

ISHLT ACADEMY: CORE COMPETENCIES IN LUNG TRANSPLANTATION  
26 APRIL 2022 | JOHN B. HYNES CONVENTION CENTER, BOSTON, MA, USA  
SCIENTIFIC PROGRAM SCHEDULE

**Academy Chairs:**

Chair: Cynthia Gries, MD, MSc, Advent Health Transplant Institute, Orlando, FL, USA

Co-Chair: Daniel Chambers, MBBS, MRCP, FRACP, MD, The Prince Charles Hospital, Brisbane, Australia

Co-Chair: Göran Dellgren, MD, PhD, Sahlgrenska University Hospital, Goteborg, Sweden

**Faculty:**

Saima Aslam, MD, University of California San Diego, La Jolla, CA, USA

Marie M. Budev, Do, MPH, The Cleveland Clinic, Cleveland, OH, USA

Maria M. Crespo, MD, Hospital of the University of Pennsylvania, Philadelphia, PA, USA

Marcelo Cypel, MD, Toronto General Hospital, Toronto, ON, Canada

John Dark, MB, FRCS, Newcastle University, Newcastle upon Tyne, United Kingdom

Joshua Diamond, MD, University of Pennsylvania, Philadelphia, PA, USA.

Andrew J. Fisher, PhD, FRCP, Newcastle University, Newcastle upon Tyne, United Kingdom

Jens Gottlieb, MD, Hannover Medical School, Hannover, Germany

Konrad Hoetzenecker, MD, PhD, Medical University of Vienna, Vienna, Austria

Deborah Levine, MD, UT Health Science Center, San Antonio, TX, USA

Me-Linh Luong, MD, St. Luc Hospital, Montreal, QC, Canada

Haifa Lyster, MSc, Royal Brompton, Harefield, Middlesex, United Kingdom

Jesper Magnusson, MD, PhD, University of Gothenburg, Gothenburg, Sweden

Fernanda Silveira, MD, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

Jonathan Singer, MD, University of California San Francisco, San Francisco, CA, USA

**7:55-8:00 a.m. (5 mins)**

**WELCOME AND OVERVIEW OF COURSE**

**8:00 a.m. - 9:00 a.m. (60 mins)**

**SESSION 1: LUNG TRANSPLANTATION: GETTING FROM HERE TO THERE – HISTORY, CANDIDATE AND DONOR SELECTION**

**Moderated by Cynthia Gries, MD MSc**

**8:00-8:10 a.m. (10 mins)**

***History of Lung Transplantation***

John Dark, MB, FRCS, Freeman Hospital, Newcastle upon Tyne, United Kingdom

**Teaching/Discussion Points:**

1. Context and historic background for lung transplantation
2. Historic aspects of indications and outcomes in lung transplantation
3. Current challenges and limitations associated with lung transplantation
4. Utility of the ISHLT registry report and resources

**8:10-8:30 a.m. (20 mins)**

***Lung Transplant Candidacy, Selection, and Listing***

Cynthia Gries, MD, MSc, Advent Health Transplant Institute, Orlando, FL, USA

**Teaching/Discussion Points**

1. General and disease-specific considerations for lung transplant referral and evaluation
2. Lung Transplant workup: Appropriate testing, cancer screening, vaccination, consultation and multidisciplinary support of the lung transplant candidate
3. How to handle the sensitized patient. Current understanding of risks associated with an elevated PRA, testing, and the importance of a virtual crossmatch vs. a prospective.

**8:30-8:35 a.m. (5 mins)**

**Q&A**

**8:35-8:55 a.m. (20 mins)**

***Bridging Strategies to Lung Transplantation***

Konrad Hoetzenecker, MD, PhD, Medical University of Vienna, Vienna, Austria

**Teaching/Discussion Points**

1. Technical aspects of extracorporeal mechanical oxygenation (ECMO) and selection of peripheral vs. central and veno-venous vs. venous-pulmonary vs. veno-arterial
2. Indication for ECMO prior to transplant patient
3. Contraindications for ECMO as a bridge to transplant
4. Ambulatory ECMO and implications on outcomes
5. When to withdraw support and delist patients

