Thoracic Anesthesia Symposium – Learning Objectives

General Sessions

8 – 9 am  Right Heart Matters!
Moderator: Albert Perrino, MD

At the end of the session participants will be better able to:
1. Recognize the effects of right heart failure on respiratory physiology after lung resection.
2. Identify the best monitoring options for the right heart during thoracic surgery.
3. Employ the most appropriate medications to support or treat the condition.

9 – 9:45 am  Doc, I Can’t Breathe!
Moderator: Ju-Mei Ng, MD

At the end of the session participants will be better able to:
1. Identify the preoperative issues with tracheal stenosis.
2. Create an anesthetic plan for the resection and reconstruction.
3. Summarize the reconstruction options available.

10 – 10:30 am  Three Best Recent Papers
Moderator: Peter Slinger, MD

At the end of the session participants will be better able to:
1. Analyze data from the three most recent papers in the field.
2. Criticize data from the three most recent papers in the field.
3. Interpret data from the three most recent papers in the field.

10:30 – 11 am  Top Research Abstracts
Moderator: Alessia Pedoto, MD

At the end of the session participants will be better able to:
1. Interpret scientific data presented during the session.
2. Question the validity of the data presented.
3. Analyze the conclusion suggested.

2 – 3 pm  New Frontiers in Lung Cancer Surgery
Moderator: Philip Hartigan, MD

At the end of the session participants will be better able to:
1. Understand the pathophysiological implication of the chemotherapeutic agents and their effects on the anesthetic plan.
2. Determine what imaging techniques are appropriate to guide surgical resection.
3. Recognize the pros and cons of robotic surgery and the possible complications related to this technique.
3 – 3:45 pm  **Too Old for Thoracic Surgery?**  
Moderator: Maria Castillo, MD

At the end of the session participants will be better able to:
1. Identify the risk factors associated with adverse outcomes in the elderly.
2. Identify the risk factors associated with cognitive impairment in the geriatric patient.
3. Develop an age-appropriate anesthetic plan to mitigate these risk factors.

4 – 4:30 pm  **Difficult Case? No Problem!**  
Moderator: Wanda Popescu, MD

At the end of the session participants will be better able to:
1. Discuss the anesthetic management of difficult thoracic non-cardiac cases.
2. Analyze pros and cons of the proposed management.
3. Predict potential complications.

4:30 – 5 pm  **Preoperative Evaluation Improves Outcome**  
Moderator: Randal Blank, MD

At the end of the session participants will be better able to:
1. Determine the need for preoperative evaluation and testing.
2. Identify the potential downsides of aggressive testing.
3. Recognize the increase in costs and further testing the may occur in the presence of abnormal results.

5 – 5:30 pm  **Town Hall Meeting**  
Moderator: Jagtar Singh Heir, MD

At the end of the session participants will be better able to:
1. Discuss specific topic of interest.
2. Express their own opinion.
3. Criticize other providers’ management.

6 – 7 pm  **Who Wants to be a Thoracic Millionaire?**  
Moderator: Peter Slinger, MD

At the end of the session participants will be better able to:
1. Judge their own level of knowledge on random thoracic anesthesia topics.
2. Identify gaps in knowledge.
3. Rate their knowledge compared to other member in the audience.
Workshops

Critical Procedural Skills
Moderators: Lavinia Kolarczyk, MD; Jason Long, MD

At the end of the session participants will be better able to:
1. Describe the steps and demonstrate the technique for needle decompression (needle thoracostomy).
2. Describe the steps and demonstrate the technique for the placement of both standard chest tubes and pig tail chest catheters.
3. Describe the basic components and physiology of chest tubes and the pleuravac.
4. Describe common problems with chest tubes and solutions for resolution.
5. Review and perform the steps necessary to perform a surgical airway (i.e., cricothyrotomy).
6. Describe the steps and demonstrate the technique for thoracentesis using ultrasound guidance.

Lung Isolation: The Normal and Challenging Airway
Moderator: Kenichi Ueda, MD

At the end of the session participants will be better able to:
1. Describe the indications of lung separation techniques with a right or left-sided double-lumen tube (DLT) or bronchial blockers.
2. Recognize the role of flexible fiberoptic bronchoscopy.
3. Demonstrate Lung separation techniques for difficult airway patient.
4. List the various types of bronchial blockers (Arndt®, Cohen®, Fuji Blocker® or EZ Blocker®).
5. Describe Airway related complications with lung separation devices.

