Medical Intensive Care Unit Curriculum

Goal

The medical intensive care unit (MICU) Inpatient service is a clinical rotation that provides house officers exposure to the diagnosis and treatment of critical illness.  This rotation is intended to provide the exposure, clinical knowledge, skills, and professional attitudes needed to care for critically ill patients with a wide variety of disease states. Emphasis is placed on learning to coordinate the care and management of complex, critically ill medical patients.

Learning Objectives

**PGY1 (intern year):**

**Patient care:**

* Perform and obtain a thorough, accurate and pertinent History and Physical Examination
* Formulate an initial assessment and plan on the basis of the H&P and review of the pertinent data
* Evaluate critically ill patients and identify the major problems/complications of critical illness
* Work with supervising resident, fellow and attending to finalize a working diagnostic and treatment plan
* Present a case cogently and thoroughly on morning rounds
* Re-evaluate each patient daily, interpret new data, reconsider the initial plan and formulate a daily working plan
* Initiate appropriate therapy for critically ill patients in consultation with the resident, fellow and attending physician
* Formulate a prioritized differential diagnosis and problem list for each patient
* Formulate a clinical question and request consultative care
* Provide cross-coverage for hospitalized MICU patients, including careful follow-up on assigned tasks, evaluation or reevaluation of evolving clinical scenarios, and escalation of care when applicable

**Medical Knowledge:**

* Identify some of the pathophysiologic mechanisms responsible for critical illness in individual patients
* Demonstrate sufficiency knowledge about common ICU problems: GI bleeding, COPD exacerbation, respiratory failure, mechanical ventilation and shock.
* Understand typical therapies for common ICU patient problems
* Identify the effects of social determinants of health that may contribute to admission to the MICU service in individual patients
* Utilize the basic principles of clinical reasoning in the initial evaluation and workup of critically ill patients, including problem representation and construction of a differential diagnosis
* Be able to apply basic principles of diagnostic testing in the initial evaluation and workup of critically ill patients, including appropriate test and basic imaging interpretation

**Practice-based Learning and Improvement:**

* Identify themes from attending rounds, morning report and the critical care lecture series that are relevant for the care of individual critically ill patients
* Identify deficient areas of knowledge and take the necessary steps to improve
* Develop a systematic manner of seeking out information necessary in the care of your patients
* Use computerized sources of results and information in the electronic medical health record (EMR) to enhance patient care
* Accept feedback and develop self-improvement plans

**Interpersonal and Communication Skills:**

* Observe and participate in meetings between patients, their families and the healthcare team when end-of-life issues and transition to “comfort care” is discussed, applying principles of shared-decision making when applicable
* Create and sustain a therapeutic and ethically sound relationship with patients
* Use effective listening skills.
* Develop techniques for obtaining appropriate information from patients regardless of health status to create an intelligent assessment and plan
* Work effectively with others as a member of a health care team including the other MICU teams, cross-cover and consulting teams, and interprofessional team members
* Write succinct and organized notes that accurately convey the patients’ health status and plan of care
* Create and maintain clear and succinct written sign-out documents to aid in patient handoffs and cross-coverage
* Give and receive patient handoffs using best practices in handoff communication

**Professionalism:**

* Act as a role model for colleagues, other house staff, other health care professionals and students: (enthusiastic and committed to patient care; receptive to differing opinions of other healthcare members; respect all members of the healthcare team).
* Demonstrate ability to organize the work day to enable sufficient time for inpatient care and resident educational activities
* Maintain an attendance record at conference that exceeds 60%
* Maintain a record of timely responses to administrative requests, pages, telephone calls, etc.
* Complete required records such as duty hours reporting and chart completion
* Develop habits of punctuality that demonstrates respect for fellow residents, faculty, and ancillary staff

**Systems-Based Practice:**

* Identify situations in the care of critically ill patients when the services of consultants, pharmacists, dieticians and social workers would be beneficial
* Identify system flaws that interfere with your patient’s diagnostic or treatment plan
* Be aware of the consultative and ancillary services available in the hospital and develop a familiarity working with them
* Demonstrate constructive skepticism, question consult recommendations and consider your patient’s overall well-being prior to initiation of consultant recommendations
* Be a patient advocate in navigating the complex systems that impact on patient care
* Participate in all joint conferences or rounds involving consultants from other disciplines
* Coordinate activities of other non-physician team members (RN, PT, RT, OT, SW) during transitions of care

**PGY2:**

**Patient care:**

* Supervise the work of the interns and medical students on your team in all aspects of the care of critically ill patients. This supervision involves reviewing H&P’s, assessment plans and progress notes and approving the recorded data of the supervisees
* Evaluate critically ill patients and identify the major problems/complications of critical illness
* Recognize atypical presentations of common diseases
* Initiate appropriate therapy, in conjunction with your fellow and attending, for the major problems in your critically ill patients
* Expand the depth of knowledge and understanding during morning rounds, lectures and clinical conferences
* Develop a more sophisticated plan for patient care that involves psychological, socioeconomic and historical perspectives
* Perform competently as leader when addressing the needs of acutely decompensating patients
* Interact with consultants and physicians from other disciplines to coordinate appropriate care from multiple options
* Develop competence and the ability to teach the PGY-1 resident basic procedures such as central line insertion
* Provide and role model how to provide overnight cross-coverage for hospitalized MICU patients, including careful follow-up on assigned tasks, evaluation or reevaluation of evolving clinical scenarios, and escalation of care when applicable
* Role model how to provide effective written and verbal handoffs and give feedback to junior team members

**Medical Knowledge:**

* Identify most of the pathophysiologic mechanisms responsible for critical illness in individual patients
* Demonstrate knowledge about common ICU problems (GI bleeding, COPD exacerbation, respiratory failure, mechanical ventilation and shock) and incorporate this into your daily plan on rounds.
* Identify the effects of social determinants of health that may contribute to admission and the disease/hospitalization trajectory of patient in the medical ICU
* Role model, teach and provide feedback on the basic principles of clinical reasoning in the initial evaluation and workup of medical ICU patients
* Role model, teach and provide feedback on basic principles of diagnostic testing in the initial evaluation and workup of medical ICU
* Discuss the common medical therapies for common medical ICU patient problems, including an understanding of the quality of evidence underlying therapeutic options
* Educate interns and medical students about the basic pathophysiologic mechanisms of complex, critically ill patients *in informal settings*
* Become an educational resource for the team by obtaining more in-depth medical information on topics that are discussed on rounds
* Develop a sufficient level of medical knowledge to teach the PGY-1 resident and medical students

**Practice-based Learning and Improvement:**

* Identify themes from attending rounds, morning report and the critical care lecture series that are relevant for the care of individual critically ill patients and implement when appropriate
* Identify deficient areas of knowledge, develop and implement personalized learning plans to improve
* Role model a systematic manner of seeking out information necessary in the care of your patients
* Role model how to use computerized sources of results and information within the EMR to enhance patient care
* Seek and accept feedback and develop self-improvement plans

**Interpersonal and Communication Skills:**

* Participate in and lead meetings between patients, their families and the healthcare team when end-of-life issues, transition to “comfort care” and complex treatment options are discussed, applying principles of shared-decision making when applicable
* Identify interns or students who are struggling to concisely and accurately present critically ill patients on morning rounds. Role model for the intern/student how to present on rounds.
* Create and sustain a therapeutic and ethically sound relationship with all patients and/or proxy decision-makers, even those skeptical of the healthcare system
* Use effective listening skills
* Role model how to work effectively with others as a member of a health care team, including the general medicine team, cross-cover and consulting teams, and interprofessional team members
* Write and teach others how to prepare succinct and organized notes that accurately convey the patients’ health status and plan of care

**Professionalism:**

* Act as a role model for colleagues, interns, co-residents, nurses and students: (enthusiastic and committed to patient care; receptive to differing opinions of other healthcare members; respect all members of the healthcare team).
* Delegate responsibility appropriately to the intern and medical student; recognizing the position as supervising resident to be a role model and to help with daily tasks when asked for help (writing progress notes, sign-outs or H&Ps).
* Organize the team’s work day to enable sufficient time for inpatient care and resident educational activities
* Maintain an attendance record at morning report conference that exceeds 60%
* Role model for others how to respond in a timely fashion to administrative requests, pages, telephone calls, etc.
* Role model how to complete required records such as duty hours reporting and chart completion
* Role model habits of punctuality that demonstrates respect for fellow residents, faculty, and ancillary staff

