ROTATION: THORACIC SURGERY

ROTATION DIRECTOR: Mary Maish, M.D.

CHIEF OF CARDIAC SURGERY: Robert Cameron, M.D.

SITES: UCLA Medical Center - Westwood

GOALS: To provide trainees an opportunity to participate in the perioperative and operative aspects of thoracic surgery.

LEVEL OF TRAINEE: R4

ASSESSMENT:

Monitoring of the accomplishment of the stated objectives will be performed using the following methods:

1. Global Rating: end of rotation evaluation of resident performance to assess the resident’s demonstration of Core Competencies with respect to the stated objectives by faculty, other team resident members, students, and nursing staff.
2. Case Logs: auditing of operative cases pertinent to the specialty in the Surgical Operative Log.
3. Written Examination: performance on the annual ABSITE examination, Cardiovascular and Respiratory systems section.
4. Patient Survey: performance will be assessed by patient surveys administered though the rotation.

DESCRIPTION OF THE ROTATION:

The Thoracic Surgery rotation of 1 month in R1, or 2 months in R4 years.

1. All rotating will be part of the Thoracic Surgery team and responsible for the care of the Thoracic Surgery patients.
2. The surgery residents will provide in-patient care including routine admissions and critical care of patients.
3. Residents will further participate in surgical operations needed on these patients under direct supervision by the surgical faculty.
4. The rotating residents will participate in all Department of Surgery educational conferences and didactic presentations.
6. Residents are expected to actively participate and present at the weekly Thoracic Surgery Conference.

R4 RESIDENT

COMPETENCY BASED LEARNING OBJECTIVES

Patient Care:

1. Perform a complete and thorough history and physical examination, with emphasis in elements unique to thoracic surgery patients.
2. Initiate the laboratory evaluation and any other initial diagnostic studies with an understanding of the tests to be ordered.
3. Make informed decisions about diagnostic and therapeutic interventions on thoracic surgery patients with the guidance of senior residents and faculty.
4. Be proficient in the preoperative preparation of the patients for thoracic surgery and routine postoperative care.
5. Understand basic pathophysiology of thoracic disease and begin to master the skills necessary to care for the ICU patient under the guidance of the senior residents and faculty members.
6. Understand basic pathophysiology of thoracic disease, principles of resuscitation, preoperative and postoperative care of cardiac surgery patients under the guidance of the senior residents and attendings.
7. Understand the basic indications for common radiological and interventional studies used in the care of thoracic surgery patients such as plain chest, and CT scans.
8. Demonstrate the ability to effectively set priorities and coordinate the care of thoracic patients.

Medical Knowledge:

Unit # 1  Thoracic Anatomy, Clinical Evaluation

A. Patient Care
   1. Demonstrate the components of a complete history related to specific thoracic diseases
   2. Demonstrate the components of a complete exam related to specific thoracic diseases
   3. Be able to differentiate between signs and symptoms of benign versus malignant diseases

B. Medical Knowledge
   1. Describe development of the lungs, mediastinum and esophagus
   2. Become familiar with the structures and the orientation of structures in the hilum
3. Become familiar with the anatomy of the hiatus
3. Describe the most common developmental abnormalities in the lungs, mediastinum and esophagus

C. Interpersonal and Communication Skills
1. Apply effective listening skills and elicit an accurate patient history relating to specific thoracic diseases using verbal and nonverbal skills

D. Professionalism
1. Develop a greater comfort level with the thoracic exam
4. Be able to put the patient at ease during the thoracic exam
5. Be able to communicate a simple understanding of the disease process to the patient

Unit # 2 Diagnostics: Imaging, Biopsy Techniques

A. Patient Care
1. Orient a CXR, PET and CT scan of the chest for viewing
2. Identify radiographic abnormalities such as lung nodules and calcifications, lymph nodes, and esophageal thickening and dilation.
3. Direct the evaluation of a worrisome radiographic finding
4. Describe the indications for the following biopsy techniques:
   a. Transthoracic biopsy
   b. Mediastinoscopy
   c. Chamberlain procedure
   d. VATS
   e. EGD
5. Determine the need for PFTs, VQ scan and pulmonary stress testing