**8:55-9:00 a.m. (5 mins)**

**Q&A**

**9:00 a.m. – 10:05 a.m. (65 mins)**

**SESSION 2: SURGICAL AND POST-OPERATIVE MANAGEMENT OF LUNG TRANSPLANT RECIPIENTS**

Moderated by Göran Dellgren, MD, PhD

**9:00-9:15 a.m. (15 mins)**

***Lung Allograft Donation and Procurement***

Marcelo Cypel, MD, Toronto General Hospital, Toronto, ON, Canada

**Teaching/Discussion Points**

1. Types of donors as relevant to lung transplantation (DBD, DCD)
2. Physiologic implications of donor brain death, basic pathophysiology, and donor certification issues
3. Optimal donor management
4. Factors that go into donor selection: acceptance of the marginal donor
5. Procurement procedures and how to recognize possible adverse events
6. Options for allograft optimization including Ex Vivo Lung Perfusion (EVLV)

**9:15-9:20 a.m. (5 mins)**

**Q&A**

**9:20-9:35 a.m. (15 mins)**

***Surgical Options and Procedural Issues in Lung Transplantation***

Marcelo Cypel, MD, Toronto General Hospital, Toronto, ON, Canada

**Teaching/Discussion Points**

1. Principles and practice of size matching between donor and recipient
2. Options and choice of surgical incision
3. Technical aspects of surgical implantation including anastomotic techniques
4. Indications for use of Mechanical circulatory support (ECMO, vs ECC vs none intraoperatively)

**9:35-9:40 a.m. (5 mins)**

**Q&A**

**9:40-10:00 a.m. (20 mins)**

***Surgical Complications and Post-OP Management after Lung Transplantation***

Göran Dellgren, MD, PhD, Sahlgrenska University Hospital, Goteborg, Sweden

**Teaching/Discussion Point**

1. Differential diagnosis and treatment strategies for graft failure in the early postoperative period
2. Role of ECMO support after lung transplantation
3. Management of pleural complications after lung transplantation
4. Diagnostic and treatment strategies for bronchial, pulmonary artery and pulmonary venous complications
5. Potential cardiac complications (such as atrial fibrillation and pericardial effusions) and therapeutic approaches in post lung transplant recipients

**10:00-10:05 a.m. (5 mins)**

**Q&A**

**10:05 a.m. – 10:30 a.m. (25 mins)**

**COFFEE BREAK**

**10:30 a.m. – 12:00 p.m. (90 mins)**

**SESSION 3: PREVENTING AND TREATING REJECTION**

**Moderated by Cynthia Gries, MD MSc**

**10:30-10:50 a.m. (20 mins)**

***Induction and Maintenance Immunosuppression***

Haifa Lyster, MSc, Royal Brompton, Harefield, Middlesex, United Kingdom

**Teaching/Discussion Points**

1. Options for induction therapy and potential complications
2. Evidence for the triple agent immunosuppression regimen that is used most commonly in lung transplant recipients
3. Classes of immunosuppression medication and the most common side effects
4. Monitoring of levels of the calcineurin inhibitors; appropriate range of levels
5. Genetic variants that may affect absorption and metabolism of immunosuppressive medications
6. Drug-drug interactions with the calcineurin inhibitors
7. CNI free regimens-how do you manage when patients don't tolerate a CNI

**10:50-10:55 (5 mins)**

**Q&A**

**10:55-11:10 a.m. (15 mins)**

***Acute Cellular Rejection (ACR)***

Deborah Levine, MD, UT Health Science Center, San Antonio, TX, USA

**Teaching/Discussion Points**

1. Basic immunology of ACR
2. Detection, evaluation and diagnosis, including the role for surveillance bronchoscopy
3. Pathologic grading system for ACR
4. Treatment of ACR

**11:10-11:15 a.m. (5 mins)**

**Q&A**

**11:15-11:35 a.m. (20 mins)**

***Antibody Mediated Rejection (a.m.R)***

Deborah Levine, MD, UT Health Science Center, San Antonio, TX, USA

**Teaching/Discussion Points**

1. Consensus definitions for a.m.R
2. Potential monitoring systems for assessment of Donor Specific Antibodies, histopathology changes, and C4D staining
3. Therapeutic challenges
4. Managing

