



**Pacific Northwest University  
Of Health Sciences  
Clerkship Curriculum  
Student Clinical Rotation  
Intensive Care Rotation**

<b>Course Title:</b>	<b>IM Intensive Care Rotation</b>
<b>Credit Hour:</b>	4 - 8 credits
<b>Rotation Length:</b>	2 – 4 weeks
<b>Prerequisites:</b>	Successful completion of all CORE rotations

**Syllabus Components:**

1. Rotation Description, Purpose and Philosophy
2. Rotation Objectives
3. Orientation to Rotation
4. Required Activities and Assignments
5. Student Performance Evaluation
6. Recommended Resources
7. Standards of Professional Conduct
8. Tips for Successfully Completing the Rotation

*Last update: 12/30/11*

**This syllabus has been reviewed by the Curriculum Committee and Dean's Council with final approval by the Dean.**

## **1. Rotation Description, Purpose, and Philosophy**

The intensive care rotation is meant to give the student a more in depth experience a hospital intensive care unit. The student will work as part of intensive care team. To accomplish this, the rotation provides broad exposure to both chronic and acute problems, experience in appropriate consultation, outpatient diagnostic testing, patient education and other procedures. To achieve rotation objectives, the student is expected to apply the concepts of diagnosis and management for all phases of care and, if relevant, develop a working knowledge of both inpatient and outpatient treatment modalities as applicable to discharge planning. Throughout the rotation, students will assume as much responsibility for patient care as is commensurate with his/her preparedness

### **Rotation Objectives**

A set of learning objectives for this rotation is provided below. The objectives are intended to be a guide for the student's learning activities and serve as a baseline for assessment of the student's enhanced knowledge, skills, and professional behavior. Not all of the objectives listed below will be encountered during any single rotation. While each student is expected to further expand his/her knowledge base and to care for all assigned patient cases, he/she is also expected to avail him/herself of the educational materials provided and to master the following objectives.

### **Interpersonal and Communication Skills Objectives:**

1. Obtain through an interview, a thorough and accurate medical history of any patient, regardless of age, ethnic or socioeconomic origins. Take into account a patient's mental state, motivation for seeking treatment and ability to communicate. Employ appropriate interviewing techniques, making sure that there is full understanding between the physician and the patient.
2. Communicates effectively with attending, resident, team members and other health care professionals.
3. Documentation in medical records is legible and timely
4. Communicates appropriately and professionally to patient and family members
5. Demonstrate appropriate use of telephone, e-mail, and other communication modalities and professionally in communicating with patients and other members of the health care team.

### **Medical Knowledge Objectives:**

Upon completion of the critical care clerkship, students should be able to:

1. Demonstrate the ability to apply Osteopathic principles and treatment to this group of patients.
2. Employ fundamental knowledge of acute respiratory failure including the: differential diagnosis and treatment of acute hypoxemic respiratory failure (eg, pneumonia, pulmonary edema, alveolar hemorrhage, lobar collapse)
3. Differential diagnosis and treatment of ventilatory failure (eg, status asthmaticus, COPD exacerbation, neuromuscular weakness, drug overdose)
4. Propose a plan of care to manage patients on mechanical ventilatory support utilizing the following when appropriate:
  - a. non-invasive ventilation

- b. intubation and mechanical ventilation
  - c. basics of volume-cycled ventilation and pressure support ventilation
  - d. means for triggering the machine breath including:
  - e. controlled mechanical ventilation
  - f. assist/control ventilation
  - g. synchronous intermittent mandatory ventilation
  - h. pressure support ventilation
  - i. essentials and utility of measuring airway resistance, static compliance of the respiratory
  - j. system and auto-PEEP
  - k. indications for (and risks of) machine set PEEP
  - l. relationship between ventilator settings and hemodynamics
  - m. relationship between ventilator settings and arterial blood gases
  - n. complications of mechanical ventilation:
  - o. ventilator-induced lung injury
  - p. laryngeal and tracheal injury
  - q. nosocomial infections: sinusitis and ventilator associated pneumonia
  - r. approach to patients with obstructive lung disease and ARDS
  - s. process of weaning and extubation
5. Interpret simple and mixed acid-base disorders with appropriate changes in mechanical ventilation as needed
  6. Classify the four categories of shock in terms of pathophysiology, hemodynamic profiles and treatment:
    - a. hypovolemic shock
    - b. septic/distributive shock (SIRS, sepsis, severe sepsis, anaphylaxis, etc)
    - c. cardiogenic shock
    - d. obstructive shock
  7. Choose the suitable volume replacement therapy and drug support for patients exhibiting the signs and symptoms of shock, the use of crystalloid and colloid fluid replacement indications for vasopressor and inotropic drug support
  8. Administer the appropriate goal directed therapy based on hemodynamic measurements obtained from the utilization of various modalities: central venous catheters, pulmonary artery catheters, non-invasive measures of cardiac output.
  9. Prepare a plan for patients with altered mental status during their ICU stay, use of sedatives and paralytics, identification and treatment of drug/alcohol withdrawal syndromes, use of the Glasgow Coma Scale, identification of metabolic and anoxic encephalopathy criteria for brain death, and criteria for persistent vegetative state and coma.
  10. Determine an approach to fever in the intensive care unit including the diagnosis and treatment of hospital acquired infections knowledge of noninfectious causes of fever.
  11. Prepare a plan of care for patients with gastrointestinal bleeding (GIB) including the approach to GIB the importance of stress ulcer prophylaxis.
  12. Apply venous thromboembolism prevention in the ICU.
  13. Distinguish between treatment plans for anemia, thrombocytopenia and coagulopathy in the ICU
  14. Compare different assessment and management plans for patients in critical care with a diagnosis of poisoning: the general approach to the poisoned patient, the treatment of acetaminophen

