

**Rotation Name: VA MICU**

**Rotation Site Leader: Matthew Mart**

**Updated by: Blank Funke and Sandi Moutsios**

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**Goal:**

The purpose of this educational unit is for internal medicine residents to assess, evaluate, and manage critically ill patients in the MICU with the supervision and direction of the MICU fellows and faculty. For the intern or PGY-1 to take primary clinical responsibility for critically ill patients with graded autonomy and close supervision by senior residents, pulmonary fellows, and MICU attendings; senior residents (PGY-2 or PGY-3) to lead the team in terms of clinical education, reasoning, and diagnosis and management of patients on the team. The ultimate goal of this rotation is to prepare senior residents to have the skills to care for critically ill patients with oversight from critical care attendings and for PGY-1 and PGY-2 residents to have graded responsibilities to achieve that goal.

**Objectives:**

By the end of this educational block, learners in this rotation will be able to:

**Patient Care**

1. Recognize document and communicate clearly about critically ill patients on ICU rounds. (PC-3, PC-4, PC-6, ISC-2, ICS-3)
2. Diagnosis and manage patient in undifferentiated shock. (MK-1, MK-2, MK-3, PC-4)
3. Describe and implement basic strategies for oxygenation and ventilation in patients with respiratory failure. (MK-1, MK-2)
4. Evaluate and manage acute coronary syndromes. (PC-4, MK-2)
5. Recognize and manage congestive heart failure. (PC-3, PC-4, MK-2)
6. Recognize and manage cardiac dysrhythmias. (PC-4, MK-2, MK-3)
7. Demonstrate an organized approach to the diagnosis and management of GI bleeding. (PC-4, MK-1, MK-2)
8. Evaluate and manage patients with acute alteration in mental status. (PC-3, PC-4, MK-2)

**Medical Knowledge**

1. Demonstrate evidence-based clinical decision making for emergency and critical medical conditions, including but not limited to acute hypoxic or hypercarbic respiratory failure, acute coronary syndrome, acute kidney injury, substance withdrawal, severe asthma exacerbations, cardiac dysrhythmia, exacerbations of COPD, pneumonia, delirium, diabetic ketoacidosis, gastrointestinal bleeding, acute exacerbations of heart failure, hypertensive emergencies, symptomatic hyponatremia, acute pancreatitis, acute cerebrovascular disease, sepsis and septic shock, skin and soft tissue infections, and acute venous thromboembolism
2. Demonstrate proficiency and understanding of different forms of respiratory support (nasal cannula, non-invasive positive pressure ventilation, invasive mechanical ventilation) utilized in critical care settings
3. Demonstrate understanding of the indications for and explain the process of the following commonly performed critical care procedures: central venous catheter insertion, arterial line placement, abdominal paracentesis, thoracentesis, endotracheal intubation, lumbar puncture, pulmonary artery catheterization
4. Demonstrate knowledge and implementation of American Heart Association Advanced Cardiac Life Support algorithms

### Interpersonal and Communication Skills

1. Guide a patient-centered meeting about goals of care. (PC-4, ISC-1)
2. Communicate effectively with non-physician members of the team (e.g. critical care nurses, respiratory therapists, physical and occupational therapists, etc)
3. Ensure safe and accurate handovers and transitions to ward care
4. Provide care that is sensitive to patients' unique backgrounds and experiences

### Professionalism

1. Document clearly, timely and effectively.
2. Interact in an effective professional and collegial manner with all members of the health care team, including consultants and multi-disciplinary team members

### Systems based practice

1. Safely transition a patient from the MCCU to ward care (PC-4, PC-6, SBP-2, SBP-3, ISC-3)

### Practice-based learning and improvement

1. Over time, demonstrates willingness to re-assess their approach to clinical problems to improve prior practice patterns and provide evidenced-based care
2. Seek out feedback from multiple observers. Demonstrate using this feedback to make change.

