



**Pacific Northwest University
Of Health Sciences
Years III and IV Clerkship Curriculum
Student Clinical Rotation
Cardiothoracic Surgery**

Course Title:	CARDIOTHORACIC SURGERY – SURG 715 & 715S
Credit Hour:	4 credits
Rotation Length:	2 - 4 weeks
Prerequisites:	Successful completion of SURG 701 & SURG 702

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

This is an elective 2- 4 week rotation in surgery. The student will be assigned to a physician trainer or group of physicians who are practicing in the specialty.

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 purpose of this 2-4-week experience is to provide the student with exposure to commonly encountered cases in Cardiothoracic Surgery. 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 outpatient care and, if relevant, develop a working knowledge of both inpatient and outpatient treatment modalities. Throughout the rotation, students will assume as much responsibility for patient care as is commensurate with his/her preparedness.

2. 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 acts professionally in communicating with patients and other members of the health care team.

Medical Knowledge Objectives:

1. Explain the anatomy and physiology of the chest wall, diaphragm, heart, lungs, and other thoracic structures
2. Knowledge of invasive and non-invasive cardiothoracic tests and application of these tests to patient management
3. History of cardiothoracic surgery
4. Ethical principles and scientific method as they apply to cardiothoracic surgery
5. Principles which govern preoperative and postoperative care of the cardiothoracic surgery patient

6. Blood component therapy and knowledge of the coagulation pathways
7. Physiology and methods of anesthesia in cardiothoracic surgery
8. Extracorporeal bypass and cardiac mechanical support principles and techniques

Pathologic Processes

1. Embolism
2. Valvular heart disease
3. Coronary artery disease
4. Cardiac dysrhythmias
5. Pulmonary Aortic pathology
6. Cardiac neoplasms
7. Myocarditis and cardiomyopathies
8. Cardiothoracic trauma
9. Pericardial abnormalities, congenital and acquired
10. Infectious, inflammatory, and environmental insults to the lung
11. Lung neoplasms
12. Tumors and acquired abnormalities of the chest wall
13. Traumatic conditions of the chest wall
14. Tracheobronchial and pulmonary trauma
15. Diaphragmatic trauma
16. Neoplasms and acquired abnormalities of the mediastinum

For each disease or condition listed above, the student should be able to describe/assess the following:

1. Presenting signs and symptoms
2. Physical findings
3. Basic interpretations of appropriate diagnostic studies
4. Major differential diagnoses
5. Management alternatives, including: treatment plans, patient education, and addressing modifiable risk factors
6. Possible complications
7. Prognosis
8. Understand the workup for coronary artery disease (CAD), and be familiar with non-surgical modalities of treatment.
9. Be familiar with pre-operative cardiac catheterizations, nuclear studies, echocardiograms and other studies.
10. Know the indications for coronary artery bypass grafts (CABG).
11. Know how to do the work-up for valvular heart disease, and be familiar with pre-operative studies for valve surgery.
12. Know the indications for surgery for valvular heart disease.
13. Be familiar with post-operative complications and treatment for both CABG and valve surgery.
14. Be familiar with the workup of lung tumors/masses and indications for surgery.
15. Be familiar with the post-operative care of complications of lung surgery.

16. Be familiar with long-term follow-up for each of the above surgeries.
17. Demonstrate knowledge of the characteristics of the most commonly prescribed drugs, including pharmacokinetics, pharmacodynamics, indications for use, contraindications, appropriate dosage, common side effects, drug interactions, interactions with foods, potentials for abuse, cost-effectiveness and inpatient versus outpatient use.
18. Be aware of the adverse effects of drugs and drug combinations on particular patient populations, such as the elderly, children, pregnant women, nursing mothers and their infants, substance abusers, patients with allergies, and patients with chronic diseases or disorders.
19. Demonstrate similar knowledge of the over-the-counter drugs that are commonly used by patient.

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).
8. Demonstrate the ability to apply Osteopathic principles and treatment to this group of patients.

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.

3. 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.

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

- a. Attend and participate in at least 70% of PNWU education day presentations (remote access is acceptable). This is a graduation 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.

5. 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.

6. Recommended Resource

The following resources have been identified for this rotation as recommended:

Recommended Text:

Sellke, Del Nido, Swanson. 2005. *Sabinston and Spencer Surgery of the Chest*. Elsevier Saunders.

Kouchoukos, Blackstone, Doty, Hanley, Karp. 2003. *Kirklin Barratt-Boyes Cardiac Surgery*. Churchill Livingstone.

Cheng, David T. 2006. *Perioperative Care in Cardiac Anesthesia and Surgery*. Lippincott Williams & Wilkins.

Marino. 2007. *The ICU Book*. Lippincott Williams & Wilkins.

Fraser, Colman, Müller, Paré. 2005. *Synopsis of Diseases of the Chest*. Elsevier Saunders

Mora, Christina T. 1995. *Cardiopulmonary Bypass, Principles and Techniques of Extracorporeal Circulation*. Springer-Verlag

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*. (32nd 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 or Taber)

Available through the PNWU Library:

PubMed (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)

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 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>).

7. 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.

8. 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.