

ISHLT ACADEMY
MASTER CLASS IN LUNG TRANSPLANTATION
APRIL 21, 2020
MONTRÉAL, CANADA

Scientific Program Committee

Chair: Daniel F. Dilling, MD, Loyola University Chicago, Stritch School of Medicine, Maywood, IL, USA
Co-Chair: Miranda Paraskeva, MBBS, Alfred Hospital, Melbourne, Australia

Faculty

Case Moderators:

Marcelo Cypel, MD, Toronto General Hospital, Toronto, Canada
Michelle Murray, MD, MSc, MRCPI, Mater Misericordiae University Hospital, Dublin, Ireland
Aleem Siddique, MBBS, University of Nebraska Medical Center, Omaha, NE, USA
Amparo Sole, MD, PhD, Hospital Universitario la Fe Unidad de Transplante Pulmonar, Valencia, Spain

Case Discussants:

Maria Crespo, MD, Hospital of the University of Pennsylvania, Philadelphia, PA, USA
Shahid Husain, MD, MS, Toronto General Hospital, Toronto, Canada
Jonathan Singer, MD, University of California San Francisco, San Francisco, CA, USA
Dirk Van Raemdonck, MD, University of Leuven, Leuven, Belgium

Educational Goals

The educational goals of this activity are to provide those who care for candidates and recipients of lung transplant recognize all-too-well that there are many nuanced situations that challenge even the most seasoned physician, surgeon, nurse, or pharmacist. In this Master Class, we will dive deeply into 4 of the most pressing and dynamic topics in lung transplantation, bringing expertise and opinion from some of the thought leaders in our field. We will tackle problems involving patients with complex infection, frailty phenotype, airway complications, and the use of ex-vivo lung perfusion.

Target Audience

The course is directed toward experienced clinicians who seek to refine their knowledge in these areas and will invite open discussion and debate.

Learning Objectives

After completion of this class, participants will have improved competence and professional performance in their ability to:

1. Know the common treatment strategies used for certain complex infections and discuss the implications on their control in the context of peri-operative and post-operative immunosuppression
2. Understand the 2018 ISHLT grading system for airway complications, including its rationale, while recognizing practices aimed at their prevention as well as therapeutic options for their management.
3. Know the tools that can be used to assess or measure frailty and discuss how they might be applied to a candidate for a lung transplant.
4. Understand best practice for developing, utilizing, and maintaining a successful EVLP program with focus on knowing which donor lungs should undergo EVLP and management strategies of donor lung during EVLP

Disclosure

Current guidelines state that participants in CME activities must be made aware of any affiliation or financial interest that may affect the program content or a speaker's presentation. Planners, Faculty and Chairs participating in this meeting are required to disclose to the program audience any real or apparent conflict(s) of interest related to the content of their presentations or service as Chair/Planner. Please refer to the Participant

Notification document for a list of all disclosures. Additionally, all speakers have been asked to verbally disclose at the start of their presentation if a product they are discussing is not labeled for the use under discussion or is still investigational.

Accreditation Statement

The International Society for Heart and Lung Transplantation (ISHLT) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Credit Designation Statement

ISHLT designates this live activity for a maximum of 4.25 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nurses and Pharmacists



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INTERPROFESSIONAL CONTINUING EDUCATION

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Credit Designation Statement – Amedco LLC designates this live activity for a maximum of 4.25 contact hours for nurses and 2.25 knowledge-based contact hours for pharmacists. Learners should claim only the credit commensurate with the extent of their participation in the activity.