### **Educational Strategies:**

Educational Strategy	Skills (taught and/or assessed)
Bed side rounds	<ul style="list-style-type: none"><li>• Clinical Reasoning</li><li>• Presentation skills</li><li>• Cardiac auscultation and Physical Examination Skills</li><li>• Interpersonal communication skills with patients and families, including discussions of end of life care</li><li>• Roles of non-physician members of the team and apply knowledge to effectively engage all of the team in patient-centered care</li><li>• Communicate effectively with consultants and non-physician care team members</li><li>• Ensure safe and accurate handovers and transitions of care in and out of the ICU</li><li>• Interact in an effective professional and collegial manner with all members of the health care team, including consultants and multi-disciplinary team members</li></ul>
<i>For example:</i> Bedside and brief pre- or post-rounds didactics	<ul style="list-style-type: none"><li>• Reading EKGs</li><li>• Interpreting chest x-rays</li><li>• Interpreting arterial blood gases, venous blood gases, and acid base disorders</li><li>• Use of focused critical care ultrasound</li><li>• Modes of mechanical ventilation and troubleshooting</li></ul>
Faculty Direct Observation	<ul style="list-style-type: none"><li>• Seek out feedback from multiple observers. Demonstrate using this feedback to make change.</li><li>• Demonstrates willingness to re-assess their approach to clinical problems to improve prior practice patterns and provide evidenced-based care</li></ul>

	<ul style="list-style-type: none"> <li>• Procedural competence</li> </ul>
Faculty Chart Review	<ul style="list-style-type: none"> <li>• Document clearly, timely, and efficiently</li> <li>• Ensure safe and accurate handovers and transitions of care</li> </ul>

**Required Reading:**

American Heart Association Cardiopulmonary Resuscitation Algorithms (review these continually before and during each MICU rotation)

<https://cpr.heart.org/en/resuscitation-science/cpr-and-ecc-guidelines/algorithms>

**Suggested Reading and/or Resources:**

Marino, Paul L., and Kenneth M. Sutin. *The ICU Book [electronic Resource] / Paul L. Marino ; with Contributions from Kenneth M. Sutin ; Illustrations by Patricia Gast*. 4th ed. Philadelphia: Lippincott Williams & Wilkins, 2014. Available as print or electronic book through Eskind Library.

American Thoracic Society Reading List – provides a curated list of key literature in several areas of pulmonary and critical care medicine

<https://www.thoracic.org/professionals/career-development/residents-medical-students/ats-reading-list/adult/index.php>

Surviving Sepsis Guidelines for the Management of Sepsis and Septic Shock

Rhodes A, Evans LE, Alhazzani W et al. Surviving sepsis campaign: international guidelines for management of sepsis and septic shock: 2016. Crit Care Med. 2017; 45:486-552. PMID: 28098591.

American Thoracic Society Clinical Education – Procedures (includes both ATS and NEJM procedure videos)

<https://www.thoracic.org/professionals/clinical-resources/critical-care/clinical-education/critical-care-procedures/>

**Evaluation:**

(Ideally, the evaluation items below resemble the learning objectives above)

Assessment Form:

2. Please identify 3 skills you observed the resident do well? (Text Box)
3. Please identify 3 skills the resident needs to improve or should do differently. How should they do it differently? (Text Box)

(Ideally, limit to 8-10 skills that you ask your faculty to assess)

For the remaining items, please rate 1-5 (or did not observe):

1 = cannot do this skill

2 = can do this skill only with direct supervision (some needs to be there to supervise)

3 = can do this skill with indirect supervision (an attending or fellow is close by or available by phone)

4 = can do this skill unsupervised (they are ready to graduate for this skill)

5 = has achieved mastery of this skill (They can teach others how to do this skill well)

4. Recognize document and communicate clearly about critically ill patients on ICU rounds. ( PC-3, PC-4, PC-6, ISC-2, ICS-3)
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6. Describe and implement basic strategies for oxygenation and ventilation in patients with respiratory failure. (MK-1, MK-2)
7. Evaluate and manage acute coronary syndromes. (PC-4, MK-2)
8. Recognize and manage congestive heart failure. (PC-3, PC-4, MK-2)
9. Recognize and manage cardiac dysrhythmias. (PC-4, MK-2, MK-3)
10. Demonstrate an organized approach to the diagnosis and management of GI bleeding. (PC-4, MK-1, MK-2)
11. Evaluate and manage patients with acute alteration in mental status. (PC-3, PC-4, MK-2)
12. Safely transition a patient from the MCCU to ward care (PC-4, PC-6, SBP-2, SBP-3, ISC-3)
13. Guide a patient-centered meeting about goals of care. (PC-4, ISC-1)