment, pulses, sensation, and motor function. If there has been deterioration in any of these 3 parameters, release traction and reassess.
8. Document the time, type of splint, and the pre and post assessment of pulse, sensation, and motor function in the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Wound Care-General

Clinical Indications:

- Protection and care for open wounds prior to and during transport.

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Procedure:

1. Use personal protective equipment, including gloves, gown, and mask as indicated.
2. If active bleeding, elevate the affected area if possible and hold direct pressure. Do not rely on “compression” bandage to control bleeding. Direct pressure is much more effective.
3. Once bleeding is controlled, irrigate contaminated wounds with saline as appropriate (this may have to be avoided if bleeding was difficult to control). Consider analgesia per protocol prior to irrigation.
4. Cover wounds with sterile gauze/dressings. Check distal pulses, sensation, and motor function to ensure the bandage is not too tight.
5. Monitor wounds and/or dressings throughout transport for bleeding.
6. Document the wound and assessment and care in the patient care report (PCR).

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Wound Care-Hemostatic Agent

Clinical Indications:

- Serious hemorrhage that can not be controlled by other means.

Contraindications:

- Wounds involving open thoracic or abdominal cavities.

Procedure:

1. Apply approved non-heat-generating hemostatic agent per manufacturer's instructions.
2. Supplement with direct pressure and standard hemorrhage control techniques.
3. Apply dressing.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P



Standards Procedure (Skill) Wound Care / Trauma Care

Wound Care-Conducted Electrical Weapon Removal

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Patient with uncomplicated conducted electrical weapon probes embedded subcutaneously in non-sensitive areas of skin.
- Conducted electrical weapon probes are barbed metal projectiles that may embed themselves up to 13 mm into the skin.

Contraindications:

- Patients with conducted electrical weapon probe penetration in vulnerable areas of body as mentioned below should be transported for further evaluation and probe removal
- Probes embedded in skin above level of clavicles, female breasts, or genitalia
- Suspicion that probe might be embedded in bone, blood vessel, or other sensitive structure.

Procedure:

- Ensure wires are disconnected from weapon.
- Stabilize skin around probe using non-dominant hand.
- Grasp probe by metal body with pliers or hemostats to prevent puncture wounds to EMS personnel.
- Remove probe in single quick motion.
- Wipe wound with antiseptic wipe and apply dressing.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.



Wound Care-Tourniquet

	EMR	
B	EMT	B
A	AEMT	A
P	PARAMEDIC	P

Clinical Indications:

- Life threatening extremity hemorrhage that can not be controlled by other means.
- Serious or life threatening extremity hemorrhage and tactical considerations prevent the use of standard hemorrhage control techniques.

Contraindications:

- Non-extremity hemorrhage
- Proximal extremity location where tourniquet application is not practical

Procedure:

1. Place tourniquet proximal to wound
2. Tighten per manufacturer instructions until hemorrhage stops and/or distal pulses in affected extremity disappear.
3. Secure tourniquet per manufacturer instructions
4. Note time of tourniquet application and communicate this to receiving care providers
5. Dress wounds per standard wound care protocol
6. If delayed or prolonged transport and tourniquet application time > 2 hours: consider reattempting standard hemorrhage control techniques and removing tourniquet

*** Should only be considered when at hospital or with direct medical control ***

Typically, if deemed necessary to apply the tourniquet - there should be no reason to take it off - should be done at the instruction of physician / surgeon

Exceptions: Significant transport delays in disaster situations

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.

Standards Procedure (Skill) Wound Care / Trauma Section

Low Titer O+ Whole Blood Administration

Clinical Indications:

P **PARAMEDIC** **P**

Adult: Systolic Blood Pressure < 70 mmHg

OR

Systolic Blood Pressure < 90 mmHg **AND** Heart Rate > 110 beats per minute

Age > 65:

Systolic Blood Pressure < 100 mmHg **AND** Heart Rate > 100 beats per minute

Pediatrics:

Systolic Blood Pressure < 70 + (2 x age)

Any patient 5 years or older with Witnessed Traumatic Cardiac Arrest

Contraindications:

- Religious objection
- Age < 5

Procedure:

1. Assess or initiate IV / IO access. IV access must be 20 gauge or larger.
2. Draw blood laboratory tube(s), if possible.
3. Complete and document cardiovascular assessments and initial vital signs.
4. Visually inspect the blood product and expiration date.
5. If TXA is indicated (adult trauma patients only), administer 2 g TXA via IV push and flush with NS.
6. Utilize EMS System-approved blood tubing and warmer. Follow attached manufacturers' procedures (pages 3 – 5). Onslow – Camp Lejeune EMS System will currently utilize LifeFlow plus blood and fluid infuser along with QInFlow Warrior blood and fluid warmer.
7. Administer 2 g Calcium Gluconate through a separate IV / IO line or administer after blood product transfusion is completed.
8. Repeat complete vital signs every 10 minutes.
9. Following completion of transfusion, flush blood tubing with normal saline solution.
10. During administration, monitor for Transmission Associated Circulatory Overload (TACO). If TACO symptoms present, discontinue transfusion and notify receiving facility.
11. Blood should be administered until return of a strong radial pulse OR patient has a systolic blood pressure of 90 (110 if 65 years of age or greater).
12. If entire unit of blood is administered, flush the tubing with NS to ensure all product is given.