poisoning, the basics of non ethanol alcohol poisoning the treatment of anticholinergic poisoning.

15. Recognize the effect of acute illness severity, age and prior health on the ability to tolerate critical illness through the utilization of the APACHE II scoring system in critically ill patients
16. Recognize the ethical and legal aspects of withdrawal and withholding of life support and the appropriate use of the DNR order.

**Patient Care Objectives:**

1. Demonstrate knowledge of patient-monitoring procedures to assess improvement, deterioration or change of status.
2. Demonstrate the ability to communicate effectively and interview patients and families in various clinical settings.
3. Perform complete and time-efficient physical examinations of patients. Demonstrate an ability to adapt the physical examination procedures to the patient's age and/or condition. Include inspection, palpation, auscultation, and motion testing for systemic and musculoskeletal abnormalities.
4. Communicates effectively with attending, resident, team members and other health care professionals.
5. Documentation in medical records is legible.
6. Demonstrates the ability to integrate the principles of preventive medicine and health promotion in all interactions with patients, including lifestyle change recommendations when appropriate.
7. Demonstrates ability to develop and execute patient care plans appropriate for level of training and follows a problem oriented format (SOAP).

**Practice Based Learning Objectives:**

1. Demonstrates motivation and a desire to learn.
2. Demonstrates the ability to learn from practice.
3. Demonstrate the ability to understand and apply decision-making tools.
4. Describes quality assurance activities within the scope of the students clinical training
5. Demonstrates recognition of the importance of lifelong learning in medical/surgical practice.
6. Demonstrates the ability to obtain the best available evidence to answer a clinical question efficiently.
7. Demonstrate the ability to communicate evidence (including osteopathic principles and practices to patients and colleagues.
- 8 . Seeks and responds to feedback.

**Professionalism Objectives:**

1. Demonstrates a respect for the right of the patient to be involved in the decisions about their care.
2. Demonstrates a commitment to continuity of patient care.

3. Demonstrates a respect and protection of confidential information
4. Displays a sense of responsibility and respect to patients, families, staff and peers.
3. Demonstrates cultural sensitivity.
4. Maintains a professional appearance, well-groomed, appropriately dressed.
5. Punctual in attendance, prompt and available when called upon.
6. Motivated to learn, shows appropriate assertiveness, flexibility, adaptability toward education.
7. Demonstrates appropriate attitude, cooperative, receptive to feedback.
8. Introduce self to those who you are working with, the patient, attending, resident, other physicians, nurses, staff, etc...

**Systems Based Practice Objectives:**

1. Know where to go for help— personal and professional.
2. Demonstrates an understanding of how to make an appropriate decision relative to the health care delivery systems
3. Attends all required orientations presented by the facility and completes needed paperwork for rotation.
3. Follows policy and procedures set forth by the health care facility and departments within that facility.
4. Recognizes common methods and available resources in health care systems to ensure quality of care.

**2. Orientation to the Rotation**

The rotation orientation provides an opportunity to answer questions and define roles, assess skill level and experience, set expectations, and anticipate and proactively resolve problems. The student should try to meet with the preceptor either prior to or early on the first day of the rotation. Clarifying the following details with the preceptor will help to ensure a rewarding and successful rotation:

- a. Student responsibilities on the service.
- b. Preceptor expectations of the student on the service.
- c. Goals, objectives, and the structure of the rotation.
- d. Required rotation assignments and responsibilities in the preceptor's practice (e.g. clinics, lectures, conferences, other didactics, journal clubs, rounds, office hours, morning report).
- e. Discuss the Evaluation of Student Clinical Performance form.
- f. The student should ask for feedback several times during the rotation, especially at mid-rotation. In addition, he/she should be prepared to share past clinical experiences and personal objectives for this rotation with the preceptor.