B. Medical Knowledge
1. Describe the limitations of CT, PET, EGD, EUS
2. Be able to interpret PFTs, VQ scan and pulmonary stress testing.
3. Describe the indications for the following:
   a. Bronchoscopy
   b. EUS
   c. Esophageal manometry and pH testing
4. Develop algorithms for evaluation of the following:
   a. Solitary pulmonary nodule
   b. Mediastinal mass
   c. Chest wall lesion
   d. Esophageal mass
   e. Dysphagia

C. Interpersonal and Communication Skills
1. Work effectively with the staff in the division of thoracic surgery
D. Systems-based Practice
1. Be cognizant of the costs associated with advanced radiographic and surgical techniques and strive for the most cost-effective evaluation possible

Unit #3 Benign Thoracic Disorders

A. Patient Care
1. Identify classic benign lesions on CT.
   a. Hamartoma
   b. Scar
   c. Lung abscess
   d. TB
   e. Mediastinal cyst
   f. Esophageal leiomyoma
2. Describe the diagnostic evaluation and treatment of the following benign conditions:
   a. Hamartoma
   b. Lung scar
   c. Lung abscess
   d. TB lesion
   e. Mediastinal cyst
   f. Esophageal leiomyoma
   g. GERD
   h. Barrett’s esophagus
   i. Achalasia

B. Medical Knowledge
1. Demonstrate an understanding of the pathophysiology of the following benign conditions:
   a. Hamartoma
   b. Lung scar
   c. Lung abscess
   d. TB lesion
   e. Mediastinal cyst
   f. Esophageal leiomyoma
   g. GERD
   h. Barrett’s esophagus
   i. Achalasia
2. Demonstrate an understanding of the basic principles and procedures of surgery for the following benign conditions:
   a. Hamartoma
   b. Mediastinal cyst
   c. Esophageal leiomyoma
   d. GERD
C. Practice- Based Learning and Improvement
1. Keep a log of all procedures performed during the thoracic rotation. Document diagnosis, procedure, histology, etc.

D. Systems-Based Practice
1. Estimate costs associated with the treatment of benign thoracic disorders.
2. Identify which benign thoracic problems can be effectively followed by a primary care physician rather than a surgeon.

Unit #4  Lung Cancer

A. Patient Care
1. Describe the classic presentation for lung cancer.
2. Describe the radiographic findings of lung cancer.
3. Describe the diagnostic work-up for lung cancer.
4. Describe the surgical approaches to lung cancer.
5. Be familiar with the stages of lung cancer and the associated treatment guidelines.
6. Describe the guidelines for following patients with lung cancer after resection.

B. Medical Knowledge
1. Describe the anatomy of the lung on CT and bronchoscopy.
2. Describe the familial and environmental risk factors for lung cancer.
3. Describe the biology of the 4 major types of lung cancer and the tumor and histopathologic markers that define them.
   a. Squamous cell cancer
   b. BAC
   c. Adenocarcinoma
   d. Carcinoid tumors
4. Describe the risks and benefits to neoadjuvant and adjuvant therapy.
5. Describe the risks and benefits of surgery.
6. Demonstrate an understanding of a basic preoperative work up for thoracic surgery, including a thorough cardio-pulmonary evaluation.
7. Demonstrate an understanding of the basic principles and procedures of surgery for the treatment of lung cancer.

C. Practice-Based Learning and Improvement
1. Keep a log of all pulmonary procedures performed during the thoracic surgery rotation.
D. Interpersonal and Communication Skills
   1. Work effectively with the multidisciplinary team of surgeons, internists, oncologists and radiation oncologists

E. Professionalism
   1. Be able to discuss with patients their chances for cure in a compassionate, professional manner.

F. Systems-Based Practice
   1. Understand the costs associated with the treatment of lung cancer (surgery, chemotherapy, radiation therapy)
   2. Understand the medical-legal risks of the delay in diagnosis and missed diagnosis of lung cancer

Unit #5 Esophageal Cancer

A. Patient Care
   1. Describe the anatomy of the esophagus on CT scan and endoscopy
   2. Describe the classic presentation for esophageal cancer
   3. Describe the radiographic findings of esophageal cancer
   4. Describe the diagnostic work-up for esophageal cancer
   5. Describe the surgical approaches to esophageal cancer
   6. Be familiar with the stages of esophageal cancer and the associated treatment guidelines.
   7. Describe the guidelines for following patients with esophageal cancer after resection

B. Medical Knowledge
   1. Describe the familial and environmental risk factors for esophageal cancer.
   2. Describe the biology of the 2 major types of esophageal cancer and the tumor and histopathologic markers that define them:
      a. Squamous cell cancer
      b. Adenocarcinoma
   3. Understand the role that Barrett's esophagus plays in the pathophysiology of esophageal adenocarcinoma
   4. Describe the risks and benefits to neoadjuvant and adjuvant therapy.
   5. Describe the risks and benefits of surgery
   6. Demonstrate an understanding of a basic preoperative work up for thoracic surgery, including a thorough cardio-pulmonary evaluation.
   7. Demonstrate an understanding of the basic principles and procedures of surgery for the treatment of esophageal cancer.

C. Practice-Based Learning and Improvement
   1. Keep a log of all esophageal procedures performed during the thoracic surgery rotation.

D. Interpersonal and Communication Skills
   1. Work effectively with the multidisciplinary team of surgeons, internists, medical oncologists and radiation oncologists
E. Professionalism
1. Be able to discuss with patients their chances for cure in a compassionate, professional manner.

F. Systems-Based Practice
1. Understand the costs associated with the treatment of esophageal cancer (surgery, chemotherapy, radiation therapy)
2. Understand the medical-legal risks of the delay in diagnosis and missed diagnosis of esophageal cancer

Unit #6 Mediastinal Tumors

A. Patient Care
1. Describe the classic presentation for anterior, middle and posterior mediastinal masses.
2. Describe the radiographic findings of anterior, middle and posterior mediastinal masses
3. Describe the diagnostic work-up for the following mediastinal masses:
   a. Thymoma
   b. Lymphoma
   c. Germ Cell tumors
   d. Neurogenic tumors
   e. Mediastinal cysts
2. Describe the treatment plans for the following mediastinal masses:
   a. Thymoma
   b. Lymphoma
   c. Germ Cell tumors
   d. Neurogenic tumors
   e. Mediastinal cysts

B. Medical Knowledge
1. Describe the anatomical compartments of the mediastinum
2. Be familiar with the most common masses of the mediastinum
3. Understand the pathology of the following tumors:
   a. Thymoma
   b. Lymphoma
   c. Germ Cell tumors
   d. Neurogenic tumors
   e. Mediastinal cysts
4. Describe the role of neoadjuvant and adjuvant therapy for mediastinal tumors.
5. Describe the risks and benefits of surgery for the following mediastinal tumors:
   a. Thymoma
   b. Germ cell tumors
   c. Neurogenic tumors
   d. Mediastinal cysts
6. Demonstrate an understanding of a basic preoperative work up for thoracic surgery, including a thorough cardio-pulmonary evaluation.

7. Demonstrate an understanding of the basic principles and procedures of surgery for the following mediastinal tumors:
   a. Thymoma
   b. Lymphoma
   c. Germ Cell tumors
   d. Neurogenic tumors
   e. Mediastinal cysts

**PROCEDURAL AND OPERATIVE SKILLS**

At the completion of the thoracic surgery rotation the resident will be able to:

1. Insert complex chest tubes
2. Perform a bronchoscopy
3. Perform an EGD
4. Position patients for thoracic surgery in the operating room
5. Place a mediastinoscope into the mediastinum and identify structures
6. Perform all types of thoracotomy incisions
7. Appropriately place ports for thoracoscopic surgery
8. Mobilize the hilum and great vessels in the chest
9. Mobilize the esophagus in the chest, abdomen and mediastinum
10. Properly place ports for laparoscopic procedures
11. Appropriately place drains and close thoracic incisions

