

Critical Care Paramedic Lab Manual

Critical Care Paramedic Lab Skills

The following skills are required lab skills needed to successfully complete your Critical Care Paramedic Initial Education Program. Note each skill has a required number of Peer Reviews and 1 Instructor Review. It is encouraged for students to practice the lab skills and utilize the Peer Reviews more than the required minimums to be fully prepared for the Instructor Reviews. When instructors are teaching a skill/procedure to the students, the required 6:1 ratio of students to instructors must be met. Each lab session should have sufficient equipment (and related supplies) available so that each student group (6 or less students) has access to the needed equipment/supplies necessary for the skill(s) they are learning.

| **Page** | **Lab Skill** | **Peer Reviews** | **Instructor Review** | **Total** |
| --- | --- | --- | --- | --- |
| 3 | *Handwashing* | 2 | 2 | 4 |
| 4 | Rapid Sequence Intubation | 1 | 5 | 6 |
| 5 | Surgical Cricothyrotomy | 1 | 5 | 6 |
| 6 | Advanced Ventilator Application and MGMT | 1 | 5 | 6 |
| 7 | Finger Thoracostomy | 1 | 5 | 6 |
| 8 | Blood Product Administration (including whole blood) | 1 | 5 | 6 |
| 9 | Ventricular Assist Device Monitoring | 1 | 5 | 6 |
| 10 | Arterial Line Monitoring | 1 | 5 | 6 |
| 11 | Intra-Aortic Balloon Pump Maintenance and Monitoring | 1 | 5 | 6 |
| 12 | Extracorporeal Membrane Oxygenation (ECMO) Monitoring | 1 | 5 | 6 |
| 13 | Obtaining Arterial Blood Gasses | 1 | 5 | 6 |
| 14 | Point of Care Ultrasound | 1 | 5 | 6 |
| 15 | Accessing Central Lines | 1 | 5 | 6 |
| 16 | Fetal Monitoring | 1 | 5 | 6 |

***HANDWASHING***

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|   | **Peer** | **Peer** | Peer | Peer | **Instr.** | **Instr.** |
| Inspect handwashing area for appropriate cleaner, towels & waste container  | ✓ | ✓ |  |  | ✓ | ✓ |
| Assess hands for areas that may be heavily soiled and under nails  | ✓ | ✓ |  |  | ✓ | ✓ |
| Remove jewelry and pushes watch and sleeves at least one inch above wrist  | ✓ | ✓ |  |  | ✓ | ✓ |
| Turn on water and adjust temperature  | ✓ | ✓ |  |  | ✓ | ✓ |
| Wet hands thoroughly while keeping hands and forearms down with elbows straight  | ✓ | ✓ |  |  | ✓ | ✓ |
| Avoid splashing water on clothing, touching sides of sink or faucet, and leaning on sink or countertop  | ✓ | ✓ |  |  | ✓ | ✓ |
| Apply appropriate cleaner to wet hands  | ✓ | ✓ |  |  | ✓ | ✓ |
| Wash hands, wrists and one-inch up forearms for no less than 20 seconds * Lace fingers and thumbs cleaning between the digits.
* Rub palms and back of hands.
* Scrub under nails by rubbing against palms.
 | ✓ | ✓ |  |  | ✓ | ✓ |
| Rinse thoroughly from wrist down while keeping hands and forearms down and elbows straight  | ✓ | ✓ |  |  | ✓ | ✓ |
| Dry arms completely working from fingers up the hands to the wrists and forearms.  | ✓ | ✓ |  |  | ✓ | ✓ |
| Dispose of wet towels in appropriate waste container.  | ✓ | ✓ |  |  | ✓ | ✓ |
| Use dry towel to turn off water unless faucet has automatic, knee or foot controls.  | ✓ | ✓ |  |  | ✓ | ✓ |
| Date:  | 6/2/23 | 6/4/23 |  |  | 6/6/23 | 6/8/23 |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |
| Evaluators Signature:  | Student #1 | Student #2 |  |  | Instructor | Instructor |

# **Rapid Sequence Intubation**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr.** | **Instr.** | **Instr.** |  |  |
| Recognize the need |  |  |  |  |  |  |  |  |  |  |
| Consider contraindication |  |  |  |  |  |  |  |  |  |  |
| Evaluate and assess (vital signs, heaven, MOANS, cervical spine) |  |  |  |  |  |  |  |  |  |  |
| Prepare: Don PPE & Pre-oxygenation (goal of 95% or greater) |  |  |  |  |  |  |  |  |  |  |
| Gather equipment (back-up airways, intubation equipment, correct tube size, bougie, suction, sedative, paralytic) |  |  |  |  |  |  |  |  |  |  |
| Prepare medication (pain management, sedation, paralytic) |  |  |  |  |  |  |  |  |  |  |
| Positioning (sternum to ear line, ramping) |  |  |  |  |  |  |  |  |  |  |
| Pre-treatment (resuscitate, fluid bolus, push dose, atropine, oxygen) |  |  |  |  |  |  |  |  |  |  |
| Medical time out (checklist) |  |  |  |  |  |  |  |  |  |  |
| Sedate/Pain management: 6 Patient Rights |  |  |  |  |  |  |  |  |  |  |
| Paralyze |  |  |  |  |  |  |  |  |  |  |
| Intubate (visualize cords, pass tube, inflate bulb, begin respirations, secure tube) |  |  |  |  |  |  |  |  |  |  |
| Confirmation (auscultate, ETCO2, condensation, visualize)  |  |  |  |  |  |  |  |  |  |  |
| Reassess (post intubation sedation) |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |

# **Surgical Cricothyrotomy**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr**. | **Instr.** | **Instr.** |  |  |
| Recognize the need of a failed airway |  |  |  |  |  |  |  |  |  |  |
| Consider contraindications |  |  |  |  |  |  |  |  |  |  |
| Evaluate and assess (vital signs) |  |  |  |  |  |  |  |  |  |  |
| Prepare (Don PPE, pre-oxygenation goal of 95% or greater) |  |  |  |  |  |  |  |  |  |  |
| Gather equipment (procedure equipment, correct tube size, bougie, suction, bleeding control) |  |  |  |  |  |  |  |  |  |  |
| Correctly identify anatomical placement |  |  |  |  |  |  |  |  |  |  |
| Prepare for incision |  |  |  |  |  |  |  |  |  |  |
| Vertical incision (1.5-2.5 cm over cricothyroid membrane) |  |  |  |  |  |  |  |  |  |  |
| Blunt side to expose membrane  |  |  |  |  |  |  |  |  |  |  |
| Introduce tip of blade to membrane  |  |  |  |  |  |  |  |  |  |  |
| Maintain access to opening |  |  |  |  |  |  |  |  |  |  |
| Insert ETT |  |  |  |  |  |  |  |  |  |  |
| Inflate cuff |  |  |  |  |  |  |  |  |  |  |
| Confirmation (auscultate, ETCO2, condensation) |  |  |  |  |  |  |  |  |  |  |
| Secure tube |  |  |  |  |  |  |  |  |  |  |
| Reassess (post procedure management) |  |  |  |  |  |  |  |  |  |  |
| Date:  |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |

# **Advanced Ventilator Application and MGMT**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr**. | **Instr.** | **Instr.** |  |  |
| Recognize and evaluate (tube placement, vital signs) |  |  |  |  |  |  |  |  |  |  |
| Consider contraindication |  |  |  |  |  |  |  |  |  |  |
| Prepare equipment (BVM, correct vent circuit, suction, filter, oxygen tank and adaptor, hemostats, ETCO2) |  |  |  |  |  |  |  |  |  |  |
| Initial settings based on patient pathology (mode, tidal volume, respiratory rate, I:E times, FIO2/PEEP, IBW, PEEP) |  |  |  |  |  |  |  |  |  |  |
| Monitor (plateau pressure, PIP/Vt, Vt/pip, alarms, wave form, ETCO2, oxygen, MAP, PEEP) |  |  |  |  |  |  |  |  |  |  |
| Reassess (A-DOPE) |  |  |  |  |  |  |  |  |  |  |
| Date:  |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |

**Finger Thoracostomy**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr.** | **Instr.** | **Instr.** |  |  |
| Recognize and evaluate (tension pneumothorax) |  |  |  |  |  |  |  |  |  |  |
| Consider contraindications |  |  |  |  |  |  |  |  |  |  |
| 6Ps |  |  |  |  |  |  |  |  |  |  |
| Prepare  |  |  |  |  |  |  |  |  |  |  |
| Gather equipment (don PPE, scalpel, lidocaine if appropriate) |  |  |  |  |  |  |  |  |  |  |
| Determine placement |  |  |  |  |  |  |  |  |  |  |
| Placement (puncture with closed clamp, insert finger, remove debris) |  |  |  |  |  |  |  |  |  |  |
| Assess for pain |  |  |  |  |  |  |  |  |  |  |
| Reassessment |  |  |  |  |  |  |  |  |  |  |
| Date:  |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |

**Blood Product Administration (including Whole Blood)**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

|  |  |  |  |  |  |  |  |  |  |  |
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|   | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr.** | **Instr.** | **Instr.** |  |  |
| Recognize and evaluate |  |  |  |  |  |  |  |  |  |  |
| Assess IV patency |  |  |  |  |  |  |  |  |  |  |
| 6Rs and blood product verification |  |  |  |  |  |  |  |  |  |  |
| Consider contraindications  |  |  |  |  |  |  |  |  |  |  |
| Gather appropriate equipment (tubing, product, warmer, saline, pressure bag) |  |  |  |  |  |  |  |  |  |  |
| Administer product |  |  |  |  |  |  |  |  |  |  |
| Verbalize potential reaction and further treatment options |  |  |  |  |  |  |  |  |  |  |
| Reassess and post procedure management |  |  |  |  |  |  |  |  |  |  |
| Date:  |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |

**Ventricular Assist Device Monitoring**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

|  |  |  |  |  |  |  |  |  |  |  |
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|   | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr.** | **Instr.** | **Instr.** |  |  |
| Recognize and evaluate |  |  |  |  |  |  |  |  |  |  |
| Gather equipment |  |  |  |  |  |  |  |  |  |  |
| Familiarization with alarms |  |  |  |  |  |  |  |  |  |  |
| Discuss cardiac arrest management  |  |  |  |  |  |  |  |  |  |  |
| Reassess and symptom management |  |  |  |  |  |  |  |  |  |  |
| Date:  |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |

**Arterial Line Monitoring**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

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|   | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr.** | **Instr.** | **Instr.** |  |  |
| Recognize and evaluate |  |  |  |  |  |  |  |  |  |  |
| Gather equipment (adaptor, stopcock, appropriate fluid, transducer line)  |  |  |  |  |  |  |  |  |  |  |
| Remove all air from tubing |  |  |  |  |  |  |  |  |  |  |
| Keep at plebostatic axis |  |  |  |  |  |  |  |  |  |  |
| Hang fluid above heart  |  |  |  |  |  |  |  |  |  |  |
| Turn to open air and closed to patient |  |  |  |  |  |  |  |  |  |  |
| Zero monitor and transducer |  |  |  |  |  |  |  |  |  |  |
| Open to patient and monitor waveform |  |  |  |  |  |  |  |  |  |  |
| Connect to monitor |  |  |  |  |  |  |  |  |  |  |
| Monitor and reassess (recognize waveforms and MAP) |  |  |  |  |  |  |  |  |  |  |
| Date:  |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |

**Intra-Aortic Balloon Pump Maintenance and Monitoring**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr.** | **Instr.** | **Instr.** |  |  |
| Recognize and evaluate |  |  |  |  |  |  |  |  |  |  |
| Gather equipment (oxygen, IV access, EKG leads)  |  |  |  |  |  |  |  |  |  |  |
| Pre-transport equipment assessment (support level, balloon size, helium) |  |  |  |  |  |  |  |  |  |  |
| Pre-transport patient assessment (blood work, vital signs)  |  |  |  |  |  |  |  |  |  |  |
| Head of bed less than 45 degree |  |  |  |  |  |  |  |  |  |  |
| Connect to monitor |  |  |  |  |  |  |  |  |  |  |
| Monitor and reassess (urine output, any Bleeding, MAP, placement, end diastolic pressure, IABP measurements, rhythm strip) |  |  |  |  |  |  |  |  |  |  |
| Do not change settings |  |  |  |  |  |  |  |  |  |  |
| Date:  |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |

**Extracorporeal Membrane Oxygenation (ECMO) Monitoring**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

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|   | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr.** | **Instr.** | **Instr.** |  |  |
| Recognize and evaluate |  |  |  |  |  |  |  |  |  |  |
| Gather equipment |  |  |  |  |  |  |  |  |  |  |
| End to end circuit assessment |  |  |  |  |  |  |  |  |  |  |
| Pre-transport equipment assessment (blood circuit, flow Rate, RPM, SVO2 trend, sweep gas rate, FSIO2, batteries) |  |  |  |  |  |  |  |  |  |  |
| Assess brand specific alarms and settings  |  |  |  |  |  |  |  |  |  |  |
| Assess air bubble sensor |  |  |  |  |  |  |  |  |  |  |
| Pre-transport patient assessment (blood work, vitals, radiological, vent settings, infusions) |  |  |  |  |  |  |  |  |  |  |
| Plug into main electrical source |  |  |  |  |  |  |  |  |  |  |
| Verbalize potential emergency conditions and management |  |  |  |  |  |  |  |  |  |  |
| Monitor and reassess |  |  |  |  |  |  |  |  |  |  |
| Do not change settings |  |  |  |  |  |  |  |  |  |  |
| Date:  |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |

**Obtaining Arterial Blood Gasses**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

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|   | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr.** | **Instr.** | **Instr.** |  |  |
| Recognize and evaluate |  |  |  |  |  |  |  |  |  |  |
| Consider contraindications |  |  |  |  |  |  |  |  |  |  |
| 6Ps |  |  |  |  |  |  |  |  |  |  |
| Gather equipment (pre-heparinized syringe, appropriate catheter, alcohol wipes, cotton wipes and tape) |  |  |  |  |  |  |  |  |  |  |
| Assess artery patency |  |  |  |  |  |  |  |  |  |  |
| Prepare and cleanse |  |  |  |  |  |  |  |  |  |  |
| Proper position |  |  |  |  |  |  |  |  |  |  |
| Perform procedure (appropriate angle)  |  |  |  |  |  |  |  |  |  |  |
| Apply pressure to remove needle |  |  |  |  |  |  |  |  |  |  |
| Recognize inadvertent venous access |  |  |  |  |  |  |  |  |  |  |
| Assess and monitor |  |  |  |  |  |  |  |  |  |  |
| Date:  |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |

**Point of Care Ultrasound**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr.** | **Instr.** | **Instr.** |  |  |
| Recognize and evaluate |  |  |  |  |  |  |  |  |  |  |
| Minimize delays |  |  |  |  |  |  |  |  |  |  |
| Gather equipment |  |  |  |  |  |  |  |  |  |  |
| Appropriate anatomical recognition  |  |  |  |  |  |  |  |  |  |  |
| Utilize appropriate assessment tool (EFAST, FAST, RUSH) |  |  |  |  |  |  |  |  |  |  |
| Determine appropriate clinical treatment |  |  |  |  |  |  |  |  |  |  |
| Date:  |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |

**Accessing Central Lines**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

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|   | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr.** | **Instr.** | **Instr.** |  |  |
| Prepare and evaluate |  |  |  |  |  |  |  |  |  |  |
| Gather equipment |  |  |  |  |  |  |  |  |  |  |
| Recognize appropriate catheter to administer fluids and medications |  |  |  |  |  |  |  |  |  |  |
| Draw 5 ML blood and discard |  |  |  |  |  |  |  |  |  |  |
| Flush line |  |  |  |  |  |  |  |  |  |  |
| Observe for infiltration |  |  |  |  |  |  |  |  |  |  |
| Reassess and monitor |  |  |  |  |  |  |  |  |  |  |
| Date:  |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |

**Fetal Monitoring**

For any portion of the skill performed unsuccessfully, mark the column with an (X). The candidate must attempt the entire skill again to ensure competency.

|  |  |  |  |  |  |  |  |  |  |  |
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|   | **Peer** | Peer | Peer | **Instr.** | **Instr.** | **Instr.** | **Instr.** | **Instr.** |  |  |
| Prepare and evaluate |  |  |  |  |  |  |  |  |  |  |
| Gather equipment (gel, doppler or tocometer, appropriate transducer) |  |  |  |  |  |  |  |  |  |  |
| Recognition of proper positioning for assessment findings |  |  |  |  |  |  |  |  |  |  |
| Recognize anatomical position for transducer |  |  |  |  |  |  |  |  |  |  |
| Documentation of findings (decelerations, gestation, contractions, variability, fetal oxygen pathway)  |  |  |  |  |  |  |  |  |  |  |
| Determine appropriate clinical treatment |  |  |  |  |  |  |  |  |  |  |
| Assess need for potential in-utero resuscitation |  |  |  |  |  |  |  |  |  |  |
| Reassess and monitor |  |  |  |  |  |  |  |  |  |  |
| Date:  |  |  |  |  |  |  |  |  |  |  |
| If ***unsuccessful***, mark this column with an (X):  |  |  |  |  |  |  |  |  |  |  |
| Evaluators Signature:  |  |  |  |  |  |  |  |  |  |  |