**11:35-11:40 a.m. (5 mins)**

**Q&A**

**11:40-11:55 a.m. (15 mins)**

***Chronic Lung Allograft Dysfunction (CLAD)***

Andrew J. Fisher, PhD, FRCP, Newcastle University, Newcastle upon Tyne, United Kingdom

**Teaching/Discussion Points**

1. Diagnosis
2. Classification system
3. Treatment

**11:55 a.m. - 12:00 p.m. (5 mins)**

**Q&A**

**12:00 p.m. - 1:00 p.m. (60 mins)**

**LUNCH BREAK** (a box lunch is included in the registration fee)

**1:00 p.m. – 2:00 p.m. (60 mins)**

**SESSION 4: BUGS AND THEIR DRUGS: PROPHYLAXIS, DIAGNOSIS AND MANAGEMENT OF INFECTIONS AFTER LUNG TRANSPLANT**

Moderated by Göran Dellgren, MD, PhD

**1:00-1:15 p.m. (15 mins)**

***Bacterial and Mycobacterial Infections in Lung Transplantation***

Fernanda Silveira, MD, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

**Teaching/Discussion Points**

1. Evaluation of immunity and pulmonary/non-pulmonary infections in the lung transplant candidate
2. Significance and evaluation of bacterial and mycobacterial infections in the lung donor
3. Implications of donor derived infections
4. Impact of the surgical disruption of the normal pathways of innate lung immunity on the development of infection in the lung transplant recipient
5. Incidence, diagnosis and management of *C. Difficile* in post lung transplant patients

**1:15-1:20 p.m. (5 mins)**

**Q&A**

**1:20-1:35 p.m. (15 mins)**

***Fungal Infections in Lung Transplant Recipients***

Me-Linh Luong, MD, St. Luc Hospital, Montreal, QC, Canada

**Teaching/Discussion Points**

1. Role of antifungal prophylaxis, particularly in the context of geographic variance of endemic fungal infections
2. Epidemiology of aspergillus colonization vs. infection and review therapy
3. Emergence of more resistant fungal infections in solid organ transplant recipients
4. Prophylaxis and management of endemic fungal infections (*Coccidioides*, *Histoplasma*, etc.)

**1:35-1:40 p.m. (5 mins)**

**Q&A**

**1:40-1:55 p.m. (15 mins)**

***Viral Pathogens from A to V (Adenovirus, CMV, EBV, HSV, RSV, and VZV)***

Saima Aslam, MD, University of California San Diego, La Jolla, CA, USA

**Teaching/Discussion Points**

1. CMV status, prophylaxis vs. preemptive therapy
2. CMV disease manifestations, therapeutic approach, resistance and prognosis
3. Management of viral infections such as Herpes Simplex Virus (HSV) and Varicella Zoster (VZV)
4. Significance of respiratory viral infections and their management
5. COVID vaccination and management

**1:55-2:00 p.m. (5 mins)**

**Q&A**

**2:00 p.m. – 3:10 p.m. (70 mins)**

**SESSION 5: POST TRANSPLANT CLINIC ABC's**

Moderated by Cynthia Gries, MD MSc

**2:00-2:20 p.m. (20 mins)**

***Complications After Lung Transplant : Metabolic, Hematologic and Neurologic***

Joshua Diamond, MD. University of Pennsylvania, Philadelphia, PA, USA.