Regional Anesthesia
Moderator: Rebecca Klinger, MD

At the conclusion of this session participants will:
1. Describe some of the regional anesthesia options available for pain control in thoracic surgery, specifically paravertebral, erector spinae plane, and serratus anterior plane blocks.
2. Describe the chest wall/nerve anatomy relevant to these different regional approaches.
3. Describe and perform the sonoanatomy relevant to achieving these different regional blocks.

Thoracic Ultrasound: Diagnosis and Management
Moderator: Massimiliano Meineri, MD

At the conclusion of this session participants will:
1. Understand the common lung ultrasound planes of cut.
2. Obtain view of the pleura and the plural space.
3. Understand the ultrasonographic diagnosis of pneumothorax.
4. Understand the ultrasonographic diagnosis of pleural effusion.
5. Discuss and practice the ultrasound-guided technique for thoracentesis.
Problem-Based Learning Discussions (PBLDs)

PBLD 1: Lung Transplantation Management – Strategies, Tips and Tricks
Peter Slinger, MD; Kenichi Ueda, MD

At the end of the session participants will be better able to:
1. Discuss the importance of driving pressure during one-lung ventilation.
2. Summarize the effects of thoracic epidural blockade on the cardiovascular system.
3. Outline the use of erector spinae plane blocks for post-thoracotomy analgesia.

PBLD 2: ECMO in Thoracic Surgery
Rebecca Klinger, MD; Eleanor Vega, MD

At the end of the session participants will be better able to:
1. Identify specific patient risk factors and thoracic surgical procedures that may benefit from extracorporeal membrane oxygenation (ECMO).
2. Develop a strategy for the initiation, management, and discontinuation of ECMO for thoracic surgery.
3. Identify and discuss the treatment of potential complications/hazards of ECMO.
4. Discuss the role of transesophageal echocardiography (TEE) for the management of ECMO.

PBLD 3: How to Design and Implement a Thoracic ERAS Program at Your Hospital
Amanda Kleiman, MD; Alessia Pedoto, MD

At the end of the session participants will be better able to:
1. Discuss the specific obstacles to recovery following thoracic surgery.
2. Define the principles behind enhanced recovery after surgery programs.
3. Discuss the key components of a successful enhanced recovery after thoracic surgery program.
4. Discuss the preoperative elements of an ERAS program for thoracic surgery.
5. Discuss the intraoperative and anesthetic components of ERAS programs for thoracic surgery.
6. Discuss the post-operative goals of care following thoracic surgery.
7. Understand the differences between programs for lung resection and esophageal surgery.
8. Discuss the costs and barriers to implementing a thoracic ERAS program.

PBLD 4: Patient on LVAD for Thoracic Surgery
Wanda Popescu, MD; Diana Anca, MD

At the end of the session participants will be better able to:
1. Understand the indications, types, and physiology of LVADs.
2. Develop and anesthetic management plan for patients with LVAD undergoing thoracic surgery.
3. Understand the pros & cons of a cardiac vs general anesthesiologist covering the case.
PBLD 5: Esophagectomy
Ju-Mei Ng, MD; Jagtar Singh Heir, DO

At the end of the session participants will be better able to:
1. Outline patient selection and surgical approaches for esophagectomy.
2. Recognize the patient at risk of preoperative complications.
3. Develop an anesthetic plan with emphasis on airway, lung isolation and on-lung ventilation, fluid and pain management, and immediate postoperative care.
4. Discuss controversies surrounding preoperative fluid management and the use of vasoactive agents.
5. Summarize the latest on minimally invasive procedures and enhanced recovery programs.

PBLD 6: Biventricular Dysfunction and Pulmonary Resection – Is There an EF Limit?
Randal Blank, MD; Ryan Lesh, MD

At the end of the session participants will be better able to:
1. Understand the implications of general anesthesia, mechanical ventilation, and one lung ventilation on cardiovascular function in patients with ventricular dysfunction.
2. Understand the impact of pulmonary resection surgery via thoracotomy and thoracoscopy on patients with ventricular dysfunction.
3. Develop anesthetic management strategies to optimize perioperative outcomes in patients with severe ventricular dysfunction undergoing pulmonary resection surgery.