



Ohio University
College of Osteopathic Medicine
Centers for Osteopathic Research and Education
Years III and IV Clerkship Curriculum



Class of 2009 CORE Clinical Rotation: Cardiothoracic Surgery

Course Title:	Cardiothoracic Surgery
Instructor of Record:	Peter B. Dane, D.O.
Credit Hour:	3 Credits per week of rotation
Rotation Length:	4 weeks
Prerequisites:	Successful completion of the 6-week Family Medicine Clerkship

Syllabus Components

1. Rotation Description, Purpose and Philosophy
2. Rotation Objectives
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Last update: 10-17-07

1. Rotation Description, Purpose, and Philosophy

The purpose of this rotation is to provide an overview of diseases of the chest with an emphasis on surgical treatment options. On rotation, the student will participate in the diagnosis and surgical treatment of diseases of the chest, learn indications for surgical treatment of diseases of the chest, and participate in the post-operative management of the thoracic surgical patient. Surgery is merely one component in the management of patients; the most invasive component, and therefore always a last resort.

2. Rotation Objectives

A set of learning objectives is provided below. The objectives are intended to guide the student's learning activities and to serve as a baseline for assessment of the student's 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 seek mastery of the following objectives.

Rotation Objectives: Knowledge Domain

General Principles

1. 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

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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

Rotation Objectives: Clinical Skills Domain

Cardiothoracic surgery necessarily requires specific and highly advanced clinical skills. The student is not expected to develop proficiency in these skills, but is expected to avail him/herself of as many of the following procedures and surgical experiences as possible. The student should make every effort to participate in these surgical procedures as actively as is deemed appropriate and desirable by the cardiothoracic surgery preceptor. The student should also seek out opportunities to perform or assist in these skills in other rotations as well.

1. Temporary pacemaker implantation
2. Permanent pacemaker implantation
3. AICD implantation
4. Intraoperative mapping and cardiac ablation
5. Coronary artery bypass surgery
6. Cardiac transplantation
7. Extracorporeal heart bypass
8. Mechanical cardiac support and ECMO
9. Heart valve repair and replacement
10. Surgical management of aortic dissection and aneurysms
11. Excision of cardiac tumors
12. Surgical management of hypertrophic cardiomyopathy
13. Pericardiocentesis
14. Surgical management of pericardial neoplasms, effusions, tamponade, and constrictive pericardial disease
15. Thoracotomy
16. Sternotomy
17. Mediastinotomy
18. Video-assisted thoracic surgery
19. Bullectomy
20. Lung reduction surgery

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21. Lung transplantation
22. Surgical management of foreign bodies of the airway
23. Tube thoracostomy
24. Needle decompression
25. Resection of lung and neoplasms
26. Surgical management of tracheal neoplasms including resection and reconstruction
27. Resection of chest wall neoplasms
28. Resection of mediastinal neoplasms
29. Surgical management of thoracic and diaphragmatic trauma
30. Endobronchial procedures
31. Tracheal intubation

3. Orientation to the Rotation

The rotation orientation provides an opportunity to set/clarify expectations, answer questions and define roles, assess skill level and experience, , 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. S/he should be prepared to share past clinical experiences and personal objectives for this rotation with the preceptor. Clarifying the following details with the preceptor will help to ensure a rewarding and successful rotation:

- a. Specific student responsibilities on the service.
- b. Specific preceptor expectations of the student on the service.
- c. Goals, objectives, structure and expected measurable outcomes 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.

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 CORE STUDENTS*

Satisfactory completion of the following activities is required to receive credit for this rotation:

- a. Attendance and participation in all didactic activities, such as lecture presentations, clinical case conferences, workshops, seminars, or professional development activities assigned by the CORE Assistant Dean.
- b. Submission of the rotation preceptors' completed written evaluation within 2 weeks of the end of the rotation.
- c. Submission of the online Student Rotation Evaluation through New Innovations.
- d. Fulfillment of all required responsibilities identified by the preceptor during orientation.
- e. Submission of a 1 -2 page summary description of how the student met the established objectives.

5. Student Performance Evaluation and Remediation Procedures

A student's grade for the Anesthesiology Rotation will be based on the satisfactory completion of all required learning activities, assignments, and responsibilities listed above as well as the preceptor's written evaluation.

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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 CORE Assistant Dean, in consultation with the preceptor, and submitted to the Associate Dean for approval. If the preceptor fails the student, the student is awarded a grade of “F” for the rotation. The failure must be forwarded to the CSP.

NOTE: It is the responsibility of the student to ensure that the preceptor’s evaluation is submitted to the CORE office within 2 weeks of the end of the rotation.

6. Recommended Resources

The following resources have been identified for this rotation by CORE preceptors.

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 CORE 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 or Taber)

CORE OMM Curriculum for Students and Interns. Materials available through CORE Office

PubMed (www.pubmed.gov) or

PubMed configured to show OU resources

(<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?myncbishare=oucom>) or

Medline available through OhioLINK (<http://rave.ohiolink.edu/databases/login/medl>)

National Guideline Clearing House (<http://www.guideline.gov/>)

AccessMedicine available to OU students at: http://www.library.ohiou.edu/cgi-bin/redirect_athensonly.pl?http://www.accessmedicine.com/

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Evidence-Based Medicine Resources available on OU-COM home page via Current Student dropdown menu:

Cochrane Library
InfoPOEMs/InfoRetriever

MD Consult (Available to COM students for \$25 fee through Office of Academic Affairs/Pre-Doctoral Education)

Access Medicine

7. Standards of Professional Conduct

The OU-COM Honor Code applies to all activities in the CORE as well as on the Athens campus.

“As a member of the medical profession, I will maintain the highest standards of academic and personal behavior. As a medical student I will not cheat or plagiarize or tolerate that behavior in others.” OU-COM Honor Code

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 CORE 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 CORE Assistant 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.

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5. come prepared to take advantage of the opportunities this rotation has to offer.

If you have any questions, contact your CORE Administrator or CORE Assistant Dean.