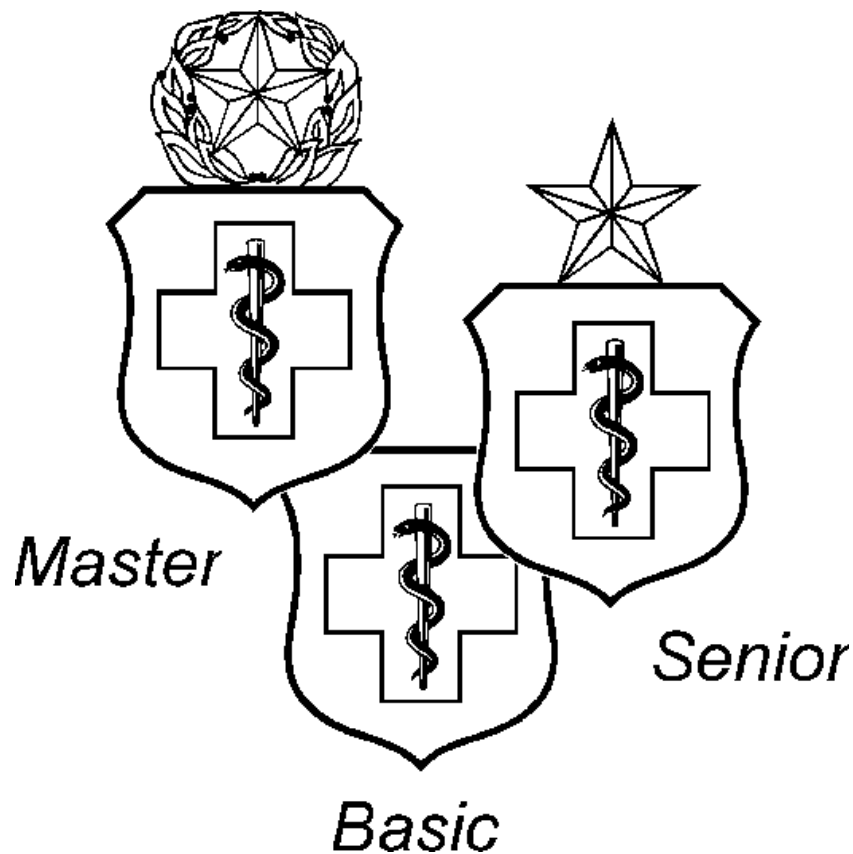


AEROSPACE MEDICAL SERVICE SPECIALTY
CRITICAL CARE TECHNICIAN



TOTAL FORCE, TOTAL CARE – EVERYTIME, ANYWHERE

**383 Training Squadron
Training Management Section**

2931 Harney Rd, BLDG 903
Fort Sam Houston, TX 78234

QTP 4N0X1-13

AEROSPACE MEDICAL SERVICE SPECIALTY

Volume 13: Medical Service Specialty Critical Care Technician

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Supersedes QTP 4N0X1-13, 1 May 2005.

INTRODUCTION

1. These Qualification Training Packages (QTPs) were developed to enhance on-the-job training for *Aerospace Medical Service Specialty* personnel. As a trainer, the QTPs provide you with the breakdown of tasks into teachable elements. The teachable elements will help you to guide the trainee toward sufficient proficiency for task performance **without assistance**. QTPs are also used by the task certifiers/certification official to evaluate trainees concerning tasks which need third-party certification.
2. Review each volume and identify which modules of QTPs are needed for the trainee's job position. Core task items are identified with the number "5" on the STS Column 2; these items are the minimum mandatory skills which are required for all 4N0X1 personnel to be proficient in performing. You have the flexibility to arrange training for each module in the order that you decide.
3. Review the subject-area tasks in each module with the trainee. Direct the trainee to review the training references to gain a better understanding of the objective for each module. If the trainee has any questions about the objective, clarify the behavior that is expected in the objective. Review the performance checklist with the trainee, and allow him/her sufficient time to learn each step (some objectives may take longer to teach). Remember--the objective of each QTP is to standardize training and to allow sufficient time for the trainee to learn each task thoroughly in order to perform the task **without assistance**.
4. When the trainee receives sufficient training and is ready to be evaluated on an objective, follow the evaluation instructions. The performance checklist must be used as you evaluate each task objective. When the trainee successfully accomplishes the objective, document task completion appropriately in AFTR.
5. The QTP task completion is to be annotated on AF Form 1098, *Special Task Certification and Recurring Training*, filed in Part 3, Section B in AFTR. **NOTE:** The individual checklists are **not** filed in each member's AFTR. A master checklist is filed in Part 3, Section B of the hardcopy Master Training Plan (MTP) folder.
6. If the trainee does not accomplish the objective, review the areas which need remediation. Conduct a feedback concerning each module with the trainee, and document appropriately in AFTR. As the trainer, when you are satisfied that the trainee is qualified to perform the task, he/she will be re-evaluated until the objective is met.
7. If the task which is being trained requires third-party certification by a task certifier/certifying official, the trainer first must ensure that the trainee is qualified to perform the task **without assistance**. Then the trainee will be evaluated by a task certifier/certifying official. The tasks which require third-party certification are denoted with a "A" in Column 3E of the Career Field Education and Training Plan (CFETP). After third-party certification, training qualification is documented appropriately in AFTR.
8. The QTPs are a necessary tool for standardizing refresher/sustainment training. Such standardization will benefit the CFETP training concept throughout each member's career. These documents also will be utilized for assessing/certifying the Aerospace Medical Service Specialist each time that he/she is assigned to a new duty position. The QTP developers' goal is to publish a usable document for certifying officials, trainers, and trainees for the purpose of enhancing on-the-job training for *Aerospace Medical Service Specialty* personnel. We value your first-hand expertise, and we encourage your feedback. Direct all inquiries to:

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SET-UP AND ASSIST WITH PULMONARY ARTERY (PA) CATHETER INSERTION/RECOGNIZE HEMODYNAMIC WAVEFORMS

- SUBJECT AREA:** Critical Care.
- TASK(s):** Prepare supplies and equipment and assist with Pulmonary Artery (PA) Catheter insertion.
- CFETP/STS REFERENCE(s):** **6.1.2.1, 6.1.2.2., 6.1.2.3., 6.1.2.4., 6.1.2.5. & 6.10.1.** SEI 487 specific AF form 1098 overprint.
- EQUIPMENT REQUIRED:** Transducer system, 500 mL 0.9 % Normal Saline (NS), pressure bag, appropriate PPE (sterile gloves, sterile gowns & masks), prepackaged PA catheter and introducer kits, pressure cables compatible with hemodynamic monitor.
- TRAINING REFERENCE(s):** AACN Procedure Manual for Critical Care, (6th edition), Mosby’s Pulmonary Artery Catheter Insertion (Assisting) and Monitoring skills checklist, Hemodynamic monitoring system operating manual.
- REMARKS/NOTES:** Review steps of the process one-on-one with medical technician and/or nursing personnel skilled and verified in assisting with PA catheter insertion.
- OBJECTIVE:** The trainee will successfully demonstrate without error the performance aspects of assisting with PA catheter insertion and recognition of PA waveforms.

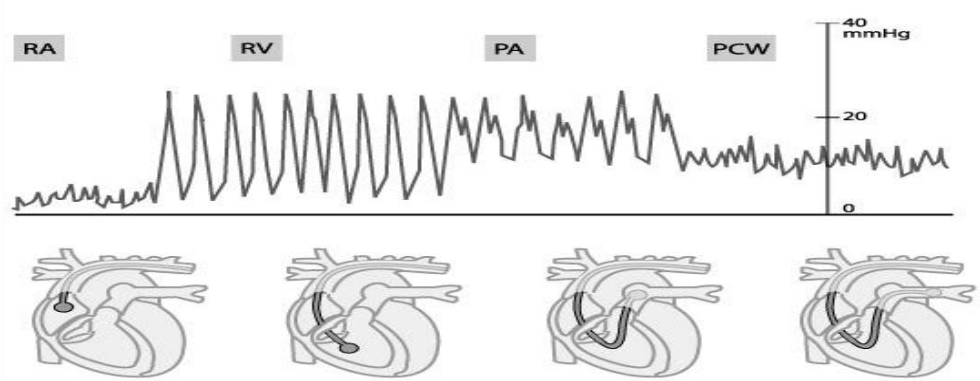
EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction, allow sufficient practice on each part of the task.

2. The evaluator will **STOP** the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.

3. Use the performance checklist to ensure all steps of the task are accomplished.
4. Document task competency upon completion of the evaluation in the trainee’s AFTR. Initial evaluation should be documented in the 797. All recurring evaluations should be documented on AF Form 1098.

Vol. 13 Mod 1 Set-up and assist with pulmonary artery (pa) catheter insertion/recognize hemodynamic waveforms

| PERFORMANCE ITEM | SAT | UNSAT |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves. | | |
| 4. Gather supplies/equipment. | | |
| 5. Prime and flush the transducer system. | | |
| 6. Apply and maintain 300 mgHg pressure in pressure bag. | | |
| 7. Assist physician in opening the PA catheter and introducer kits using sterile technique. | | |
| 8. When sheath introducer is in place assist by connecting 0.9% NS to the infusion port. | | |
| 9. Connect pressure transducer/flush system to PA distal & proximal ports of catheter and flush all lumens. | | |
| 10. Connect pressure cables from PA distal & proximal transducers to monitor. | | |
| 11. Connect thermistor connector of PA catheter to CO monitor/module. | | |
| 12. Set scales for each pressure tracing per physician orders. | | |
| 13. Level and zero to air to the phlebostatic axis (off to patient, open to air, and zero the monitoring system) | | |
| 14. Continually run ECG and distal waveform strip while physician is inserting catheter. | | |
| 15. Monitor patient for distress. | | |
| 16. At physician's orders, inflate balloon with no more than 1.25 to 1.5mL of air and close stopcock when the tip of the PA catheter is in the right atrium. | | |
| 17. Observe for Right atrium (RA), Right Ventricle (RV), Pulmonary Artery (PA), and Pulmonary Capillary Wedge (PCW) waveforms **Note Plmonary Artery Occlusion (PAO) is the also known as Pulmonary Capillary Wedge (PCW)** | | |
|  | | |

| | | |
|------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| 18. Verify proper position. When balloon is deflated the monitor shows a PA tracing; when balloon is inflated the monitor shows a PCW tracing. | | |
| 19. After placement is verified by physician, open balloon inflation stopcock and remove PA syringe. | | |
| 20. Reassess proper leveling of transducer and secure to chest, arm or IV pole. | | |
| 21. Zero monitoring system and perform a dynamic response test (square wave test) | | |
| 22. Apply sterile dressing to the site. | | |
| 23. Document procedure and note the external centimeter marking of PA catheter at introducer exit site. | | |
| 24. Set up alarm parameters per physician orders. | | |
| 25. Ensure physician ordered chest x ray and that it is completed. | | |
| 26. Document the procedure and line placement. | | |
| FINAL RESULTS: | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR.

MONITOR PATIENT ON TELEMETRY/IDENTIFY CARDIAC RHYTHMS/IDENTIFY WAVEFORMS/IDENTIFY TRENDS

SUBJECT AREA: Critical Care.

TASK(s): Identify cardiac rhythms, waveforms and trends.

CFETP/STS REFERENCE(s): **6.1.3.1., 6.1.3.2., & 6.1.3.3.**
SEI 487 specific AF form 1098 overprint.

EQUIPMENT REQUIRED: ECG electrodes and ECG lead wires compatible with bedside and central monitors, non-emollient soap, ECG calipers, razor or clippers, skin prep and alcohol pads.

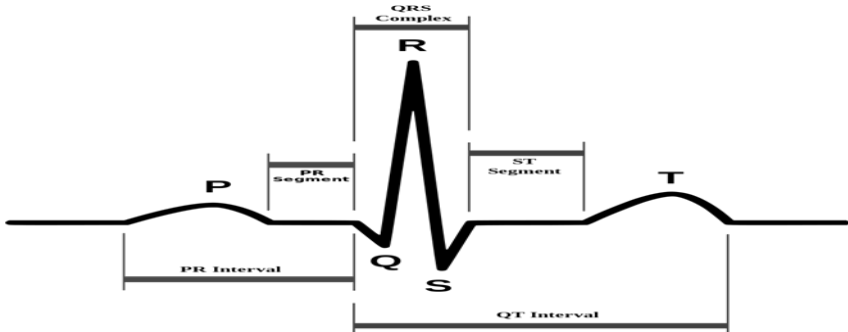

TRAINING REFERENCE(s): AACN Procedure Manual for Critical Care (6th edition), ECGs Made Easy (5th edition), Emergency Care and Transportation of the Sick and Injured by American Academy of Osteopathic Surgeons (AAOS) (10th edition), and Brady Emergency Care (12th edition).

REMARKS/NOTES: Review steps of the process one-on-one with medical technician & nursing personnel that are skilled and certified in monitoring patients on telemetry.

OBJECTIVE: The trainee will successfully demonstrate without error the performance aspects of monitoring patients on telemetry.

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction, allow sufficient practice on each part of the task.
2. The evaluator will **STOP** the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.

| Vol. 13 Module 2 <i>Monitor patient on telemetry/identify cardiac rhythms/identify waveforms/identify trends</i> | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| PERFORMANCE ITEM | SAT | UNSAT |
| 1. Verify Physician order for telemetry. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves. | | |
| 4. Gather supplies/equipment. | | |
| 5. Verify lead placement. | | |
| 6. Evaluate the ECG monitor pattern for the presence of P waves, QRS complexes, a clear baseline, and absence of artifact. | | |
| 7. Obtain a rhythm strip on admission, at intervals dictated by local protocol, and when there is any rhythm change. | | |
| 8. Evaluate the ECG pattern continually for dysrhythmias, assess the patient's tolerance to the change and notify RN and physician for interventions. | | |
| Identify Cardiac Rhythms and Waveforms | | |
|  | | |
| Normal Sinus Rhythm | | |
|  <p>Rhythm: Regular Rate: 60-100 bpm P waves: Normal—identical and one for every QRS PR Interval: 0.12 to 0.20 seconds QRS: Less than 0.12 seconds</p> | | |

Sinus Tachycardia



Rhythm: Regular
Rate: 100-150 bpm
P waves: Normal—identical and one for every QRS
PR Interval: 0.12 to 0.20 seconds
QRS: Less than 0.12 seconds

Sinus Bradycardia



Rhythm: Regular
Rate: Less than 60 bpm
P waves: Normal—identical and one for every QRS
PR Interval: 0.12 to 0.20 seconds
QRS: Less than 0.12 seconds


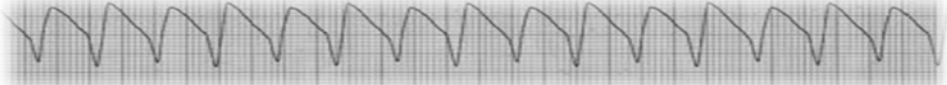
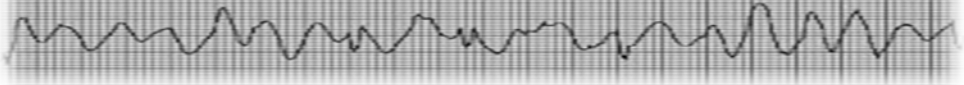
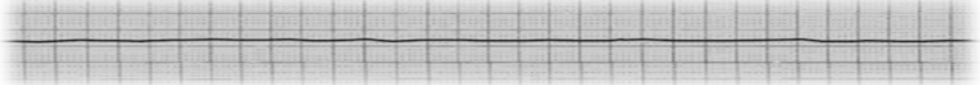
Sinus Arrhythmia



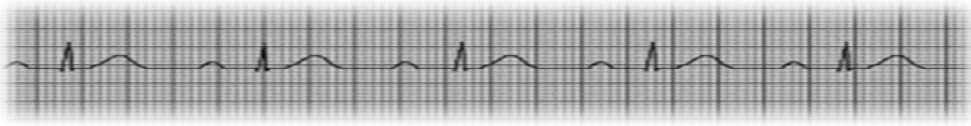
Rhythm: Irregular
Rate: Usually 60 to 100 bpm
P waves: Normal—identical and one for every QRS
PR Interval: 0.12 to 0.20 seconds
QRS: Normal—less than 0.12 seconds



Atrial Flutter
Rhythm: Regular
Rate: 250-350 bpm
P waves: Irregular and saw toothed
QRS: Rapid QRS response in a 2:1 ratio (2 flutter waves to 1 QRS response) less than 0.12 seconds

| | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| <p>Atrial Fibrillation</p>  <p>Rhythm: Irregular Rate: Atrial “rate” is 350 to 450 bpm . Ventricle rate can be slow to rapid (the range rate is more hypothetical than real because fibrillating chambers do not effectivly pump at all to give you a real rate) P waves: None or not distinguishable QRS: Irregular—can be fast or slow and random & less than 0.12</p> | | |
| <p>Ventricular Tachycardia</p>  <p>Rhythm: Regular Rate: ventriculat rate of 150-250 bpm P waves: Absent or not related QRS: greater than 0.12 seconds</p> | | |
| <p>Ventricular Fibrillation</p>  <p>Rhythm: I rregular Rate: ventricular “rate” is 350 to 450 bpm (the range rate is more hypothetical than real because of the erratic, rapid twitching of the ventricles) P waves: Absent QRS: No identifiable waves</p> | | |
| <p>Asystole</p>  <p>Rhythm: None Rate: None P waves: None QRS: None</p> | | |

First degree AV block



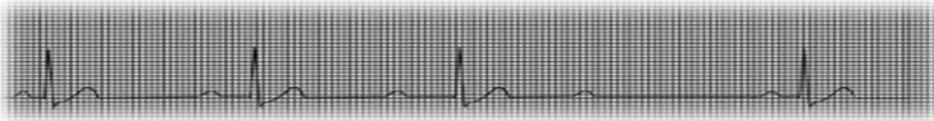
Rhythm: Regular

P waves: Regular and before each QRS

PR Interval: Normal—one for each QRS but it is greater than 0.20 seconds

QRS: Less than 0.12

Second degree AV block—Type I (Wenkebach or Mobitz type I)



Rhythm: Regularly Irregular

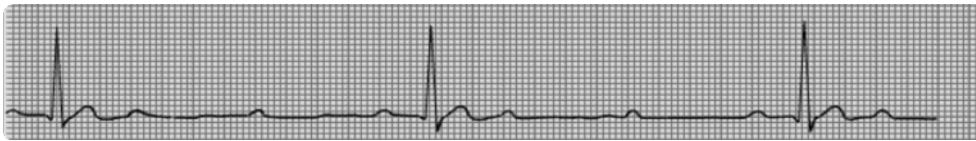
P wave: Intermittent conduction

PR Interval: Increasingly prolonged

QRS: Less than 0.12 seconds

QRS dropped in a repeating pattern

Second-Degree AV Block—Type II (Mobitz Type II)



P wave: Sinus

PR Interval: Usually normal and identical (before & after a blocked impulse)

QRS: Broad, equal or greater than 0.12 seconds

Some P waves are not conducted

Third-Degree (Complete) AV Block



Rhythm: Irregular

P wave: Normal but not related to QRS

PR Interval: None

QRS: Narrow or broad

FINAL RESULTS:

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR.

OPERATE VENTILATOR/TRANSFER PATIENT FROM STATIONARY VENTILATOR/PORTABLE VENTILATOR

- SUBJECT AREA:** Critical Care.
- TASK(s):** Operate ventilator and transfer patient between stationary ventilator and portable ventilator.
- CFETP/STS REFERENCE(s):** **6.3.3. & 6.3.4.**
SEI 487 specific AF form 1098 overprint.
- EQUIPMENT REQUIRED:** **EQUIPMENT SHOULD BE RETRIEVED FROM RESPIRATORY THERAPY (RT) DEPT**
- TRAINING REFERENCE(s):** AACN Procedure Manual for Critical Care (6th edition), Respiratory Care Principles and Practice (2nd edition) Dean R. Hess, Egans’s Fundamentals of Respiratory Care (9th edition) and Ventilator(s) Operating Manual.
- REMARKS/NOTES:** Review steps of the process one-on-one with medical technician, respiratory therapy (RT), nursing personnel that are skilled and certified in monitoring patients on mechanical ventilation.
- OBJECTIVE:** The trainee will successfully demonstrate without error the performance aspects of operating ventilators.

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction, allow sufficient practice on each part of the task.

2. The evaluator will **STOP** the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.

3. Use the performance checklist to ensure all steps of the task are accomplished.

4. Document task competency upon completion of the evaluation in the trainee’s AFTR. Initial evaluation should be documented in the CFETP. All recurring evaluations should be documented on AF Form 1098.

| Vol. 13 Module 3 Operate ventilator/transfer patient from stationary ventilator/portable ventilator | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|
| PERFORMANCE ITEM | SAT | UNSAT |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves, mask and gown. | | |
| 4. Gather supplies/equipment from Respiratory Therapy (RT) department. | | |
| 5. Per physician order contact RT for ventilator set up. | | |
| 6. Assist RT in setting up the ventilator. | | |
| 7. Assist RT in setting ventilator mode per physician order. **Continuous Mandatory Ventilation (CMV) or Assist Control (A/C), Synchronized Intermittent Mandatory Ventilation (SIMV) and Pressure Support Ventilation (PSV)** | | |
| 8. Assist RT in setting ventilator parameters per physicians order. | | |
| 9. Assess/Document vital signs, SPO2 and respirations. | | |
| 10. Contact RN and RT for any variances in the ventilated patient's vital signs are outside of physician's written orders. | | |
| 11. Ensure with RT that the ventilator alarms are activated. | | |
| Transfer patient between stationary ventilator and portable ventilator | | |
| 1. Ensure that RT and RN are present when making any changes or switching a patient from one vent to another IAW local protocol and physician orders. | | |
| 2. Gather equipment/supplies from RT department. | | |
| 3. Assess/Document vital signs, SPO2 and respirations. | | |
| 3. Inform RN of any changes in respiratory status prior to switching ventilators. | | |
| 4. Ensure that both ventilators have the same modes and settings (mirror image) per physician orders. | | |
| 5. Assist RT in transferring ventilator tubing from the patient on the stationary ventilator to the portable ventilator. | | |
| 6. Ensure vent settings and modes are correct per physician's order. | | |
| 7. Assess/Document vital signs, SPO2 and respirations. | | |
| 5. Prepare to support with ventilations with BVM if necessary. | | |
| 6. Continue to assist RT as needed. | | |
| FINAL RESULTS: | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR.

SET-UP AND ASSIST WITH INTUBATION/EXTUBATION

| | |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUBJECT AREA: | Critical Care. |
| TASK(s): | Assist with endotracheal intubation and extubation. |
| CFETP/STS REFERENCE(s): | 6.4.4. SEI 487 specific AF form 1098 overprint. |
| EQUIPMENT REQUIRED: | Personal protective equipment (gloves and eye protection), laryngoscope handle, curved or straight blade, endotracheal tube, resuscitation bag/mask, stylet, oral airway, adhesive tape or tube fixation system, sterile anesthetic lubricant jelly (water-soluble), anaesthetic spray, 10 mL syringe, suction source, suction catheter and tonsil suction. |
| TRAINING REFERENCE(s): | AACN Procedure Manual for Critical Care, (6 th edition), Mosby's Endotracheal Intubation skills worksheet, Mosby's Endotracheal Tube Extubation and Decannulation skills worksheet and Mosby's Endotracheal Tube: Skin and Oral Care skills worksheet. |
| REMARKS/NOTES: | Review steps of the process one-on-one with medical technician and/or nursing personnel skilled and verified in assisting with intubation & extubation |
| OBJECTIVE: | The trainee will successfully demonstrate without error the performance aspects of assisting with patient intubation & extubation. |
| | 1. After the trainee has received instruction, allow sufficient practice on each part of the task. |
| | 2. The evaluator will STOP the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time. |
| | 3. Use the performance checklist to ensure all steps of the task are accomplished. |
| | 4. Document task competency upon completion of the evaluation in the trainee's AFTR. Initial evaluation should be documented in the CFETP. All recurring evaluations should be documented on AF Form 1098. |

