CARDIOTHORACIC SURGERY
ROTATION
(PGY-1)

A. Medical Knowledge

Goal:
The resident will achieve a detailed knowledge of the evaluation and treatment of a variety of disease processes. The resident will be exposed to patients with both medical and surgical emergencies and will become comfortable with the initial evaluation and stabilization of patients.

Objectives:
1. Discuss the basic pathophysiology of cardiothoracic and pulmonary disease entities.
2. Discuss the indications and contraindications for cardiac and thoracic surgery.
3. Discuss the diagnosis and treatment of patients undergoing significant cardiovascular events, including:
   a. myocardial infarction
   b. arrhythmias
   c. unstable angina
   d. cardiogenic shock
   e. cerebrovascular accidents
   f. transient ischemic attacks
4. Discuss the diagnosis and treatment of patients undergoing significant thoracic diagnoses, including:
   a. pulmonary malignancies
   b. esophageal malignancies
   c. refractory esophageal reflux
   d. empyemas
   e. pleural effusions
   f. emphysema
5. Discuss the physiology and methodology of cardiopulmonary bypass.
6. Discuss the physiology and methodology of ECMO
7. Discuss the circumstances in which cardiothoracic surgery can be performed off of cardiopulmonary bypass.
8. Recite the basic details of commonly performed cardiac operations, such as:
   a. coronary artery bypass grafting
   b. valve replacement
   c. thoracic aneurysm repair
   d. cardiothoracic transplant
9. Recite the basic details of commonly performed thoracic operations, such as:
   a. pulmonary resections
   b. lung transplantation
10. Discuss the basic understanding of pacemakers and defibrillating devices.
11. Discuss the pathophysiology and treatment of cardiogenic shock.
12. Recite the indications for and contraindications for cardiac and pulmonary transplantation.
13. Discuss the details of immunotherapy for cardiac and pulmonary transplantation.
14. Discuss the diagnosis and treatment of acute and chronic rejection of heart and lung transplants.
15. Recite the details about the process of organ donation.
16. Discuss the intricacies of mechanical pulmonary ventilation.
17. Discuss and interpret esophageal manometry, pH studies, spirometry, and measurement of diffusing capacity.
18. Recite the staging of esophageal and lung malignancies.
19. Discuss the role and benefits of minimally invasive approach to:
   a. Nissen Fundoplications
   b. Esophagectomies
   c. Lung biopsies
   d. Lung resections
20. Participate in the care of patients including management of arrhythmias and the anticoagulation of cardiac patients.

B. Patient Care

Goal:
The resident will provide patient care that is compassionate, appropriate, and effective for the treatment of cardiothoracic problems.

Objectives
1. Preoperatively evaluate and prepare cardiac and pulmonary patients for surgery.
2. Interprets laboratory and diagnostic tests.
3. Care for patients with post-operative dysrhythmias.
4. Become certified in ACLS
5. Interprets electrocardiograms
6. Care for patients with post-operative hemodynamic problems.
7. Participate in the diagnosis and care of post-operative cardiac and thoracic complications.
8. Participate in the operative therapy of acquired diseases of the lungs and mediastinum including the use of traditional operative therapy and endoscopic therapy, including:
   a. thoracotomies
   b. thoracostomies
   c. thorascopic and laparoscopic procedures
9. Interpret chest x-rays and CT scans of thoracic diagnoses.
10. Performs with graduated independent surgical experience the following thoracic surgery procedures:
   a. thoracentesis
   b. insertion of pleural drainage catheters
   c. placement of chest tubes
   d. bronchoscopy
   e. esophagoscopy

C. Practice Based Learning and Improvement

Goal:
The resident will investigate and evaluate his or her own patient care practices, appraise and assimilate scientific evidence, and improve patient care practices.

Objectives
1. Uses information technology to prepare for cases, using in the OR the knowledge of current modalities of care and the scientific evidence for that care.
2. Routinely analyzes the effectiveness of own practices in caring for patients.
3. Improves own practices in the care of patients by integrating appropriately gathered data and feedback.
4. Educates medical students and other healthcare professionals in the practices of cardiothoracic medicine.
5. Functions independently with graduated advancement and appropriate faculty supervision.
6. Uses library sources to perform research and perform literature searches.
7. Understands the principles of clinical research and the application of biostatistics.

D. Interpersonal and Communication Skills

Goal:
The resident will demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and professional associates.

Objectives
1. Educates patients and families in follow-up strategies and rehabilitation for cardiothoracic surgery patients.
2. Demonstrates compassion for patients and families undergoing cardiothoracic surgery and transplantation.
3. Provides adequate counseling and informed consent to patients.
4. Listens to patients and their families.
5. Assimilates data and information provided by other members of the cardiothoracic health care team.
6. Charts and records accurate information.

E. System Based Practice

Goal:
The resident will demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

Objectives
1. Coordinates all aspects of the preoperative and postoperative care and rehabilitation of cardiothoracic surgery patients.
2. Create a cost-effective, focused work-up of diagnostic testing.
3. Advocates for cardiac patients within the health care system.
4. Refers cardiothoracic patients to the appropriate practitioners and agencies.
5. Facilitates the timely discharge of cardiothoracic surgery patients
6. Learn to coordinate the admission of patients and communicate with primary care physicians, inpatient house staff, and consultants.

F. Professionalism

Goal:
The resident will demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

Objectives
1. Develops a sensitivity of the unique stresses placed on families under care for cardiothoracic surgery.
2. Exhibits an unselfish regard for the welfare of cardiac surgery patients.
3. Demonstrates firm adherence to a code of moral and ethical values.
4. Is respectful to patients and their families especially in times of stress to the family unit.
5. Respects and appropriately integrates other members of the cardiac health care team.
6. Provides appropriately prompt hand consultations when requested.
7. Demonstrates sensitivity to the individual patient’s profession, life goals, and cultural background as they apply to surgery.
8. Is reliable, punctual, and accountable for own actions in the OR and clinic.
9. Understands the concepts of autonomy, beneficence, non-malfeasance, justice, and respect for life.
10. Maintains patient confidentiality.

Cardiothoracic Reference: