Medical Intensive Care Unit Curriculum

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ROTATION GOALS AND EDUCATIONAL PURPOSE
During this month, you will be caring for critically ill medical patients in the medical ICUs on south campus. You will increase your exposure to inpatients with life-threatening medical problems. Experienced critical care attending physicians will provide teaching and oversight of patient care. Additionally, observational experience with the medical ICU multidisciplinary team (nursing, respiratory therapy, nutritional support, pharmacy) will provide a broad based educational experience on the care of patients in the intensive care unit setting.
This rotation is mandatory for the majority of PGY1-3 level residents.

ROTATION SCHEDULE AND LOGISTICS
Rotation Administrative contact: Bethany Millar (millarbj@wustl.edu)
First Day Reporting Protocol: Please note that prior to the 1st day, you should receive signout of the patients that you will be responsible for from the previous team taking care of the patients.

When:
6:30 AM for Residents and Day Interns
8:00PM for night interns
Rounds start at 7:30 AM and evening hand off is at 8:30PM
Where:
For MICU South arrive at 8400 ICU.
For MICU North arrive at 8300 ICU
To Whom:
If intern, let the senior resident and fellow know that you are on,
If resident let the fellow know you are on.
Required Conferences: MICU Fellow Curriculum Lecture occurs in the work room in 8400 ICU from 7:30AM to 8:00 AM on Mondays-Thursday. This is required for all residents on MICU-N and MICU-S.

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<td>AM</td>
<td>7:30 MICU Curriculum Lecture</td>
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<td>8:00 Grand rounds**</td>
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**If the patient care demands allow time to attend.

Required rounds/clinics: See above

Call Schedule: For PGY2-3, call is every third night

Weekend Schedule:

- For PGY2-3s, your off day will be the pre-call day that falls on Friday, Saturday or Sunday (please see monthly call schedule)
- For PGY1s:
  - Day: Your day off will be once every 6 days. Interns will alternate every other PGY2 (JAR-JAR) call cycle off.
  - Night: You will have a day off every 3 days which corresponds to the PGY2 (JAR-JAR) call cycle.
  - Please see the monthly call schedule.

ROTATION SPECIFIC DETAILS

MICU-N Rotation Specifics:
Bed coverage: 16 beds total, 8401-8406 in 8400 MICU and 8310-8319 in 8300 MICU
Team Composition: 1 Attending, 1 Fellow, 2 SARs, 2 JARs, and 3 interns (1 day, 2 night) and 1 NP (cover 8401-8406 from 6AM to 6PM beginning October 1, 2016)
Call Cycles: q3 call cycle SAR1/Interns - JAR/JAR - SAR2/Interns

MICU-S Rotation Specifics:
Bed coverage: 18 beds total, 8407-8424 in 8400 MICU
Team Composition: 1 Attending, 1 Fellow, 2 SARs, 2 JARs, and 4 interns (2 day, 2 night)
Call Cycles: q3 call cycle SAR1/Interns - JAR/JAR - SAR2/Interns
ROTATION COMPETENCY OBJECTIVES/CURRICULUM

The main goal of the medical ICU rotation is to provide house officers experience in the management of patients with a wide variety of critical illnesses, including initial evaluation and continued management of critical illnesses throughout the patient’s stay in the ICU. This includes the following objectives:

a) To learn to recognize and respond to common medical emergency syndromes.
b) To learn to organize and manage a clinical database relevant to critically ill patients.
c) To develop clinical skills in procedures commonly employed in and out of the medical ICU setting.

All of the Competency Milestones are pertinent to this rotation. Areas of special focus are noted below.

Interns should be able to be able to develop a basic level of competence in the skills listed. JARs should be able to perform the skills with less supervision, at a higher level (e.g., elicit subtle physical findings), in multiple patients and in more complex patients. SARs should be almost independent in these skills, and able to deal with unexpected events and ambiguous situations. [Specific/All] competencies [If specific, please list the competencies] are pertinent to this rotation. Areas of special focus are noted below.

I. Patient care
   a. Gather accurate information about patients, including performing a thorough history and physical examination
   b. Synthesize data into a prioritized problem list and differential diagnosis, then formulate diagnostic and therapeutic plans
   c. Monitor and follow up patients appropriately
   d. Appropriately document patient status, test results, diagnostic impressions and therapeutic plans in a daily problem-oriented progress note
   e. Prioritize each day’s work (intern for self, resident for entire team)
   f. Know the indications, contraindications, and risks of certain invasive procedures, including arterial line insertion and central venous line insertion, and competently perform such appropriate invasive procedures when indicated. More advanced residents (PGY2 or 3) should also know the indications, contraindications and risks of bedside right heart and pulmonary artery catheterization and competently participate in supervised Swan-Ganz catheter insertion when indicated.”

II. Medical Knowledge
   a. Demonstrate an increasing fund of knowledge in the range of common problems encountered in the medical ICU and utilize this knowledge in clinical reasoning. Residents will learn to diagnose, understand the pathophysiology and know the differential diagnosis as well as manage:
i. Septic shock
ii. Acute renal failure
iii. Diabetic ketoacidosis/hyperosmolar state
iv. Toxidromes and withdrawal states
v. Pulmonary embolism
vi. Nosocomial infections
vii. Acute gastrointestinal hemorrhage
viii. Hypertensive emergencies
ix. Respiratory Failure
x. ARDS
xi. Cardiopulmonary arrest

b. By the end of this rotation, you should understand the indications for, interpretation of data from and complications related to the following in the appropriate situations:
   i. Swan-Ganz catheterization
   ii. Non-invasive ventilation
   iii. Pressure-cycled ventilation
   iv. Vasoactive drugs
   v. Other means of hemodynamic assessment including bedside critical care ultrasound and esophageal Doppler monitoring

III. Interpersonal and communication skills
   a. Demonstrate caring and respectful behaviors with patients, families, including those who are angry and frustrated; and all members of the health care team
   b. Counsel and educate patients and their families
   c. Conduct supportive and respectful discussions of code status and advance directives
   d. Facilitate the learning of students and other health care professionals
   e. Demonstrate ability to convey clinical information accurately and concisely in oral presentations and in chart notes

IV. Professionalism
   a. Demonstrate respect, compassion, and integrity
   b. Demonstrate a commitment to excellence and on-going professional development
   c. Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and other aspects of clinical care
   d. Develop an appreciation for the ethical, cultural and socioeconomic dimensions of illness, demonstrating sensitivity and responsiveness to patients’ culture, age, gender, and disabilities
   e. Residents should display initiative and leadership; be able to delegate responsibility appropriately

V. Practice-based Learning and improvement
   a. All interns and residents should understand his or her limitations of knowledge and judgment; ask for help when needed; and be self-motivated to acquire knowledge
b. Accept feedback, learn from own errors and develop self-improvement plans

c. Use information technology to manage information and access on-line medical information

d. JARs and SARs should learn how to use knowledge of study designs and statistical methods for the critical appraisal of clinical studies, and how apply to this information to the care of patients

VI. Systems-based practice

a. Work effectively with others (such as nurses, secretaries, interpreters, technicians) as a member of a health care team

b. Advocate for quality patient care and assist patients in dealing with system complexities

c. Understand and appreciate the importance or contacting the patient’s primary care provider at the time of admission of soon thereafter

d. Residents should develop proficiency in leading the health care team, organizing and managing medical care

e. Learn the cost-effective use of diagnostic and therapeutic technology

TEACHING METHODS

I. Supervised patient care:

a. Admissions encompass a broad mix of acute critical medical problems requiring ICU level care.

b. patient characteristics: adult patients, male and female, all socioeconomic levels,

c. Types of clinical encounters: Inpatient, closed ICU

d. Procedures: Supervised procedures used in the evaluation and treatment of acute medical problems, including endotracheal intubation, mechanical ventilation, central venous access, arterial catheterization, etc.

e. Level of faculty supervision: Progressive, graduated responsibility for the performance of the admission history and physical examination, formulation of diagnostic and therapeutic plans, writing of orders, continued care while in the intensive care unit, and performance of bedside procedures, all under the supervision of the attending physician. Attending teaching rounds including bedside interaction with the patient and demonstration of clinical skills by the attending physician. Additionally, exposure to the performance of specific procedures performed in the intensive care unit, as well as management of technologies and medications usually employed in the ICU setting. Lastly, review of autopsy report on all of the residents’ expired patients who have undergone post-mortem examination.

II. Independent Study: Ancillary educational materials

a. MICU library of textbooks.

b. The MICU has computer workstations with Medline search capability and internet access to Medline and numerous on-line books and journals.
c. UpToDate is recommended as a concise peer-reviewed source for on-the-spot information. Residents are encouraged to go to the original literature for more in-depth learning.
d. Washington University (Becker) medical library.
e. Critical care didactic lecture series provided twice monthly.
f. Monthly critical care nursing lecture series.

**EVALUATION METHODS**

House officer evaluation forms, completed by attending physician, with verbal feedback to the house officers. Peer Evaluations will be utilized. The use of the mini-CEX (clinical evaluation exercise) is encouraged during this rotation (4 CEXs per year are required). Overall, house officers will be evaluated on the ACGME milestones. The following milestone will be evaluated during this rotation:

1. Clinical knowledge MK1
2. Has professional and respectful interactions with patients, caregivers and members of the interprofessional team (e.g. peers, consultants, nursing, ancillary professionals and support personnel). PROF 1A
3. Monitors practice with a goal for improvement. PBLI1
4. Learns and improves via feedback. PBLI3
5. Recognizes system error and advocates for system improvement. SBP2

**SUPERVISION**

The attending physician is ultimately responsible for the patients and will oversee patient care. The attending will see patients on daily rounds. The attending physician will observe the interns and residents performing specific tasks of patient management such as the interview and physical examination, choice of diagnostic studies, formulation of differential diagnosis or problem lists, development of plans for short-term and long-term medical management, communication of treatment plans, invasive procedures, and discharge planning. Chart auditing for format and quality of data entry should be done, with feedback to the residents.

There is a combination of direct and indirect supervision.
A. Direct Supervision – the supervising physician is physically present with the resident and patient.

B. Indirect Supervision:

   1. Direct supervision immediately available – the supervising physician is physically within the hospital.
2. Direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities.

PGY-1-3: All residents receive primarily direct supervision while in the ICU by ICU fellows or attendings.

When to call the service attending:

- Anytime a patient expires
- Anytime a serious safety event occurs
- Anytime you have significant concern about the appropriateness of an admission.
- Anytime there has been a significant change in the patient’s condition (i.e. requiring an ICU transfer)
- Anytime a patient is attempting to or has left against medical advice/eloped.
- Anytime an invasive procedure (other than a typical bedside procedure) is considered or ordered
- Anytime there is significant uncertainty
- Anytime you are refusing an admission
- Anytime you feel you need back up or have a question