| Vol. 13 Module 4 | <i>Set-up and assist with intubation/extubation</i> | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------|--------------|
| PERFORMANCE ITEM | | SAT | UNSAT |
| INTUBATION | | | |
| 1. Verify physician's order. | | | |
| 2. Identify patient and explain procedure. | | | |
| 3. Wash hands /don gloves and mask. | | | |
| 4. Gather supplies/equipment. | | | |
| 5. Assemble laryngoscope and test blade light bulb. | | | |
| 6. Ensure suction is available and functioning. | | | |
| 7. Connect resuscitation bag to oxygen supply. | | | |
| 8. Remove bed headboard if needed. | | | |
| 9. Prepare tape or tube fixation device. | | | |
| 10. Pre-oxygenate patient prior to intubation. | | | |
| 11. Assist physician with insertion of endotracheal tube, inflate cuff with syringe and connect tube to ventilator or provide manual ventilation's. | | | |
| 12. Observe for bilateral chest expansion. | | | |
| 13. Assist with securing endotracheal tube in place. | | | |
| 14. Record distance from proximal end of tube the teeth or gums. | | | |
| 15. Auscultate breath sounds. | | | |
| 16. Obtain chest x-ray per physician's orders. | | | |
| 17. Measure cuff pressure with manometer. | | | |
| 18. Monitor arterial blood gas oxygen saturation levels closely. | | | |
| 19. Suction as needed. | | | |
| 20. Wash hands. | | | |
| 21. Document procedure. | | | |
| EXTUBATION | | | |
| 1. Gather supplies/equipment a. Tonsil suction, 10 mL syringe, bag-mask, requested oxygen mask, and eye protection | | | |
| 2. Identify and explain procedure to patient. | | | |
| 3. Wash hands/don gloves and mask. | | | |
| 4. Elevated patients head of bed to semi-Fowler's position (unless contraindicated) | | | |
| 5. Set-up requested oxygen mask connected to oxygen supply. | | | |
| 6. Have intubation supplies and resuscitation bag connected to oxygen supply readily available. | | | |
| 7. Assist physician and respiratory therapy in obtaining weaning parameters. | | | |
| 8. Assist with endotracheal tube and oral pharyngeal airway suctioning. | | | |
| 9. Assist in removing tape or tube fixation device. | | | |
| 10. Assist physician with cuff deflation and endotracheal tube removal. | | | |

| | | |
|--------------------------------------------------------------------------------------------------------|--|--|
| 11. Immediately place patient on supplemental oxygen per physician's order. | | |
| 12. Closely monitor patient for signs and symptoms of airway obstruction or respiratory insufficiency. | | |
| 13. Wash hands. | | |
| 14. Document procedure. | | |
| FINAL RESULT: | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR.

SET-UP AND ASSIST WITH DIAGNOSTIC PERITONEAL LAVAGE

| | |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUBJECT AREA: | Critical Care. |
| TASK(s): | Set-up and assist with diagnostic peritoneal lavage |
| CFETP/STS REFERENCE(s): | 6.4.7. SEI 487 specific AF form 1098 overprint. |
| EQUIPMENT REQUIRED: | Commercially prepared kit, sterile gloves, gown, mask or face shield, skin cleansing solution, sterile towels or drapes, local anesthetic for injection, 5mL or 10mL syringe with 25 or 27g needle, scalpel, knife blade, 16g, 18g, or 20g angiocatheter, hemostat, 20mL syringe, sterile intravenous tubing (without valves) with appropriate connectors for lavage catheter and IV bag, warm 1000mL Lactated Ringer's (LR), 0.9% Normal Saline (NS) or antibiotic solution for infusion, three-way stopcock, nylon suture, sterile 4X4's, sterile dressing, tape, IV tubing, pressure bag, and IV pole. |
| TRAINING REFERENCE(s): | AACN Procedure Manual for Critical Care, (6 th edition) and Mosby's Peritoneal Lavage Advanced Practice skills checklist. |
| REMARKS/NOTES: | Review steps of the process one-on-one with medical technician and/or nursing personnel skilled and verified in setup and assisting with diagnostic peritoneal lavage. |
| OBJECTIVE: | The trainee will successfully demonstrate without error the performance aspects of set up and assisting with diagnostic peritoneal lavage. |
| EVALUATION INSTRUCTIONS: | <ol style="list-style-type: none">1. After the trainee has received instruction, allow sufficient practice on each part of the task.2. The evaluator will STOP the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.3. Use the performance checklist to ensure all steps of the task are accomplished.4. Document task competency upon completion of the evaluation in the trainee's AFTR. Initial evaluation should be documented in the CFETP. All recurring evaluations should be documented on AF Form 1098. |

| Vol. 13 Module 5 <i>Set-up and assist with diagnostic peritoneal lavage</i> | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|
| PERFORMANCE ITEM | SAT | UNSAT |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Gather supplies/equipment. | | |
| 4. Wash hands/don gloves. | | |
| 5. Label all medications, containers and solutions to be used during the procedure. | | |
| 6. Assist patient to supine position. | | |
| 7. Set up lavage equipment. | | |
| 8. Attach IV tubing to the lavage fluid and clear tubing of air. | | |
| 9. Attach the IV tubing to one port of the 3-way stopcock & drainage collector to the second port of the 3-way stopcock OR use IV tubing with a roller clamp & use the lavage fluid bag as the drainage bag. | | |
| 10. Assist with cleaning the injection site with chlorhexidine or povidone-iodine. | | |
| 11. Assist with placement of sterile drapes & sterile field. | | |
| 12. Assist physician in preparing incision site & puncture site, handing the scalpel and inserting catheter. | | |
| 13. Assist with collecting specimens using a syringe if there is fluid return. | | |
| 14. If the tap is dry the lavage technique is performed. | | |
| 15. Assist with guide wire insertion introduced through the 18g needle. | | |
| 16. When about half of the guide wire is inserted into the pelvis the needle is removed. Assist the physician as they hold the guide wire continuously. | | |
| 17. Assist with the peritoneal lavage catheter as it is slid over the wire with a gentle twisting motion. | | |
| 18. Assist with removal of the wire after the catheter is in the peritoneal cavity. | | |
| 19. Attach IV tubing to catheter; per physician's instructions infuse 700mL-1000mL of warmed LR or NS into peritoneal cavity. | | |
| 20. Rotate patient from side to side (if not contraindicated) | | |
| 21. After solution is infused, remove empty bag from the IV pole and lower below the abdominal level (near the floor) to drain or turn stopcock to drainage bag if using two bag set-up. | | |
| 22. Rotate patient from side to side (if not contraindicated) | | |
| 23. Repeat lavage sequence as requested per physician orders. | | |
| 24. Calculate true drainage. | | |
| 25. Prepare and send fluid for laboratory analysis. | | |
| 26. Apply sterile dressing to wound site. | | |
| 27. Dispose of equipment appropriately. | | |
| 28. Wash hands. | | |

| | | |
|------------------------------------------------------------|--|--|
| 29. Document procedure. | | |
| 30. Observe patient closely for any type of deterioration. | | |
| FINAL RESULT: | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR.

MONITOR PATIENT ON MECHANICAL VENTILATION/PERFORM VENTILATOR ALARM/CIRCUIT TROUBLESHOOTING

- SUBJECT AREA:** Critical Care.
- TASK(s):** Monitor patients on mechanical ventilator.
- CFETP/STS REFERENCE(s):** **6.6 & 6.8.**
SEI 487 specific AF form 1098 overprint.
- EQUIPMENT REQUIRED:** **EQUIPMENT SHOULD BE RETRIEVED FROM RESPIRATORY THERAPY (RT) DEPT**
- TRAINING REFERENCE(s):** AACN Procedure Manual for Critical Care (6th edition), Mosby’s Mechanical Ventilation-Volume and Pressure Mode Checklist.
- REMARKS/NOTES:** Review steps of the process one-on-one with medical technician, respiratory therapy (RT), nursing personnel that are skilled and certified in monitoring patients on mechanical ventilation.
- OBJECTIVE:** The trainee will successfully demonstrate without error the performance aspects of monitoring and troubleshooting patients on mechanical ventilation.

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction, allow sufficient practice on each part of the task.
2. The evaluator will **STOP** the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.
3. Use the performance checklist to ensure all steps of the task are accomplished.
4. Document task competency upon completion of the evaluation in the trainee’s OJT record. Initial evaluation should be documented in the CFETP. All recurring evaluations should be documented on AF Form 1098.

| Vol. 13 Module 6 Monitor patient on mechanical ventilation/perform ventilator alarm/circuit troubleshooting | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|
| PERFORMANCE ITEM | SAT | UNSAT |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves. | | |
| 4. Gather supplies/equipment. | | |
| 5. Per physician order contact RT for ventilator set up. | | |
| 6. Assist RT and physician in setting up the most appropriate vent setting for the patient (control, SIMV, or AC) | | |
| 7. Assist with suction as needed a. Hyperoxygenate the patient with 100% oxygen for at least 30 seconds using one of the three following methods prior to suctioning: press hyperoxygenation button on the ventilator, increase baseline FIO ₂ on ventilator OR disconnect patient from ventilator and administer 5-6 breaths over 30 seconds using a bag valve mask | | |
| 8. Monitor vital signs. | | |
| 9. Document vital signs, SPO ₂ and respirations. | | |
| 10. Contact RN and RT for any variances in the ventilated patient's vital signs outside of physician's written orders. | | |
| 11. Ensure with RT that the ventilator alarms are activated. | | |
| Perform Ventilator Alarm/Circuit Troubleshooting | | |
| 1. Check patient O ₂ saturation level, vitals and respiration quality. | | |
| 2. Inform RN of any ventilator alarms. | | |
| 3. Call Respiratory Therapy (RT) for assistance STAT. | | |
| 4. Prepare to support with ventilations with BVM if necessary. | | |
| 5. Assist RT as needed. | | |
| FINAL RESULT: | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR

SET-UP AND ASSIST WITH SYNCHRONIZED CARADIOVERSION

| | |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUBJECT AREA: | Critical Care. |
| TASK(s): | Set-up and assist with synchronized cardioversion. |
| CFETP/STS REFERENCE(s): | 6.10.10. SEI 487 specific AF form 1098 overprint. |
| EQUIPMENT REQUIRED: | Defibrillator/monitor with ECG oscilloscope/recorder capable of delivering a synchronized shock, ECG cables, conductive gel or self-adhesive gel pads, IV sedation, BVM with O2 and flow meter, suction and intubation equipment, pulse oximeter and IV pump. **Additional equipment** Cardiac board, emergency medications, emergency pacing equipment or functional crash cart. |
| TRAINING REFERENCE(s): | AACN Procedure Manual for Critical Care, 6 th Edition and Mosby's Synchronized Cardioversion skills checklist |
| REMARKS/NOTES: | Review steps of the process one-on-one with medical technician and/or nursing personnel skilled and verified in assisting with synchronized cardioversion. |
| OBJECTIVE: | The trainee will successfully demonstrate without error the performance aspects of setting-up for and assisting with synchronized cardioversion. |

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction, allow sufficient practice on each part of the task.

2. The evaluator will **STOP** the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.

3. Use the performance checklist to ensure all steps of the task are accomplished.

4. Document task competency upon completion of the evaluation in the trainee's OJT record. Initial evaluation should be documented in the CFETP. All recurring evaluations should be documented on AF Form 1098.

| Vol. 13 Module 7 <i>Set-up and assist with synchronized cardioversion</i> | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|
| PERFORMANCE ITEM | SAT | UNSAT |
| STANDARD DEFIBRILLATOR/MONITOR | | |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves. | | |
| 4. Gather supplies/equipment. | | |
| 5. Perform 12 lead ECG if requested. | | |
| 6. Turn on monitor and apply conventional 3 or 5 lead configuration. | | |
| 7. Prepare patient and defibrillator paddles with proper conductive medium. | | |
| 8. Turn on ECG recorder for continuous printout. | | |
| 9. Assure defibrillator is in synchronized mode (SYNC) | | |
| 10. Properly place paddles on the patient's chest or anterior/posterior position <ul style="list-style-type: none"> a. Anterior position – one paddle just right of sternum at 2nd interspace and the other just under left nipple b. Anterior-posterior position – use self-adhesive gel pads for this, the anterior pad is placed over the left pericardium & the posterior pad is placed under the right scapula | | |
| 11. Set energy level and charge defibrillator paddles per physician request. | | |
| 12. Assist nurse/physician in cardioversion. | | |
| 13. Ensure all personnel are clear of contact with patient and equipment. | | |
| 14. After cardioversion, assess for pulse. | | |
| 15. Observe monitor for cardioversion of tachydysrhythmia and ECG rhythm. | | |
| 16. Obtain 12 lead ECG if requested. | | |
| 17. Clean defibrillator. | | |
| 18. Discard supplies. | | |
| 19. Wash hands. | | |
| 20. Monitor vital signs per physician orders. | | |
| 21. Document procedure. | | |
| DEFIBRILLATOR WITH HAND FREE MULTIPURPOSE CABLE | | |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves. | | |
| 4. Gather supplies/equipment. | | |
| 5. Perform 12 lead ECG if requested. | | |
| 6. Prepare patient and place standard 3 or 5 lead electrode configuration. | | |
| 7. Properly place disposable defibrillation/multifunction pads on patient <ul style="list-style-type: none"> a. Place round electrode labeled front directly over the patients cardiac apex b. Place the electrode labeled back between the patient's left scapula and spine at the level of the heart. | | |

| | | |
|------------------------------------------------------------------------------|------------|--------------|
| 8. Ensure both electrodes are firmly placed and have good skin contact. | | |
| 9. Connect multifunction electrodes to monitor. | | |
| 10. Turn on ECG recorder to desired ECG lead and set continuous printout. | | |
| 11. Assure defibrillator is in synchronized mode. | | |
| 12. Set energy level and charge defibrillator paddles per physician request. | | |
| 13. Assist physician in cardioversion. | | |
| PERFORMANCE ITEM | SAT | UNSAT |
| 14. Ensure all personnel are clear of contact with patient and equipment. | | |
| 15. Observe monitor for cardioversion of tachydysrhythmia and ECG rhythm. | | |
| 16. Obtain a 12 lead ECG if requested. | | |
| 17. Clean defibrillator. | | |
| 18. Discard supplies. | | |
| 19. Wash hands. | | |
| 20. Monitor frequent vital signs. | | |
| 21. Document procedure. | | |
| FINAL RESULT: | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR.

PERFORM/OBTAIN MEASUREMENTS OF PULMONARY ARTERY PRESSURE (PAP), CENTRAL VENOUS PRESSURE (CVP), PULMONARY CAPILLARY WEDGE PRESSURE (PAWP) AND CARDIAC OUTPUT (CO)

| | |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SUBJECT AREA: | Critical Care. |
| TASK(s): | Perform PAP, CVP, PAWP and CO measurements. **Note** PAWP is also known as Pulmonary Artery Occlusive Pressure (PAOP). |
| CFETP/STS REFERENCE(s): | 6.11.1., 6.11.2., 6.11.3. & 6.11.4. SEI 487 specific AF form 1098 overprint. |
| EQUIPMENT REQUIRED: | Cardiac monitor with hemodynamic monitoring Capabilities and a two channel strip recorder. |
| TRAINING REFERENCE(s): | AACN Procedure Manual for Critical Care, (6 th edition); Mosby's Pulmonary Artery Catheter Insertion (Assisting) and Monitoring skills checklist and hemodynamic monitoring equipment operators manual. |
| REMARKS/NOTES: | Review steps of the process one-on-one with medical technician and/or nursing personnel skilled and verified in hemodynamic waveform recognition. |
| OBJECTIVE: | The trainee will successfully demonstrate the performance aspects of measuring, without error, measurements of PAP, CVP, PAWP (PAOP) and CO. |

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction, allow sufficient practice on each part of the task.

