

CURRICULUM FOR CRITICAL CARE MEDICINE ROTATION

Faculty representative: David Oelberg, M.D., Pulmonary Section Chief, Danbury Hospital

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OBJECTIVES OF THE ROTATION:

The Critical Care Unit at Danbury Hospital is a closed 20-bed unit, directed by the WCMG Pulmonary Group, and includes eight board certified Intensivists. The Unit is a mixed medical/surgical unit, including acute cardiac, cardiac surgical, and neurosurgical patients. During the rotation in Critical Care, the resident is expected to learn about common critical care problems that are seen in a community teaching hospital, including acute respiratory failure, sepsis, various forms of shock (cardiogenic, septic), ARDS, acute coronary syndromes, gastrointestinal bleeds, and surgical issues in Critical Care. The resident will also learn about diagnostic modalities including airway management, arterial blood gas analysis, invasive and noninvasive hemodynamic monitoring and therapeutic possibilities, including mechanical ventilation, fluid and vasopressor/inotropic medication, nutritional support, and sedation/analgesia.

ROTATION STRUCTURE:

The Critical Care Rotation at Danbury Hospital is a 4 week block. Residents will be on call every 4 days. The on-call PGY-2,3 resident will perform ICU evaluations and admissions. The pre-call PGY-2, 3 resident will assist in the management of current ICU patients following AM rounds and will be responsible for transfers out of the ICU. The pre-call resident will also serve as back-up to the on-call resident in the event of multiple simultaneous ICU consultations. The post-call PGY-2, 3 resident will leave after signing out in the morning. The day after their post-call day is devoted to their outpatient clinic activities. PGY-1 residents rotating through the ICU will work 7 AM – 5 PM, Monday – Friday, but will not have on-call days. PGY-1 residents are expected to assist the pre-call and on-call PGY-2, 3 residents. At a given time, a surgical resident may do an ICU rotation, and will be paired with a PGY-3 medical resident and share the calls.

TEACHING METHOD:

Residents will be expected to achieve the above objectives by 1) supervised direct patient care, 2) participating in attending rounds, 3) case-based reading, and 4) didactic sessions & conferences:

1) *Supervised Direct Patient Care*

Residents will function as supervised consultants for hospitalized patients requiring a critical care consultation and as primary care givers for patients admitted to the Critical Care Unit. Residents will be directly supervised by board-certified Intensivists, who are faculty members of the Western Connecticut Medical Group (WCMG) Pulmonary Section. Additionally, PGY-1 residents will be supervised by PGY-2, 3 residents. Patients will be seen and examined by the resident, who will formulate an assessment and treatment plan, and present the case to the attending Intensivist. Teaching will be integrated with patient case discussions. Both the resident and the attending Intensivist will examine the patient and discuss the patient's care and the resident's assessment.

2) *Attending Rounds*

Each morning, the attending Intensivist will see all ICU patients with the residents as a group, and perform focused exams together and discuss the relevant patient issues as a team. These are multidisciplinary rounds, which also include the treating nurse, respiratory therapist and pharmacist.

3) *Case-Based Reading*

Residents will be expected to do case-based reading and discuss topics relevant to their patients with the attending Intensivist.

4) *Didactic Sessions & Conferences*

Residents will be expected to attend didactic sessions, held typically in the morning following rounds. Each week, two topics which have been pre-selected from a teaching file (SCCM). Residents are also expected to attend a variety of other conferences, including selected Morning Report sessions and Noon Conference.

METHOD OF EVALUATION:

The resident in Critical Care be assessed by faculty members with regard to their competency in all six ACGME required categories:

PGY 1:

- 1) **Patient care:** PGY-1 residents will be expected to provide (with direct and indirect attending supervision) compassionate and appropriate care of patients with critical illness. They will be encouraged to observe or participate in all procedures required in the care of their patients, including, but not limited to central venous access, arterial blood monitoring, thoracentesis, intubation and mechanical ventilation, interpretation of chest x-rays and data interpretation. PGY-1 residents will be expected to acquire accurate and relevant patient histories, perform thorough physical exams and develop prioritized differential diagnoses, under direct and indirect attending supervision. The PGY-1 resident will be expected to present cases during ICU rounds and to participate in the development of an evidence-based diagnostic and therapeutic plan. He/she will also be expected to perform accurate medication reconciliation and learn how to minimize unnecessary care, including tests.
- 2) **Medical Knowledge:** PGY-1 residents will be expected to improve their fund of knowledge of the basic physiological principles that underlie critical illness. This will be assessed objectively by performing the ICU curriculum assigned modules, including the pre test and post test evaluations. The PGY-1 resident will also be directly evaluated during working rounds and teaching discussions. They will learn to develop an appropriate work-up and management plan for a wide variety of diseases that result in critical illness. Also, they will learn about diagnostic testing and critical care monitoring.
- 3) **Professionalism:** PGY-1 residents will be expected to interact with their patients and with the hospital support staff, as well as other colleagues in a professional and polite manner. He/she should be able to start engaging patients and their families appropriately, while minimizing unfamiliar medical terms. They will respect patient privacy and autonomy and be sensitive to the diversity of patients' backgrounds. They will be particularly sensitive to the needs of their patients' family and loved ones. The PGY-1 residents will be expected to provide accurate, complete and timely documentation. They will also be expected to use feedback given to them, in order to improve performance. The PGY-1 resident will be able to recognize the scope of his/her abilities and ask for supervision and assistance appropriately.
- 4) **Communication and Interpersonal Skills:** PGY-1 residents will be expected to participate in the communications with patients, families and hospital support staff regarding aspects of patient care. They will learn how to develop a shared decision-making approach with the patient/family. The PGY-1 resident will demonstrate empathy, compassion and a commitment to relieve pain and suffering. They will also learn how to