**Operative experience** (estimate for 8 weeks)

1. Thoracotomy/thoracoscopy: 10-12
2. Lobectomy/wedges: 10-12
3. Mediastinoscopy: 5-7
4. Bronchoscopy: 10-12
5. EGD: 8-10
6. Esophagectomy: 2-5
7. Benign Esophageal: 2-5

**Practice Based Learning:**

1. Develop a personal program of self-study and professional growth with guidance from the teaching staff and fellows. An understanding of the etiology, pathogenesis, pathophysiology, diagnosis and management of thoracic surgery disorders will allow for sound surgical judgment, which relies on knowledge, rational thinking and the surgical literature.
2. Utilize current literature resources to obtain up-to-date in information in the thoracic patients and practice evidence-based medicine.
3. Participate in teaching and organization of the educational weekly thoracic surgery conference.
4. Participate in activities of the Department of Surgery (including all teaching conferences) and assume responsibility for teaching and supervision of subordinate surgical house staff, and medical students.
5. Participate in the Department Morbidity & Mortality conference and utilize information to further improve patient care.
6. Participate in daily teaching rounds and be able to present patients in an organized and complete fashion

**Professionalism:**

1. Practice compassionate patient care maintaining the highest moral and ethical values with a professional attitude.
2. Demonstrate understanding of the needs and feelings of others, including the patient's family members, allied health care personnel (nurses, clerical staff, etc.), fellow residents, and medical students.
3. Communicate and collaborate effectively in a team of health care providers.
4. Demonstrate respect, compassion and integrity in the care of thoracic surgery patients on a daily basis.
5. Demonstrate mature and educated approach to Ethical issues commonly encountered in a thoracic surgery setting.
6. Show sensitivity to patients culture, age, gender and disabilities.
7. Recognize and appropriately handle sensitive cases of abuse.
8. Be self-aware and have knowledge of professional limits by practicing on-going medical education and self-improvement.
9. Be accountable to profession in their actions and decisions.

**Interpersonal Relationships And Communication:**

1. Create and sustain a therapeutic and ethically sound relationship with patients and patient families.
2. Work effectively with other members of the medical team including allied health care personnel (nurses, clerical staff, etc.), fellow residents, and medical students.
3. Maintain professional interactions with other health care providers and hospital staff.

**Systems Based Practice:**

1. Understand how the health care organization affects surgical practice of thoracic surgery.
2. Demonstrate cost effective health care.
3. Be able to coordinate care including discharge planning, social service, rehabilitation, and long term care.
4. Follow established practices, procedures, and policies of the Department of Surgery and integrated and affiliated hospitals.
UCLA General Surgery Residency Program
Rotation Educational Policy
Goals and Objectives

5. Maintain complete of medical records operative notes staff sheets and notes, patient database cards and other patient care related documentation in a timely, accurate and succinct manner.

REFERENCES:

TYPICAL WEEK:
Thoracic Surgery Conferences
1. Thoracic Teaching Conference
   a. Thoracic teaching conference is once a week on Friday. Residents will be expected to participate.
2. M&M Conference
   a. Thoracic surgery M&M is once a month. Residents rotating through the service will be expected to participate.
3. Thoracic Surgery Grand Rounds
   a. Thoracic surgery M&M is once a month. Residents rotating through the service will be expected to participate.
4. Thoracic Surgery Journal Club
   a. Thoracic surgery M&M is once a month. Residents rotating through the service will be expected to participate.
5. Thoracic Surgery Tumor Board
   a. Thoracic surgery tumor board is once a week on Friday. Residents rotating through the service will be expected to participate.

Thoracic Surgery Clinic
   1. Monday all day and Friday mornings.
   2. Residents will be expected to attend all clinics.
   3. Residents will see patients prior to the faculty and develop a treatment plan for the patient.

Typical week:
   1. Residents will be able to modify the weekly schedule according to personal and attending vacations, meetings and operative schedules.
   2. Residents will be excused from clinical duties to attend all departmental resident conferences.

OR=operating room
CLIN= clinic
CON= conference

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