**Teaching/Discussion Points**

1. Hypertension: Transplant specific issues regarding management of hypertension
2. Diabetes: Optimal management of diabetes mellitus following solid organ transplantation
  - a. Oral therapy vs. insulin in lung transplants. Is it safe to use oral therapy?
3. Renal disease: prevention and management
4. Bone health: Appropriate diagnostic and therapeutic management for osteoporosis
5. Hematological disease:
  - a. Neutropenia
  - b. Thrombocytopenia (Including TTP)
  - c. Hypogammaglobulinemia
  - d. Anemia
6. Neurological
  - a. PRES
  - b. Neuropathy

**2:20-2:25 p.m. (5 mins)**

**Q&A**

**2:25-2:45 p.m. (20 mins)**

***Complications after Lung Transplant: Gastrointestinal Issues***

Maria M. Crespo, MD, Hospital of the University of Pennsylvania, Philadelphia, PA, USA

**Teaching/Discussion Points**

1. Etiologies behind the common gastrointestinal symptoms patient have post lung transplantation
2. Management of esophageal dysmotility after transplant
3. Evaluation and management of GERD after transplant
4. Evaluation and management of gastroparesis after transplant.
5. Significance of aspiration in lung transplant recipients and its association with BOS (chronic rejection)
6. Diarrhea workup in an immunocompromised patient

**2:45-2:50 p.m. (5 mins)**

**Q&A**

**2:50-3:05 p.m. (15 mins)**

***Malignancies in Lung Transplant Recipients***

Jesper Magnusson, MD, PhD, University of Gothenburg, Gothenburg, Sweden

**Teaching/Discussion Points**

1. Incidence of malignancy in lung transplant recipients (skin cancer, lymphomas, etc)
2. Appropriate screenings for cancer and preventative strategies (bone scans, colonoscopy)
3. Post Transplant Lymphoproliferative Disease (PTLD) in Thoracic Transplantation - Recognition
4. Immunosuppression: What to do if patient has malignancies

**3:05-3:10 p.m. (5 mins)**

**Q&A**

**3:10-3:30 p.m. (20 mins)**

**COFFEE BREAK**

**3:30 p.m. – 5:00 p.m. (90 mins)**

**SESSION 6: CAN I DO THIS AFTER TRANSPLANT?**

**Moderated by Göran Dellgren, MD, PhD**

**3:30-3:45 p.m. (15 mins)**

***Adherence***

Cynthia Gries, MD, MSc, Advent Health Transplant Institute, Orlando, FL, USA

**Teaching/Discussion Points**

1. Risk factors for poor adherence
  - a. Monitoring prior to transplant
  - b. Health Literacy
  - c. Psychological symptoms
2. Assessing adherence
  - a. Tacrolimus Standard Deviation
  - b. Monitoring device

**3:45-3:50 p.m. (5 mins)**

**Q&A**

**3:50-4:05 p.m. (15 mins)**

***Reproductive Health after Lung Transplantation – Contraception, Fertility, and Pregnancy***

Marie M. Budev, Do, MPH, The Cleveland Clinic, Cleveland, OH, USA

**Teaching/Discussion Points**

1. Implications of fertility and pregnancy in a lung transplant recipient, including risks to the transplant recipient, organ and fetus
2. Medical care considerations during pregnancy for lung transplant recipients
3. Literature regarding outcomes for pregnancies post-transplant
4. Family planning options for patients undergoing transplantation
5. Contraception recommendations and potential contraindications

**4:05-4:10 p.m. (5 mins)**

**Q&A**

**4:10-4:25 p.m. (15 mins)**

***This is My Life – Outcomes and Quality of Life Post Transplant***

Jonathan Singer, MD, University of California San Francisco, San Francisco, CA, USA

**Teaching/Discussion Points**

1. Post-transplant outcomes
2. Health Related Quality of Life before and after lung transplant
3. Long term outcomes after lung transplantations
4. Determinants of Health Related Quality of Life (HRQOL) and potential interventions that could further improve HRQOL in lung transplant recipients

**4:25-4:30 p.m. (5 mins)**

**Q&A**

**4:30-4:55 p.m. (25 mins)**

***What I Know Now That I Wish I Knew Then: Illustrious Insights***

Andrew J. Fisher, PhD, FRCP, Newcastle University, Newcastle upon Tyne, United Kingdom

**4:55-5:00 p.m. (5 mins)**

**COURSE SUMMARY AND EVALUATION**

**Cynthia Gries, MD MSc**

**5:00-5:30 p.m. (30 mins)**

**NETWORKING**

Speakers will be available for questions

**5:30 p.m.**

**ADJOURN**