2. The evaluator will **STOP** the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.

3. Use the performance checklist to ensure all steps of the task are accomplished.
4. Document task competency upon completion of the evaluation in the trainee's OJT record. Initial evaluation should be documented in the 797. All recurring evaluations should be documented on AF Form 1098.

| Vol. 13 Module 8 Perform/obtain measurements of pulmonary artery pressure (pap), central venous pressure (cvp), pulmonary capillary wedge pressure (pawp) and cardiac output (co) | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|
| PERFORMANCE ITEM | SAT | UNSAT |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves. | | |
| 4. Gather supplies/equipment. | | |
| TO OBTAIN THE PA PRESSURE MEASUREMENT RA/CVP | | |
| 6. Position patient in a supine position with the head of the bed at 0 to 45 degrees. | | |
| 7. Run dual-channel strip of ECG and Right Atrium (RA) waveform. | | |
| 8. Measure RA pressure at end expiration. | | |
| 9. Using a dual-channel recorded strip, draw a vertical line from the beginning of the P wave of one ECG complex down to the RA waveform. Repeat this with the next ECG complex | | |
| 10. Align P-R interval with RA waveform. | | |
| 11. Identify <i>a</i> wave. | | |
| 12. Identify scale of RA tracing. | | |
| 13. Measure mean of <i>a</i> wave to obtain RA pressure (RAP) | | |
| TO OBTAIN PULMONARY ARTERY (PA) PRESSURES (SYSTOLIC AND DIASTOLIC) | | |
| 1. Position patient in a supine position with the head of the bed at 0 to 45 degrees. | | |
| 2. Run dual-channel strip of ECG and PA waveform. | | |
| 3. Measure PA pressure at end expiration. | | |
| 4. Identify Q-T interval on ECG strip. | | |
| 5. Align Q-T interval with PA waveform. | | |
| 6. Identify scale of PA tracing. | | |
| 7. Measure PA systolic pressure at peak of systolic waveform on PA waveform. | | |
| 8. Align end of QRS complex with PA waveform. | | |
| 9. Measure PA diastolic pressure at point of intersection of this line. | | |
| OBTAINING THE PAWP (PAOP) | | |

| | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| 1. Position patient in supine position with head of bed at 0 to 45 degrees. | | |
| 2. Fill PA syringe with 1.5 mL of air. | | |
| 3. Connect PA syringe to gate valve or stopcock of balloon port of PA catheter. | | |
| 4. Run dual-channel strip of ECG and PA waveform. | | |
| 5. Slowly inflate balloon with air until PA waveform changes to PAW (PAO) waveform. | | |
| 6. Inflate PA balloon for no more than 8 to 15 seconds (two respiratory cycles) | | |
| 7. Measure wedge pressure at end expiration. | | |
| 8. Disconnect syringe from balloon-inflation port. | | |
| 9. Observe monitor as PAW (PAO) waveform changes back to PA waveform. | | |
| 10. Expel air from syringe. | | |
| 11. Reconnect syringe to end of balloon-inflation valve. | | |
| 12. Follow physician's order regarding keeping the stopcock open. | | |
| 13. Using dual-channel recording slip draw a vertical line from beginning of the P wave of one ECG complex down to the PAW (PAO) waveform. Repeat this with the next ECG complex | | |
| 14. Align the end of the QRS complex of ECG strip with PAW (PAO) waveform. | | |
| 15. Identify <i>a</i> wave. | | |
| 16. Identify scale of PAO tracing. | | |
| 17. Measure mean of <i>a</i> wave to obtain PAWP (PAOP) | | |
| 18. Compare PADP (pulmonary artery distal pressure) with PAWP (PAOP) | | |
| 19. Follow PADP if there was a close correlation between the PADP and PAWP (PAOP) | | |
| 20. Follow PAWP (PAOP) if there was greater than 4 mm Hg of difference between PAWP (PAOP) and PADP | | |
| 21. Document measurements. | | |
| FINAL RESULTS: | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR.

PERFORM AND OBTAIN MIXED VENOUS BLOOD SAMPLE

- SUBJECT AREA:** Critical Care.
- TASK(s):** Draw mixed venous blood sample.
- CFETP/STS REFERENCE(s):** **6.11.5.**
SEI 487 specific AF form 1098 overprint.
- EQUIPMENT REQUIRED:** Non-sterile gloves, 5ml and 10 ml syringes, heparinized blood gas sampling syringe, container of ice for blood gas sample, sterile 4x4, 2x2 and sterile cap.
- TRAINING REFERENCE(s):** AACN Procedure Manual for Critical Care, (6th edition) and Mosby's Pulmonary Artery Catheter: Mixed Venous Oxygen Saturation Sample skills worksheet.
- REMARKS/NOTES:** Review steps of the process one-on-one with medical technician and/or nursing personnel skilled and certified in drawing mixed venous blood samples.
- OBJECTIVE:** The trainee will successfully demonstrate without error the performance aspects of drawing mixed venous blood samples.

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction, allow sufficient practice on each part of the task.
2. The evaluator will **STOP** the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.
3. Use the performance checklist to ensure all steps of the task are accomplished.
4. Document task competency upon completion of the evaluation in the trainee's OJT record. Initial evaluation should be documented in the CFETP. All recurring evaluations should be documented on AF Form 1098.

| Vol. 13 Module 9 <i>Perform and obtain mixed venous blood sample</i> | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|
| PERFORMANCE ITEM | SAT | UNSAT |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves. | | |
| 4. Gather supplies/equipment. | | |
| 5. Ensure RT/lab availability to run lab results. | | |
| 6. Locate the sampling stopcock connected to the distal port of the pulmonary artery catheter and remove cap. | | |
| 7. Attach 5mL syringe. | | |
| 8. Turn stopcock OFF to flush solution. | | |
| 9. Aspirate 3mL with syringe to clear line of flush solution, then close stopcock to halfway position and remove/discard syringe as waste. | | |
| 10. Attach heparinized sampling syringe and turn the stopcock OFF to flush. | | |
| 11. Prepare blood gas syringe a. For pre-heparinized syringe simply collapse plunger b. For non-heparinized syringe draw 1 mL of heparinized solution and coat inside syringe walls. Discard excess heparin prior to drawing | | |
| 12. Slowly draw heparinized mixed venous sample (1mL per 20 seconds, this will avoid arterializing blood from the capillary bed making the test inaccurate) | | |
| 13. Draw arterial blood sample simultaneously or within a few minutes of drawing the mixed venous sample via A line or arterial blood draw. | | |
| 14. Close stopcock and remove sampling syringe. | | |
| 15. Attach sterile syringe to stopcock and open to syringe. | | |
| 16. Irrigate into syringe until stopcock is clear. | | |
| 17. Turn OFF sampling port, remove and discard syringe. | | |
| 18. Replace with sterile cap. | | |
| 19. Flush line until traces of blood are removed. | | |
| 20. Re-zero the system. | | |
| 21. Observe monitor to ensure line patency and return of hemodynamic waveform. | | |
| 22. Correctly label specimens as "mixed venous gas" and send to lab **Note: Blood gas specimen must be placed on ice and immediately transported to lab | | |
| 23. Wash hands. | | |
| 24. Document procedure. | | |
| FINAL RESULT: | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR.

PERFORM AND OBTAIN ANKLE BRACHIAL INDEX (ABI)

- SUBJECT AREA:** Critical Care.
- TASK(s):** Prepare supplies/equipment for obtaining Ankle Brachial Index (ABI) and performs procedure.
- CFETP/STS REFERENCE(s):** 6.11.7. SEI 487 specific AF form 1098 overprint.
- EQUIPMENT REQUIRED:** Doppler flow meter with probe, blood pressure cuff with manometer, acoustic gel, and skin marking pen.
- TRAINING REFERENCE(s):** Handbook of Noninvasive Diagnostic Techniques in Vascular Surgery (current edition).
- REMARKS/NOTES:** Review steps of the process one-on-one with medical technician and/or nursing personnel skilled and verified in obtaining ankle brachial index.
- OBJECTIVE:** The trainee will successfully demonstrate without error the performance aspects of obtaining Ankle Brachial Index.

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction, allow sufficient practice on each part of the task.
2. The evaluator will **STOP** the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.
3. Use the performance checklist to ensure all steps of the task are accomplished.
4. Document task competency upon completion of the evaluation in the trainee’s OJT record. Initial evaluation should be documented in the CFETP. All recurring evaluations should be documented on AF Form 1098.

| Vol. 13 Module 10 Perform and obtain ankle brachial index (ABI) | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|
| PERFORMANCE ITEM | SAT | UNSAT |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves. | | |
| 4. Gather supplies/equipment. | | |
| 5. Place appropriately sized blood pressure around first arm and palpate the brachial artery. | | |
| 6. Apply ample gel over the artery. | | |
| 7. Position the doppler probe over brachial artery and listen for arterial velocity. | | |
| 8. Inflate the cuff until the signal disappears, then deflate cuff slowly and note return of signal. | | |
| 9. Document the systolic pressure result and annotate location. | | |
| 10. Repeat procedure for the opposite arm. | | |
| 11. Place the same arm compression cuff around the ankle above the malleolus Note: extremity color, temp, check surgical site for swelling & drainage. | | |
| 12. Palpate and/or probe the dorsalis pedis and posterior tibial arteries. Select the strongest/loudest site unless otherwise directed by physician's orders. Note with an "X" the sites where the arteries are palpated/auscultated and mark them with the skin pen. | | |
| 13. Apply ample acoustic gel over the selected arteries. | | |
| 14. Place doppler probe over selected artery and acquire signal. | | |
| 15. Inflate the cuff slowly with probe in place. Stop deflating cuff when signal fades. | | |
| 16. Deflate the cuff slowly (2 to 3 mm/Hg per heart beat) and note the pressure at which the velocity flow signal returns. | | |
| 17. Deflate the cuff completely. | | |
| 18. Record data and repeat on opposite ankle. | | |
| 19. Calculate the Ankle Brachial Index (ABI) using the following equation: ankle systolic pressure | | |
| greatest brachial systolic pressure = Index | | |
| 20. Record calculated data and compare with previous data (pre-operative and post-operative data). Alert RN and physician to any change in ABI, color, or temp of extremity | | |
| 21. Verbalize normal values are 1.00 to 1.2 | | |
| 22. Verbalize abnormal values: Moderate arterial disease: 0.5 - 0.8 Severe arterial disease: | | |
| FINAL RESULT: | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR.

PERFORM AND OBTAIN TRANSURETHRAL BLADDER PRESSURES

- SUBJECT AREA:** Critical Care.
- TASK(s):** Set up/perform transurethral bladder pressure
Intraabdominal pressure monitoring (IAP).
- CFETP/STS REFERENCE(s):** **6.11.8.**
SEI 487 specific AF form 1098 overprint.
- EQUIPMENT REQUIRED:** Nonsterile gloves, cardiac monitor and pressure cable for interface with the monitor, 500mL or 1000mL bag of 0.9% Normal Saline (NS) solution, pressure transducer system, pressure tubing with flush device, transducer, 2 stopcocks, Luer-Lok syringe with capability to hold 25 mL, clamp and chlorhexidine sticks.
- TRAINING REFERENCE(s):** AACN Procedure Manual for Critical Care, (6th edition), Mosby's Intraabdominal Pressure Monitoring skills checklist and Monitor Operator's Manual.
- REMARKS/NOTES:** Review steps of the process one-on-one with medical technician and/or nursing personnel skilled and verified in setup and operation of fluid filled hemodynamics and measuring transurethral bladder pressures.
- OBJECTIVE:** The trainee will successfully demonstrate without error the setup & performance aspects of measuring transurethral bladder pressures.
- EVALUATION INSTRUCTIONS:**
1. After the trainee has received instruction, allow sufficient practice on each part of the task.
 2. The evaluator will **STOP** the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.
 3. Use the performance checklist to ensure all steps of the task are accomplished.

4. Document task competency upon completion of the evaluation in the trainee's AFTR. Initial evaluation should be documented in the CFETP. All recurring evaluations should be documented on AF Form 1098.

| Vol. 13 Module 11 Perform and obtain transurethral bladder pressures | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------|
| PERFORMANCE ITEM | SAT | UNSAT |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves. | | |
| 4. Gather supplies/equipment. | | |
| 5. Assemble entire pressure transducer system and flush the system with NS. | | |
| 7. Attach 25mL syringe to the distal stopcock. | | |
| 8. Connect the system to the pressure monitoring system w/transducer cable. | | |
| 9. Select a 30-mm Hg scale for monitoring. | | |
| 10. Place patient in supine position with head of bed (HOB) flat. | | |
| 11. Level the fluid interface (zeroing stopcock) to the iliac crest at the level of the midaxillary line. | | |
| 12. Zero the IAP monitoring system. | | |
| 13. Clamp the bladder drainage system just distal to the catheter/bag connection. | | |
| 14. Cleanse the sampling port with chlorhexidine. | | |
| 15. Turn the stopcock attached to the syringe off to the patient and open to the fluid bag & syringe. | | |
| 16. Activate the fast-flush mechanism (pigtail) while pulling back on the syringe plunger to fill the syringe to 25mL. | | |
| 17. Turn the stopcock off to the fluid bag & open to the syringe & patient. | | |
| 18. Inject the 25mL of NS solution into the bladder. | | |
| 19. Expel any air seen in between the clamp and the urinary catheter by opening the clamp and allowing the saline solution to flow back past the clamp; then reclamp. | | |
| 20. Measure the IAP at end expiration w/the graphic scale on the monitor display & numeric display on the mean pressure. | | |
| 21. Once a reading has been obtained, unclamp the urinary drainage system. | | |
| 22. The pressure monitoring system may be left connected or disconnected & capped to maintain the sterility of the system. **Note The urinary drainage system should be left unclamped between readings** | | |
| 23. Record the bladder pressure remembering to subtract the 25mL of instilled NS solution from the output. | | |
| 24. Report IAP readings per local protocol. | | |
| 25. Discard used supplies, remove gloves and discard. | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR.

PERFORM AND OBTAIN ABG PERCUTANEOUS COLLECTION/ARTERIAL PRESSURE MEASUREMENT

SUBJECT AREA: Critical Care.

TASK(s): ABG percutaneous collection and arterial pressure measurement.

CFETP/STS REFERENCE(s): **6.11.9. & 6.11.11.**
SEI 487 specific AF form 1098 overprint.

EQUIPMENT REQUIRED: Non-sterile gloves, ABG kit or heparinized 1-,3- or 5-mL blood gas sampling syringe, container of ice for blood gas sample, sterile 4x4, 2x2 and sterile cap, specimen labels, ultrasound machine (if available), A line kit, pressure tubing, pressure bag 500 mL bag 0.9% Normal Saline (NS).

TRAINING REFERENCE(s): AACN Procedure Manual for Critical Care, (6th edition) and Mosby’s Arterial Puncture: Arterial Blood Gas Sampling checklist and Mosby’s Arterial Pressure-Based Cardiac Output Monitoring.

REMARKS/NOTES: Review steps of the process one-on-one with medical technician and/or nursing personnel skilled and certified in drawing mixed venous blood samples.

OBJECTIVE: The trainee will successfully demonstrate without error the performance aspects of drawing arterial blood gas samples.

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction, allow sufficient practice on each part of the task.

2. The evaluator will **STOP** the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.

3. Use the performance checklist to ensure all steps of the task are accomplished.

4. Document task competency upon completion of the evaluation in the trainee's AFTR. Initial evaluation should be documented in the CFETP. All recurring evaluations should be documented on AF Form 1098.

| Vol. 13 Module 12 <i>Perform and obtain ABG percutaneous collection/arterial pressure measurement</i> | | |
|----------------------------------------------------------------------------------------------------------------------------|------------|--------------|
| PERFORMANCE ITEM | SAT | UNSAT |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves. | | |
| 4. Gather supplies. | | |
| 5. Assess Pt's history for risks associated with arterial puncture before the procedure. | | |
| 6. Call respiratory therapy (RT) to draw ABG per physician's order. | | |
| 7. Assist respiratory therapy (RT) in drawing ABG as needed. | | |
| OBTAINING AN ARTERIAL PRESSURE MEASUREMENT | | |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves. | | |
| 4. Gather supplies. | | |
| 5. Ensure the pressure cable is connected to bedside monitor. | | |
| 6. Perform a square wave test by fast-flushing the line. | | |
| 7. Observe arterial pressure on the bedside monitor. | | |
| 8. Set the alarm parameters on the bedside monitor according to the patients current blood pressure and physician's order. | | |
| 12. Wash hands. | | |
| 13. Document procedure. | | |
| FINAL RESULT: | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR.