**Systems-Based Practice:**

* Request the services of consultants, pharmacists, dieticians and social workers, at the appropriate time, in the care of critically ill patients
* Identify and report system flaws that interfere with your patient’s diagnostic or treatment plan
* Utilize consultative and ancillary services available in the hospital and develop a familiarity working with them
* Demonstrate constructive skepticism, question consult recommendations and consider your patient’s overall well-being prior to initiation of consultant recommendations
* Seek out opportunities to be a patient advocate in navigating the complex systems
* Actively advocate for your patients in all joint conferences or rounds involving consultants from other disciplines
* Role model for junior members of the team how to coordinate activities of other non-physician team members (RN, PT, RT, OT, SW) during transitions of care

**PGY3:**

**Patient care:**

* Supervise the work of the interns and medical students on your team in all aspects of the care of critically ill patients. This supervision involves reviewing and providing feedback on H&P’s, assessment plans and progress notes and approving the recorded data of the supervisees
* Evaluate critically ill patients and identify a comprehensive list of problems/complications that are present or likely to occur during hospitalization
* Recognize atypical presentations of common diseases and understand when to look into uncommon/rare diagnoses
* Initiate appropriate therapy, in conjunction with fellow and attending, for the majority of your critically ill patient’s problems
* Seek opportunities to expand the team’s depth of knowledge and understanding during morning rounds, lectures and clinical conferences
* Implement a plan for patient care that involves psychological, socioeconomic and historical perspectives
* Perform competently as leader when addressing the needs of acutely decompensating patients and effectively transition care to other providers when appropriate
* Interact with consultants and physicians from other disciplines to coordinate appropriate care even when there are dissenting opinions about patient care needs
* Understand how to perform basic procedures including indications/contraindications for common procedures, such as central line insertion, arterial line placement, NG tube placement, paracentesis and thoracentesis
* Provide and teach how to provide overnight cross-coverage for hospitalized MICU patients, including careful follow-up on assigned tasks, evaluation or reevaluation of evolving clinical scenarios, and escalation of care when applicable
* Teach junior team members how to provide effective written and verbal handoffs and give feedback

**Medical Knowledge:**

* Demonstrate knowledge of and teach about diseases and hospitalization trajectories of common and uncommon medical ICU problems, and incorporate this into the daily plan on rounds.
* Demonstrate knowledge about common ICU problems (GI bleeding, COPD exacerbation, respiratory failure, mechanical ventilation and shock) and teach interns/students about these topics on rounds and throughout the day.
* Identify and teach about the basic pathophysiologic mechanisms responsible for acute medical illness across a wide spectrum of severity in individual patients
* Identify and teach about the social determinants of health that may contribute to admission and the disease/hospitalization trajectory of patient in the medical ICU
* Role model, teach and provide feedback on the basic principles of clinical reasoning in the initial evaluation and workup of medical ICU patients
* Role model, teach and provide feedback on basic principles of diagnostic testing in the initial evaluation and workup of medical ICU patients
* Discuss and teach about medical therapies for common medical ICU patient problems, including an understanding of the quality of evidence underlying therapeutic options
* Educate interns and medical students about the basic pathophysiologic mechanisms of complex medical ICU patients *in informal settings*
* Become an educational resource for the team by teaching the team what you have learned from your reading about topics and patients that are discussed on rounds

**Practice-based Learning and Improvement:**

* Identify themes from attending rounds, morning report and the critical care lecture series that are relevant for the care of individual critically ill patients and incorporate this information into development of diagnostic and treatments plans when admitting new patients
* Identify clinical questions that arise at the point of patient care, role model how to seek these answers and share with the team on rounds
* Develop and implement personalized learning plans to improve after identifying deficient areas of knowledge
* Role model and teach interns/students a systematic approach to seeking out information necessary in the care of your patients
* Role model and teach interns/students how to use computerized sources of results and information in the EMR to enhance patient care
* Accept feedback and develop self-improvement plans for yourself and others on the team, when appropriate