**3. Required Learning Activities, Assignments, and Responsibilities for ALL PNWU STUDENTS in order to earn credit for this rotation.**

The following activities are required for satisfactory completion of this rotation:

- a. Attend and participate in at least 70% of PNWU education day presentations (remote access is acceptable). This is a rotation requirement.
- b. Attend and participate in any other workshops, seminars, or professional development activities assigned by the PNWU Regional Dean.
- c. Present clinical case conferences, as assigned by the Director Clinical Rotations.
- d. Submit the online Student Evaluation through New Innovations. If you need instructions, please ask your PNWU or site staff.
- e. Submit Procedures Log through New Innovations.
- f. Submit a copy signed by your preceptor of the log summary (from New Innovations) at the end of this rotation.
- g. Fulfill all required responsibilities identified by the preceptor during orientation.

#### 4. Student Performance Evaluation

A student must receive a passing grade from the preceptor in order to pass the rotation. If the preceptor considers the student *Marginal*, then a remediation recommendation should be made by the PNWU Regional Dean, in consultation with the preceptor, and submitted to the Director of Clinical Rotations Dean for approval.

#### 5. Recommended Resources

Recommended text:

Cecil, Russell, L. (2004). *Cecil textbook of medicine* (22nd ed.) Philadelphia, Pa.: Saunders.

Kasper, Dennis L. (2005). *Harrison's principles of internal medicine* (16th ed.). New York: McGraw-Hill. Available on-line AccessMedicine via Alden Library.

Ferri, F. (2007). *Practical guide to the care of the medical patient*. (7th ed.). St. Louis Mo.: Mosby Books

Marini, J., Wheeler, A. (2009). *Critical care medicine: the essentials*. (4<sup>th</sup> ed.) Philadelphia: Lippincott, Williams & Wilkins

**The following have been identified as resources for ALL rotations by PNWU preceptors.**

Cooper, D., H, Krainik, A., J., & Lubner, S., J. (2007). *The Washington manual of medical therapeutics*. (32st ed.). Philadelphia: Lippincott Williams & Wilkins.

McPhee, S., J., Papadakis, M., A., & Tierney, L., M. (2007). *2007 Current medical diagnosis and treatment*. New York: McGraw-Hill. Also available on AccessMedicine

Ward, R. (2003). *Foundations for osteopathic medicine* (2nd ed.). Philadelphia: Lippincott Williams & Wilkins.

Medical Dictionary (Dorland, Taber or Stedman)

Available through the PNWU Library:

- PubMed ([www.pubmed.gov](http://www.pubmed.gov))

- PNWU Library Catalog (<http://opac.libraryworld.com/cgi-bin/opac.pl?command=signin&libraryname=MLRC>)
- MD Consult with remote access ([www.mdconsult.com](http://www.mdconsult.com))
- OSTMED.DR Osteopathic Medicine Digital Repository (<http://www.ostmed-dr.com:8080/vital/access/manager/Index>)

Interlibrary loan is available to PNWU COM students at no charge. Contact the library at 509-249-7745 or at [library@pnwu.org](mailto:library@pnwu.org) for assistance. A complete list of library resources can be accessed by students by logging into the PNWU network and checking the Library page on Connections (<http://connections/Pages/Default.aspx>).

## **6. Standards of Professional Conduct**

PNWU Honor Code applies to all activities in PNWU as well as the Regional campus sites. Students are encouraged to study together and to share their knowledge freely with one another during the learning process. During examinations, however, no assistance from other students or from outside sources is allowed, unless explicitly permitted by the PNWU office. Books, notes, and other materials must be left at the periphery of the testing area during examinations.

Professional standards required of a member of the Osteopathic profession are a requirement for passing this rotation, as is compliance with the professional standards of the hospital and outpatient offices of the student's preceptor. Students are expected to maintain high professional standards of behaviors. They should exhibit such personal characteristics as honesty and integrity, as well as to maintain patient confidentiality at all times. Unprofessional behavior may result in a failing grade in this rotation, regardless of other academic performance on this rotation, and could subject the student to dismissal from the hospital in which they are based. Professional conduct shall be evaluated by the PNWU Regional Dean through observation of and interaction with the student, his/her preceptor, other hospital attending physicians and staff.

## **7. Tips for Successfully Completing the Rotation**

Being successful on this rotation requires you to be a proactive student. Taking an interest in the specialty and becoming an active team member of the service is critical to learning in a clinical setting. Remember, the clinical learning environment differs from the classroom. You will be "thinking on your feet" and "learning as you go." To capitalize on "the learning moment," seek out opportunities to ask questions and speak up appropriately.

In addition, be sure to:

1. Review the syllabus to ensure that you understand all requirements.
2. Discuss with your preceptor your previous clinical experiences and personal goals and objectives for this rotation. The rotation orientation is an opportune time to initiate this discussion and to develop positive rapport with you preceptor.
3. Clarify your preceptor's expectations of your activities.
4. Complete your skills and procedure log as you proceed through the rotation; avoid procrastinating until the end.
5. Come prepared to take advantage of the opportunities this rotation has to offer.

*If you have any questions, contact your Site Director, Coordinator or Regional Dean.*