Upon arrival at Trauma Center or HEMS for transfer:

13. Label blood vials if applicable.
14. Notify trauma team when blood product was given, amount given, and patient's response.
15. Transfer blood tubing and bag to receiving staff for post transfusion testing if applicable.

If anaphylaxis is suspected, discontinue transfusion and treat per protocol AM 1 / PM 1.

Certification Requirements:

- Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the local EMS System.

Standards Procedure (Skill) Wound Care / Trauma Section Low Titer O+ Whole Blood Administration

QinFlow Warrior and Warrior Extreme usage steps:

3 Simple Operating Steps:



Pre-Clinical Setting

1. PREPARE

- a Prepare the Base Unit (BU)
- b Prepare the Disposable Unit (CDU)



Clinical Setting

2. CONNECT

- c Connect the CDU and the BU
- d Connect the Infusion Set

3. OPERATE

- e Flush the line and the CDU
- f Activate the Warrior

STEP 1. PREPARE the Base Unit (BU) and Disposable Unit (CDU)



a Connect the battery to the BU [A] and lock the side latches [B]*



[A]

Turn BU upside down to remove the latches



[B]

* Should be performed ahead of the emergency call

b Take the CDU out of its sterile pouch



- Visually inspect the CDU to ensure package integrity
- Do not use the CDU if the sterile package is damaged or expiration date passed
- Do not reuse the CDU (single use only); and do not re-sterilize it



NO MORE COLD BLOOD & FLUIDS

28

Standards Procedure (Skill) Wound Care / Trauma Section

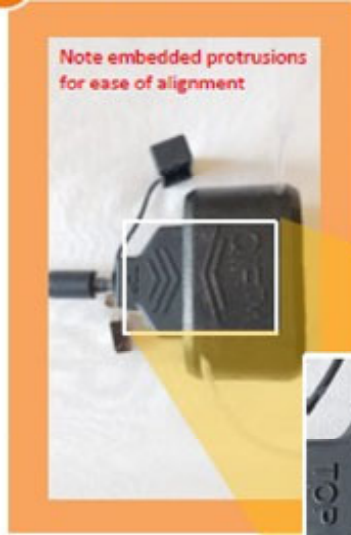
Low Titer O+ Whole Blood Administration

QinFlow Warrior and Warrior Extreme usage steps:

STEP 2. CONNECT the CDU with the BU and with the Infusion Set



c Connect the cable to the CDU



Note embedded protrusions for ease of alignment

Fail-Safe Assembly: it should not be possible to connect the CDU to the cable or to the line in the wrong way



d Connect the line



Remove the LUER cover from the incoming line to the CDU (the short line; marked "IN") and connect it to the infusion set. Do not overtighten

Remove the LUER cover from the outgoing line of the CDU (marked "OUT")

STEP 3. OPERATE the Warrior



e Flush the CDU from air*



Don't activate the BU before flushing

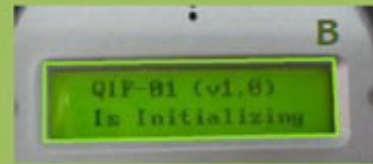


Connect the CDU to the patient only after flushing it to remove air (~19 ml priming volume)

f Activate and use the Warrior



Activate the system and follow LCD instructions



30

Standards Procedure (Skill) Wound Care / Trauma Section

Low Titer O+ Whole Blood Administration

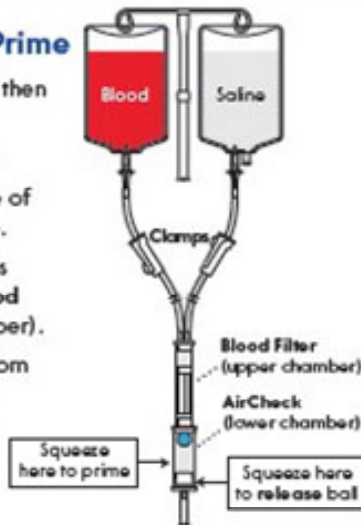
LifeFlow PLUS
Blood & Fluid Infuser

VOLUME RESUSCITATION.
WHEN MINUTES MATTER.


QUICK GUIDE

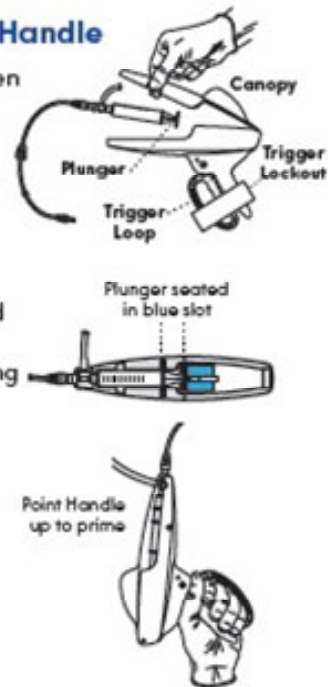
1 Set Up and Prime

- Close both Clamps then spike both bags.
- Open saline clamp.
- Squeeze the middle of AirCheck® to prime.
- Squeeze until fluid is halfway up the Blood Filter (upper chamber).
- If ball is at the bottom of AirCheck (lower chamber), squeeze "release" until ball floats.



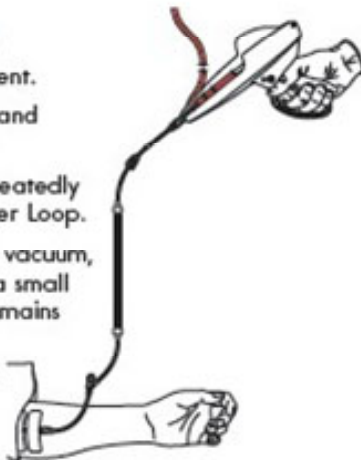
2 Syringe and Handle

- Squeeze tabs to open Canopy.
- Place syringe Plunger in blue slot with numbers up.
- Remove foam Trigger Lockout.
- Point Handle up and prime tubing by repeatedly squeezing the Trigger Loop.



3 First Infusion

- Connect to the patient.
- Close saline clamp and open blood clamp.
- Infuse blood by repeatedly squeezing the Trigger Loop.
- To avoid creating a vacuum, stop infusing while a small amount of blood remains in the bag.
- Close blood clamp.



4 Additional Infusions

- Spike new bag, then open clamp.
- Squeeze AirCheck to prime.
- If no air is present, proceed with infusion.
- If air is present in tubing or ball is suctioned to the bottom, refer to **Resetting AirCheck** (see back page).

1 Important

- Cleared for use with blood, blood components (red blood cells or plasma), and crystalloid and colloid resuscitative fluids.
- When transfusing blood products, use a 22G catheter or larger.
- LifeFlow PLUS is compatible for use with all vascular access that is rated for contrast infusion pressures (300psi).

Consult IFU for full use instructions, indications, and warnings.

TRAINING VIDEO



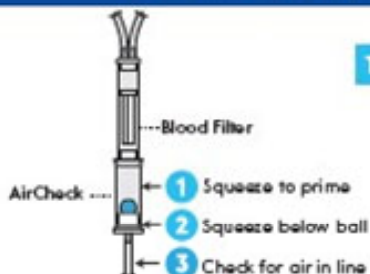
TROUBLESHOOTING AND TIPS

Standards Procedure (Skill) Wound Care / Trauma Section

Low Titer O+ Whole Blood Administration

RESETTING AIRCHECK

IF The ball is suctioned to the bottom of AirCheck, the Trigger Loop will not return. **Disconnect from the patient.**



THEN

- 1 Spike new bag. Open desired clamp and squeeze AirCheck to prime.
- 2 Squeeze where it says "release" until the ball floats.
- 3 Check for air in the line. Re-prime line if needed, then reconnect and infuse.

Troubleshooting

ISSUE	CHECKLIST
CANOPY WILL NOT CLOSE	<ol style="list-style-type: none"> 1. Ensure blood tubing syringe is properly seated with numbers up. 2. Ensure canopy is properly aligned.
WILL NOT PRIME OR DIFFICULT TO START INFUSION	<ol style="list-style-type: none"> 1. Confirm syringe Plunger is properly loaded inside blue slot. Remove and reload if necessary. 2. Ensure all appropriate clamps are open. 3. Ensure ball is floating. If it is not, squeeze "release" on the AirCheck until the ball floats. 4. Check distal clamp.
TRIGGER LOOP STOPS MOVING DURING INFUSION	<ol style="list-style-type: none"> 1. Start at the top of tubing and check fluid bags, clamps, filter, and AirCheck per details above. 2. Check IV for occlusion. 3. Blood filter may be clogged. If so, get a new tubing set.
TRIGGER LOOP RETURNS SLOWLY	<ol style="list-style-type: none"> 1. Tubing may need to be replaced if syringe has slowed or filter is clogged. 2. Do not force Trigger Loop open or closed if it does not move freely.

Tips and Reminders

General

- AirCheck should always remain completely filled and vertical. **FLOAT BEFORE YOU FLOW.**
- To avoid creating a vacuum, do not drain blood bag completely.
- For blood products, this device can be used on a single patient for up to 4 hours or until the filter clogs.

Syringe and Handle

- Trigger Loop provides tactile feel. If you notice a change in resistance, refer to troubleshooting checklist.
- The Trigger Loop is designed to break away if excessive force is applied. This is a safety feature.

For Crystalloids and Colloids

- For crystalloids and colloids, this device can be used on a single patient for up to 24 hours or maximum of 4 liters.
- If infusing saline with a 24G or smaller catheter, slow down between trigger squeezes to limit resistance.

GO SLOW FOR BETTER FLOW.

REV
D

410 Medical® and LifeFlow® are trademarks of 410 Medical, Inc.
© Copyright, 410 Medical, Inc., 2020. All Rights Reserved.
P3058 Rev D 10/2020

www.410medical.com
info@410medical.com

LifeFlow^{PLUS}