

RSPT 86: INTERVENTIONAL PULMONOLOGY PROCEDURES

Foothill College Course Outline of Record

Heading	Value
Effective Term:	Summer 2023
Units:	5
Hours:	5 lecture per week (60 total per quarter)
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade Only
Repeatability:	Not Repeatable

Student Learning Outcomes

- The student will be able to describe and differentiate interventional pulmonology procedures.
- The student will be able to explain other endoscopy and novel procedures in the field of interventional pulmonology.

Description

Basic and advanced interventional pulmonology procedures. Procedures covered include bronchoscopy, thoracoscopy, endoscopy, airway access procedures, and novel techniques.

Course Objectives

The student will be able to:

1. Understand the general principles of endoscopic imaging
2. Explain bronchoscopy design for advanced procedures
3. Identify quality control procedures and general care of the bronchoscope
4. Describe diagnostic interventional pulmonology procedures
5. Describe therapeutic interventional pulmonology procedures
6. Explain thoracoscopy procedures
7. Describe airway access techniques
8. Describe other endoscopy and novel techniques

Course Content

1. General principles of endoscopic imaging
 - a. Rigid bronchoscope
 - i. General design of the rigid bronchoscope
 - ii. Application and use
 - b. Flexible fiberoptic bronchoscopy
 - i. General design of the fiberoptic flexible bronchoscope
 1. Image system
 2. Mechanical system
 3. The channel or plumbing system
 - a. Suction channel port
 - b. Instrument channel port
 4. Electrical component
2. Bronchoscopy design for advanced procedures

- a. Image-guided bronchoscopy
 - b. Conventional biopsy techniques
3. Quality control procedures and general care of the bronchoscope
 - a. Proper care of the bronchoscope
 - b. Pre-procedure care
 - c. Intra-procedure care
 - d. Post-procedure care
 - e. Reprocessing of bronchoscopes and autoclaving
 - f. Equipment damage and considerations
 4. Diagnostic procedures
 - a. Laryngoscopy
 - i. Indications for direct laryngoscopy
 - b. Diagnosis of vocal cord function and voice disorders
 - c. Biopsy techniques
 - d. Bronchoalveolar lavage
 - e. Endobronchial ultrasound
 - f. Esophageal ultrasound
 - g. EBUS guided biopsies
 - h. Autofluorescence and imaging techniques
 - i. Optical coherence tomography
 - j. Image-guided bronchoscopy
 - i. Virtual bronchoscopic navigation
 5. Therapeutic procedures
 - a. Therapeutic bronchoscopy for airway obstruction
 - i. Foreign body removal
 - b. Airway stents
 - i. Metallic stents
 - ii. Tube stents
 - iii. Hybrid stents
 - c. Electrosurgery
 - d. Cryotherapy and cryodebridement
 - e. Microdebriders
 - f. Laser bronchoscopy
 - g. Brachytherapy
 - h. Photodynamic therapy
 - i. Balloon dilation techniques
 - j. Radiation therapy
 - i. Fiducial placement
 - k. Thermoplasty for severe asthma
 - i. Management of subglottic stenosis
 - m. Treatment and management of fistulas
 - n. Role of bronchoscopy in the management of hemoptysis
 - o. Lung volume reduction surgery
 - i. Bronchoscopic lung volume reduction
 - ii. Surgical lung volume reduction
 - p. Ablation treatment
 - q. Endoscopic lung abscess drainage
 - r. Airway reconstructive surgery
 - s. Management of post-transplant disorders
 6. Thoracoscopy procedures
 - a. Thoracentesis
 - b. Chest tube placement
 - c. Drain placement
 - d. Thoracoscopy and pleuroscopy procedures

- e. Pleurodesis
 - f. VATS surgical procedures
 - g. Management of empyema and pleural effusions
7. Airway access techniques
- a. Percutaneous tracheostomy
 - b. Cricothyroidotomy
 - c. Transtracheal oxygen catheter placement
8. Novel procedures
- a. Natural orifice transluminal endoscopic surgery (NOTES)
 - b. Percutaneous endoscopic gastrostomy (PEG) tube placement
 - c. Whole lung lavage

Lab Content

Not applicable.

Special Facilities and/or Equipment

1. Multimedia classroom
2. Computer access for online component

Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

Discussion board posts
Quizzes
Midterm
Comprehensive final examination for knowledge of subject matter

Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

Lecture
Discussion
Online modules and tutorials

Representative Text(s) and Other Materials

Ernst and Herth. Principles and Practice of Interventional Pulmonology. 2013.

Despite being older than five years, this is a seminal textbook in this area of study.

Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

1. Weekly reading from the textbook
2. Cooperative learning exercises
3. Online content

Discipline(s)

Respiratory Technologies