THORACIC SURGERY LEARNING OBJECTIVES

Preamble

The Thoracic Surgery rotation is valuable for the resident planning a career in trauma and critical care. Furthermore, this rotation is an important “early exposure” for the resident interested in pursuing fellowship training in Thoracic Surgery.

General Objectives

Upon completion of the Thoracic Surgery rotation, the General Surgery resident is expected to:

- Demonstrate knowledge, clinical and technical skills and decision-making capabilities in those thoracic surgical endeavors pertinent to general surgical practice
- Understand and appreciate the role of the thoracic surgeon as a member of the interdisciplinary trauma team

Specific Objectives

At the completion of the Thoracic Surgery rotation, the General Surgery resident will have acquired the following competencies and will function effectively as:

Medical Expert

- Establish and maintain clinical knowledge, skills and attitudes appropriate to the Thoracic Surgery rotation
  - Apply knowledge of the clinical, socio-behavioral and fundamental biomedical sciences relevant to the Thoracic Surgery rotation

The resident in General Surgery is required to attain sufficient knowledge as follows:

Basic/General Areas

- Anatomy of the chest, including:
  - Larynx and trachea
  - Chest wall and pleura
  - Pulmonary anatomy, including:
    - Lungs
    - Pulmonary vasculature
    - Tracheobronchial tree
  - Mediastinum, including:
    - Esophagus
    - Heart and great vessels
    - Thoracic duct
    - Thymus
- Cardiopulmonary physiology
- Esophageal physiology
- Patient assessment, including:
  - Diagnostic imaging, including:
    - Conventional radiology
    - CT
    - MRI
    - Diagnostic nuclear medicine
  - Endoscopy, including:
    - Esophagoscopy
    - Bronchoscopy
    - Mediastinoscopy
    - Thoracoscopy
  - Pulmonary function testing
  - Esophageal manometry/pH testing

Specific Disease Entities

- Chest trauma, including:
  - Massive hemothorax
  - Severe flail chest
  - Tracheobronchial injuries
  - Major pulmonary injuries
  - Pulmonary vasculature injuries
  - Esophageal injuries, including caustic injury
  - Diaphragmatic injuries
- Lung neoplasia, including:
  - Primary lung cancer
  - Pulmonary metastases
  - Solitary pulmonary nodule
- Disease of the pleura, including:
  - Spontaneous pneumothorax
  - Pleural effusions
  - Empyema
  - Chylothorax
  - Mesothelioma
- Pulmonary embolism
- Massive hemoptysis
- Thoracic outlet syndrome
- Mediastinal neoplasia, including:
  - Thymoma
  - Neurogenic tumors
  - Carcinoid tumors
  - Germ cell tumors
  - Soft tissue tumors
  - Lymphoma
- Other lesions of the mediastinum, including:
  - Cysts
  - Ectopic thyroid/parathyroid
  - Sarcoidosis
- Esophageal cancer
- Gastroesophageal reflux disease, including:
  - Esophagitis
  - Barrett’s esophagus
  - Esophageal strictures
- Esophageal motility disorders, including:
  - Achalasia
  - Diffuse esophageal spasm
  - Scleroderma esophagus
- Perform a complete and appropriate assessment of the thoracic surgical patient
  - Elicit a history that is relevant, concise and accurate
  - Perform a focused physical examination that is relevant and accurate
  - Select medically appropriate investigations in a resource-effective and ethical manner
  - Demonstrate effective clinical problem solving and judgment to address the thoracic surgical problems, including interpreting available data and integrating information to generate differential diagnoses and management plans
- Use preventive and therapeutic interventions effectively
  - Implement an effective and prioritized management plan for the thoracic surgical patient
  - Demonstrate effective, appropriate and timely application of therapeutic interventions relevant to the Thoracic Surgery rotation
  - Ensure appropriate informed consent is obtained for therapies
- Demonstrate proficient and appropriate use of procedural skills
  - Demonstrate effective, appropriate and timely performance of diagnostic procedures relevant to the Vascular Surgery rotation
  - Demonstrate effective, appropriate and timely performance of therapeutic procedures relevant to the Thoracic Surgery rotation
  - Ensure appropriate informed consent is obtained for procedures
  - Appropriately document and disseminate information related to procedures performed and their outcomes
  - Ensure adequate follow-up is arranged for procedures performed
  - Compile and maintain an accurate and complete electronic data base for all operative procedures performed on the Thoracic Surgery rotation