**Interpersonal and Communication Skills:**

* Lead and teach junior members of the team how to lead meetings between patients, their families and the healthcare team when end-of-life issues, transition to “comfort care” and complex treatment options are discussed, applying principles of shared-decision making when applicable
* Create and sustain a therapeutic and ethically sound relationship with all patients and/or proxy decision-makers, even those skeptical of the healthcare system
* Use and teach other team members effective listening skills
* Role model and teach how to work effectively with others as a member of a health care team, including other medical ICU teams, cross-cover and consulting teams, and interprofessional team members
* Teach others how to prepare pertinent and organized notes that accurately convey the patients’ health status and plan of care and give appropriate feedback when necessary

**Professionalism:**

* Act as a role model for colleagues, other house staff, other health care professionals and students: (enthusiastic and committed to patient care; receptive to differing opinions of other healthcare members; respect all members of the healthcare team), even in stressful/challenging situations
* Delegate responsibility appropriately to the intern and medical student; recognize when the intern/student needs help completing tasks before being asked for help (writing progress notes, sign-outs or H&Ps).
* Organize the team’s work day to enable sufficient time for inpatient care and resident educational activities
* Maintain an attendance record at morning report conference that exceeds 60% and ensure that other members of the team are also able to attend conferences
* Role model and teach how to respond in a timely fashion to administrative requests, pages, telephone calls, etc.
* Role model and teach how to complete required records such as duty hours reporting and chart completion
* Role model habits of punctuality that demonstrates respect for fellow residents, faculty, and ancillary staff

**Systems-Based Practice:**

* Teach other team members when to seek the input of consultants, pharmacists, dieticians and social workers in situations where their expertise would be beneficial for individual patients
* Identify and teach other team members how to report system flaws that interfere with your patient’s diagnostic or treatment plan
* Utilize consultative services and teach other team members about the ancillary services available in the hospital
* Role model and teach other team members how to maintain a constructive skepticism, question consult recommendations and to consider your patient’s overall well-being prior to initiation of consultant recommendations
* Seek out opportunities to be a patient advocate in navigating the complex healthcare system
* Teach other team members how to actively advocate for your patients in all joint conferences or rounds involving consultants from other disciplines
* Teach other members of the team how to coordinate activities of non-physician team members (RN, PT, RT, OT, SW) during transitions of care

Clinical Experience

The Medicine Intensive Care Curriculum consists of multiple components, described below. The purpose of the structured curriculum is to be certain that you are exposed to patients with medical conditions resulting in critical illness.

Trainees will provide care for a wide variety of patients with medical critical illness from the time of presentation to the time of recovery, discharge and transfer to other units, or to the time of death. Your care will be integrated with that of the attending physician and fellows on the ICU service. Interns and residents also have an opportunity to interact with specialists and consultants in radiology, pathology, general surgery and surgical specialties, and obstetrics-gynecology in the care of critically-ill patients.

Educational methods and evaluation tools

**Educational opportunities:**

Multidisciplinary rounds with attending, fellows, residents and bedside nurses each morning

Pulmonary morning report (9:00– 9:30 a.m.) Monday through Friday

IM morning report (11:30 a.m. – 12:15p.m.) Monday through Friday

ICU lecture series (2:00 – 3:00 p.m.) Monday through Friday

Afternoon rounds with MICU attendings, fellows and on-call resident 3:15 p.m.

Multidisciplinary morbidity and mortality conference at the conclusion of each ICU block

**Assessment Method(s) or Evaluation Tool:**

(C) Clinical records review

(D) Direct observation

(E) Evaluation by non-faculty

(G) Global faculty evaluation

(L) Case log review

(P) Portfolio review

(PTS) Patient survey

(PES) Peer survey

(S) Skills checklist

(SA) Self-assessment form

(T) In-training exam

(O) Other (specify)

On the MICU rotation interns and residents will be evaluated by:

C, D, E (ICU nurses and fellows), G, and PES.