SET-UP AND ASSIST WITH VENTRICULOSTOMY DRAIN/FIBER-OPTIC INTRACRANIAL PRESSURE (ICP) MONITORING/PERFORM AND MONITOR CEREBRAL PERFUSION PRESSURE (CPP) CALCULATIONS

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| SUBJECT AREA: | Critical Care. |
| TASK(s): | Set-up and assist with ventriculostomy drain, Fiber-optic sensor for ICP monitoring, Intracranial pressures and Cerebral perfusion pressure (CPP) calculations. |
| CFETP/STS REFERENCE(s): | 6.12.1, 6.12.2, 6.13.1 & 6.13.2. SEI 487 specific AF form 1098 overprint |
| EQUIPMENT REQUIRED: | Sterile gloves, gowns, towels, drapes, eye protection, caps, microventricular catheter (35cm with trocar or 20cm) pressure transducer, fiber-optic intracranial monitoring kit or fiber-optic microventricular kit, cranial access kit, local anesthetic, drainage bag, preservative free saline, nonvented caps, Externally Drainage System (EDS), razor, suture, IV pole, 10cc syringe, transducer, and dressing supplies, ICP monitor and slave cable to connect to central monitoring system if available, razor, suture, and dressing supplies. |
| TRAINING REFERENCE(s): | AACN Procedure Manual for Critical Care, (6 th edition) Mosby's Cerebrospinal Fluid Drainage and Intracranial Pressure Monitoring skills checklist, ventriculostomy external drainage system manufacture's guidance and external monitor operators manual. |
| REMARKS/NOTES: | Review steps of the process one-on-one with medical technician and/or nursing personnel skilled and verified in Assisting with ventriculostomy placement and monitoring. |
| OBJECTIVE: | The trainee will successfully demonstrate without error the performance aspects of measuring assisting with catheter placement, obtaining ICP readings, and maintenance. |

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction, allow sufficient practice on each part of the task.

2. The evaluator will **STOP** the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.

3. Use the performance checklist to ensure all steps of the task are accomplished.
4. Document task competency upon completion of the evaluation in the trainee's AFTR. Initial evaluation should be documented in the CFETP. All recurring evaluations should be documented on AF Form 1098.

| Vol. 13 Module 13 <i>Set-up and assist with ventriculostomy drain/fibr-optic intracranial pressure (icp) monitoring/perform and monitor cerebral perfusion pressure (cpp) calculations</i> | | |
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| PERFORMANCE ITEM | SAT | UNSAT |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Gather supplies/equipment. | | |
| 4. Wash hands/don gloves. | | |
| 5. Attach the external ventricular drainage system to an IV pole for stability. | | |
| 6. Ensure all pressure tubing connections on the ventricular drainage system are tightened. | | |
| 7. Prime the external ventricular draining system before the patient attachment using preservative free NS solution to prevent neural damage. | | |
| 8. Connect the end of the EVD system to the distal stopcock of the pressure monitor tubing & tighten all connections. | | |
| 9. Close the clamps between the drip chamber and the EVD collecting bag and replace all vented caps with nonvented caps. | | |
| 10. After flushing the pressure monitor tubing & the EVD system tubing turn the distal stopcock off to the distal tip of the pressure monitor tubing and attach a sterile injection cap to the stopcock port. | | |
| 11. Don sterile attire. | | |
| 12. Assist physician with donning sterile attire. | | |
| 13. Assist physician in establishing a sterile field. | | |
| 14. Assist, as needed, with shaving & cleansing the insertion site. | | |
| 15. Hand physician cranial access kit. | | |
| 16. Hand physician fiber-optic intracranial micro-sensor. | | |
| 17. Connect micro-sensor to monitor. | | |
| 18. Perform calibration/zero. | | |
| 19. **For drainable systems only, connect bag** | | |
| 20. Increase or decrease the height of the graduated burette to the prescribed level ensuring the stopcock is "off" to the patient while adjusting. | | |
| 21. Observe patient & monitor during procedure for neurologic & vital sign changes. | | |
| 22. Hand physician suture material. | | |
| 23. Assist in dressing the site. | | |
| 24. Document procedure. | | |
| REPLACING DRAINAGE BAG | | |
| 1. Close the distal drainage line slide clamp to prevent retrograde flow from the drainage connection line. | | |

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| 2. Using sterile technique, disconnect the drainage bag connection line from the drainage bag. | | |
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| 3. Discard according to hospital policy. | | |
| 4. Connect new sterile drainage bag to the connection line and attach to system mounting panel. | | |
| FIBER –OPTIC INTRACRANIAL (ICP) PRESSURE MONITORING | | |
| 1. Ensure fluid is draining from the flow chamber into the drainage bag. | | |
| 2. Ensure that the preamp cable connects from the catheter to the standalone monitor. | | |
| 3. Follow the manufacturer’s instructions for zeroing the catheter before insertion. | | |
| 4. Set pressure limit “pop” off system (system will drain at appropriately set limit) according to physicians orders. | | |
| 5. Set the main system stopcock open to the transducer, flow chamber & patient **NOTE ** The setting for the true ICP reading is with the main stopcock off to the flow chamber but open to the patient line and transducer. | | |
| 6. Document the procedure. | | |
| 7. Obtain readings according to the physician’s order. | | |
| 8. Observe, report and document output. | | |
| Cerebral Perfusion Pressure (CPP) calculation | | |
| 1. You must know this formula to figure out a patient’s CPP. CPP = MAP – ICP **CPP is equal to your Mean Arterial Pressure (MAP) minus your Intracranial Pressure (ICP)** | | |
| 2. Know the normal ranges for an ICP are between 10-15 mmHg. | | |
| 3. Know the normal range for a CPP is 70-90 mmHg. | | |
| 4. Know the normal range for MAP is 70-110 mmHg. | | |
| 5. Observe, report and document CPP calculation. | | |
| FINAL RESULT: | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee’s AFTR.

***SET-UP AND ASSIST WITH COLD CALORIC TESTING
(OCULOVESTIBULAR TESTING)***

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| SUBJECT AREA: | Critical Care. |
| TASK(s): | Set-up and assist cold caloric test (oculovestibular testing). |
| CFETP/STS REFERENCE(s): | 6.12.3 SEI 487 specific AF form 1098 overprint |
| EQUIPMENT REQUIRED: | 50mL syringe (catheter tip or lure-lock), 14 gauge IV Catheter, basin, iced water or 0.9% Normal Saline (NS) for irrigation. |
| TRAINING REFERENCE(s): | AACN Procedure Manual for Critical Care, (6 th edition) |
| REMARKS/NOTES: | Review steps of the process one-on-one with medical technician and/or nursing personnel skilled and verified in assisting with oculovestibular testing. |
| OBJECTIVE: | The trainee will successfully demonstrate without error the Performance aspects of assisting with oculovestibular testing. |

EVALUATION INSTRUCTIONS:

1. After the trainee has received instruction, allow sufficient practice on each part of the task.
2. The evaluator will **STOP** the procedure immediately and correct the trainee if performance could become detrimental to patient safety at any time.
3. Use the performance checklist to ensure all steps of the task are accomplished.
4. Document task competency upon completion of the evaluation in the trainee's OJT record. Initial evaluation should be documented in the CFETP. All recurring evaluations should be documented on AF Form 1098.

| Vol. 13 Module 14 <i>Set-up and assist cold caloric test (oculovestibular testing).</i> | | |
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| PERFORMANCE ITEM | SAT | UNSAT |
| 1. Verify physician's order. | | |
| 2. Identify patient/explain procedure. | | |
| 3. Wash hands/don gloves. | | |
| 4. Gather supplies. | | |
| 5. Assist physician in verifying tympanic membrane integrity. | | |
| 6. Position patient and hold patient's head as requested. | | |
| 7. Assist physician with instillation of 50 mL iced water or 0.9% iced normal saline into the external auditory canal over 30 seconds to 3 minutes. | | |
| 8. Observe patient's eye movements during and following cold water instillation. Observe the patient's eyes after 1 minute. | | |
| 9. After 5 minutes perform the same procedure to the other ear. | | |
| 10. Observe the patient's eyes after 1 minute **state expected responses** In brain death, the oculovestibular reflexes are absent, with no deviation of the eyes in response to ear irrigation | | |
| 11. Discard used supplies. | | |
| 12. Wash hands. | | |
| 13. Document procedure. | | |
| FINAL RESULT: | | |

FEEDBACK: Using this checklist as a source of information, discuss the trainee's performance indicating strengths, weaknesses, suggested improvements, etc. If the trainee performed all steps of the task satisfactorily, document the results in the trainee's AFTR.