Having completed the Thoracic Surgery rotation, the General Surgery resident will be able to demonstrate knowledge and technical competence in performing the following procedures:
- Chest tube insertion
- Planning, opening and closure of thoracotomy incisions
- Planning, opening and closure of thoracoabdominal incisions
- Pulmonary biopsy and wedge resection
- Minor chest wall procedures
- Rigid and flexible esophagoscopy
- Seek appropriate consultation from other health professionals
  - Demonstrate insight into his/her own limitations of expertise by self-assessment
Demonstrate effective, appropriate and timely consultation of another health professional as needed for optimal care of the thoracic surgical patient
Arrange appropriate follow-up care services for the thoracic surgical patient

**Communicator**

At the completion of the Thoracic Surgery rotation, the General Surgery resident will be able to:

- **Develop rapport, trust and ethical therapeutic relationships with patients and families**
  - Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy
  - Respect patient confidentiality, privacy and autonomy
  - Listen effectively
- **Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues and other professionals**
  - Seek out and synthesize relevant information from other sources such as the patient’s family, caregivers and other professionals
- **Accurately convey relevant information and explanations to patients and families, colleagues and other professionals**
  - Deliver information to the thoracic surgical patient and family, colleagues and other professionals in a humane and understandable manner
- **Convey effective oral and written information**
  - Maintain clear, accurate, appropriate and timely records of clinical encounters and operative procedures involving the thoracic surgical patients
  - Maintain an accurate, complete and up-to-date electronic database (log) of operative procedures performed during the Thoracic Surgery rotation
  - Effectively present verbal reports of clinical encounters and medical information during the Thoracic Surgery rotation

**Collaborator**

At the completion of the Thoracic Surgery rotation, the General Surgery resident will be able to:

- **Participate effectively and appropriately in an interprofessional healthcare team**
  - Recognize and respect the diversity of roles, responsibilities and competences of other professionals in the management of the thoracic surgical patient
  - Work with others to assess, plan, provide and integrate care of the thoracic surgical patient

**Manager**

At the completion of the Thoracic Surgery rotation, the General Surgery resident will be able to:

- **Manage his/her professional and personal activities effectively**
  - Set priorities and manage time to balance professional responsibilities, outside activities and personal life
  - Employ information technology effectively (e.g. electronic surgical procedure database)
- **Demonstrate an understanding of cost-effectiveness in patient management**
  - Utilize hospital resources wisely when managing patients
- **Serve in leadership roles, as appropriate**
  - Participate effectively at teaching rounds and other meetings

**Health Advocate**

At the completion of the Thoracic Surgery rotation, the General Surgery resident will be able to:

- **Respond to the needs of the thoracic surgical patient**
  - Identify the health needs of an individual patient

**Scholar**

At the completion of the Thoracic Surgery rotation, the General Surgery resident will be able to:

- **Maintain and enhance professional activities through ongoing learning**
  - Pose an appropriate learning question
  - Access and interpret the relevant evidence
  - Integrate new learning into development as a general surgeon
- **Critically evaluate medical information and its sources and apply this appropriately to clinical decisions**
  - Critically appraise the evidence in order to address a clinical question
• Integrate critical appraisal conclusions into clinical care

• **Facilitate the learning of students and residents**
  - Demonstrate an effective presentation while assigned to the Thoracic Surgery rotation
  - Provide effective feedback to faculty, residents and students

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**Professional**

At the completion of the Thoracic Surgery rotation, the General Surgery resident will be able to:

- **Demonstrate a commitment to patients through ethical practice**
  - Exhibit appropriate professional behaviors, including honesty, integrity, commitment, compassion, respect and altruism
  - Appropriately manage conflicts of interest
  - Recognize the principles and limits of patient confidentiality
  - Maintain appropriate relations with patients

- **Demonstrate a commitment to physician health**
  - Balance personal and professional priorities
  - Strive to heighten personal and professional awareness and insight