appropriately communicate with consultants regarding their assessment and advise regarding the patient's care. The resident should be able to effectively communicate with the relevant primary care physicians.

- 5) **Practice-Based Learning:** Under direct and indirect attending supervision, the PGY-1 resident should be able to identify appropriate clinical questions for consultative services, and to identify questions from patient care activities that are answered by accessing medical information services. The PGY-1 resident will develop a working knowledge of the current standards of care of patients based on guidelines and review of the medical literature. They will be encouraged to increasingly identify and acknowledge their own limitations in knowledge and skills and work towards improving them.
- 6) **System-based Practice:** Residents will be expected to learn to use the medical information systems available to them in the ICU, including the electronic medical record system (Sorian) and radiology systems (Sorian and PACS). They will also learn about other services available to assist and participate in the care of their patients, such as respiratory therapy, nursing, pharmacy, nutrition/dietary service, and subspecialty consults. Finally, they will learn how to complete an appropriate, safe patient transfer to the medical floor through coordination with the Hospitalist service.

PGY 2-3:

- 1) **Patient care:** PGY-2, 3 residents will be expected to provide compassionate and appropriate care of patients with critical illness, under indirect attending supervision. PGY-2, 3 residents will learn how to stabilize patients with urgent or emergent medical conditions. They will be encouraged to participate in all procedures required in the care of the critically ill patient, including, but not limited to central venous access, arterial blood monitoring, thoracentesis, intubation and mechanical ventilation, interpretation of chest x-rays and data interpretation. PGY-2, 3 residents will be expected to acquire accurate and relevant patient histories, perform thorough physical exams and develop prioritized differential diagnoses, under indirect attending supervision. They will be expected to learn how to gather subtle sensitive information that may not be volunteered by the patient. The PGY-2, 3 resident will be expected to present cases during ICU rounds and to independently develop evidence-based diagnostic and therapeutic plans. Additionally, they will learn how to modify a differential diagnosis and care plan, based on clinical course and data as appropriate. PGY-2, 3 residents will also be expected to oversee the care provided by PGY-1 residents. He/she will also be expected to perform accurate medication reconciliation, minimize unnecessary care including tests, and learn how to manage an interdisciplinary team.
- 2) **Medical Knowledge:** PGY-2, 3 residents will be expected to further improve their fund of knowledge of the basic physiological principles that underlie critical illness. This will

be assessed objectively by performing the ICU curriculum assigned modules, including the pre test and post test evaluations. The PGY-2, 3 resident will also be directly evaluated during working rounds teaching discussions. They will further advance their skills in developing appropriate work-up and management plans for a wide variety of diseases that result in critical illness. Also, they will learn to become more independent in the interpretation of diagnostic testing and critical care monitoring, and to integrate new clinical evidence into decision making

- 7) **Professionalism:** PGY-2, 3 residents will be expected to interact with their patients, hospital support staff, as well as other colleagues in a professional and polite manner. He/she should be able to start engaging patients and their families appropriately, while minimizing unfamiliar medical terms. They will respect patient privacy and autonomy and be sensitive to the diversity of patients' backgrounds. They will be particularly sensitive to the needs of their patients' family and loved ones. They will provide accurate, complete and timely documentation. PGY-2, 3 residents are expected to improve their professionalism by acquiring team leadership skills and the ability to manage conflict resolution. They will be expected to use feedback to improve their performance. The PGY-2, 3 residents will be able to recognize the scope of his/her abilities and ask for supervision and assistance appropriately. They will learn how to serve as role models for effective communication in challenging situations, and how to teach physical findings to junior members of the health care team.
- 3) **Communication and Interpersonal Skills:** PGY-2, 3 residents will be expected to communicate clearly and completely with patients, families and hospital support staff regarding all aspects of patient care, and demonstrate a shared decision-making approach with the patient/family. They will be able to demonstrate empathy, compassion and a commitment to relieve pain and suffering. They will also learn how to appropriately communicate with consultants regarding their assessment and advise regarding the patient's care. The PGY-2, 3 resident should be able to effectively communicate with the primary care physicians, guide and support bedside presentations that engage the patient and focus discussion around the patient's central concerns
- 4) **Practice-Based Learning:** The PGY-2, 3 resident should be able to identify appropriate clinical questions for consultative services, and to identify questions from patient care activities that are answered by accessing medical information services. They will be expected to develop a working knowledge of the current standards of care of patients based on guidelines and review of the medical literature. They will be encouraged to increasingly identify and acknowledge their own limitations in knowledge and skills and work towards improving them. It is expected that by the end of the rotation they will continue to improve their skills in reading and interpreting the medical literature.
- 5) **System-based Practice:** PGY-2, 3 residents will be expected to know how to use the medical information systems available to them in the ICU, including the electronic

medical record system (Sorion) and radiology systems (Sorion and PACS). They should also know how to use other services available to assist and participate in the care of their patients, such as respiratory therapy, nursing, pharmacy, nutrition/dietary service, and subspecialty consults (Surgery, Cardiology, Interventional Radiology, etc.). Finally, they should know how to complete an appropriate and safe patient transfer to the medical floor through coordination with the Hospitalist service.

The medical residents will receive feedback from the faculty members at the end of the rotation by using a written evaluation through New Innovations.

READING LIST:

- Respiratory Physiology: The Essentials by John B. West
- The ICU Book by Paul Marino
- Critical Care by Civetta, Taylor and Kirby
- Critical Care Medicine: The Essentials, by John Marini
- The Society of Critical Care Medicine, Modules
- Thoracic Radiology: The Requisites, 2e by Theresa C. McCloud
- Rapid-Response Teams, NEJM 2011; 365:139-46
- Early goal-directed therapy in the treatment of severe sepsis and septic shock, NEJM 2001; 345:1368-77
- Ventilation with lower tidal volumes as compared with traditional tidal volumes for acute lung injury and the acute respiratory distress syndrome, NEJM 2000;342:1301-8
- Extracorporeal membrane oxygenation for ARDS in adults, NEJM 2011;365:1905-14
- Hypoglycemia and risk of death in critically ill patients, NEJM 2012; 367:146-55
- Point-of-care ultrasonography, NEJM 2011; 364:749-57
- Corticosteroid insufficiency in acutely ill patients, NEJM 2003; 348:727-34

RESIDENT SCHEDULE:

A typical day of the Critical Care rotation is as follows:

7:00 – 9:00 AM:	Pre-Round (Independent Patient Evaluations)
7:45: – 8:15 AM:	Critical Care Morning Report (Tuesdays Only)
9:00 – 11:30 AM:	ICU Rounds
11:30 AM – 12:00 PM:	Didactic Teaching (Review of SCCM Modules)
12:00 PM – 1:00 PM:	Noon Conference
1:00 PM – 5:00 PM:	Supervised ICU Patient Care (Admissions, Transfers, Procedures)
5:00 PM:	Sign-Out Rounds (On Call PGY-2,3 resident, Day/Night Intensivists)

PULMONARY & CRITICAL CARE NOON CONFERENCES:

TOPIC	CONTENT	FACULTY MEMBER
Respiratory Failure I	Assessment & diagnosis of acute respiratory failure	David Oelberg, MD
Respiratory Failure II	Management of acute respiratory failure	David Oelberg, MD
Pulmonary Embolism	Diagnosis and management of pulmonary embolism	Douglas Kahn, DO
Pulmonary Function Testing	Interpretation of PFTs	John Chronakos, MD
Central Lines	Placement and management of central lines	Guillermo Ballarino, MD
COPD	Diagnosis & management of COPD	John Chronakos, MD
Asthma	Diagnosis & management of asthma	Abhijith Hegde, MD
ARDS	Diagnosis & management of ARDS	Thomas Botta, MD
Tuberculosis (TB)	Epidemiology, diagnosis and treatment of TB	Douglas Kahn, DO
Nutrition in the ICU	Nutritional assessment and management in the ICU	Eric Jimenez, MD
Preop Pulmonary Assessment	Preop pulmonary evaluation and management	Jose Mendez, MD
Interstitial Lung Disease (ILD)	Diagnosis & management of ILD	Thomas Botta, MD
Obstructive Sleep Apnea (OSA)	Diagnosis & management of OSA	Jose Mendez, MD
Pleural Effusions	Diagnosis & management of pleural effusions	Abhijith Hegde, MD
Lung Cancer	Diagnosis & management of lung cancer	Guillermo Ballarino, MD