ISHLT ACADEMY
MASTER CLASS IN LUNG TRANSPLANTATION
PRELIMINARY SCIENTIFIC PROGRAM SCHEDULE – MORNING COURSE

8:00 AM – 8:05 AM

WELCOME AND OVERVIEW

Daniel F. Dilling, MD, Loyola University Chicago, Stritch School of Medicine, Maywood, IL, USA
Miranda Paraskeva, MBBS, Alfred Hospital, Melbourne, VC, Australia

8:05 AM – 9:10 AM

SMALL GROUP INTERACTIVE DISCUSSION A: COMPLEX INFECTIONS

Moderator: Amparo Sole, MD, PhD, Hospital Universitario la Fe Unidad de Transplante Pulmonar, Valencia Spain

8:05 AM

Summary of the state of the science of the session topic and the most pressing challenges relevant to the session topic

Amparo Sole, MD, PhD, Hospital Universitario la Fe Unidad de Transplante Pulmonar, Valencia, Spain

8:10 AM

CASE SCENARIO A1: *M. abscessus* Infection Management Pre- and Post-transplant in a CF Patient

Amparo Sole, MD, PhD, Hospital Universitario la Fe Unidad de Transplante Pulmonar, Valencia, Spain

Teaching/Discussion Points

1. Learn about the epidemiology of the different mycobacterial infections post cardiothoracic transplantation.
2. Review recent scientific evidence of *M. abscessus* infection as far as impact on patient survival and graft health.
3. Discuss therapeutic options and their limitations in treating *M. abscessus*.
4. Understand the possible complications of long-term treatment, including drug-drug interactions between antibiotics and various immunosuppressive medications.

8:40 AM

CASE SCENARIO A2: Mold Infection (non *Aspergillus*) in the Early Post-Lung Transplant Period (*Scedosporium* or *Mucor* or *Fusarium*): A Lung Transplant Recipient with Disseminated Infection

Shahid Husain, MD, MS, Toronto General Hospital, Toronto, Canada

Teaching/Discussion Points

1. Understand and appreciate the differences in the incidence, epidemiology, timing and clinical presentation of mold infections in the lung transplant recipient in the early and late post-transplant periods.
2. Recognize the risk factors for these different scenarios in order to plan reasonable prophylaxis.
3. Know that there are emerging molds thought to be related to prolonged systemic prophylaxis as well as emerging azole resistance.
4. Understand the role of non-microbiological tests in blood and bronchoalveolar lavage fluid for the diagnosis of mold infection.
5. Review the monitoring of therapeutic drug levels in prophylaxis and invasive disease treatment.
6. Examine new and old antifungal drugs, drug-drug interactions and novel drug administration (i.e. nebulized antifungal therapies).

9:10 AM – 10:15 AM

SMALL GROUP INTERACTIVE DISCUSSION B: AIRWAY COMPLICATIONS

Moderator: Aleem Siddique, MBBS, University of Nebraska Medical Center, Omaha, NE, USA

9:10 AM

Summary of the state of the science of the session topic and the most pressing challenges relevant to the session topic

Aleem Siddique, MBBS, University of Nebraska Medical Center, Omaha, NE, USA

9:15 AM

CASE SCENARIO B1: Necrosis and Dehiscence of the Airway 4 Weeks after Lung Transplant in a Recipient with Cystic Fibrosis

Aleem Siddique, MBBS, University of Nebraska Medical Center, Omaha, NE, USA

Teaching/Discussion Points

1. Examine the risk factors for and the prevention of airway complications.
2. Review the strengths and limitations of the current grading system with regards to necrosis and dehiscence of the airway and how it relates to previous systems.
3. Discuss the management of airway infections including the the role of stents and surgery for necrosis/dehiscence.

9:45 AM

CASE SCENARIO B2: Bronchial Stenosis 5 Months after Lung Transplant in a Patient with Idiopathic Pulmonary Fibrosis

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

Teaching/Discussion Points

1. Review the strengths and limitations of the current grading system as it pertains to bronchial stenosis and how it relates to previous systems.
2. Discuss the management of post-transplant airway infections.
3. Examine the role of ablative therapies for stenosis.
4. Discuss the role of mitomycin C, brachytherapy and stents in the management of bronchial stenosis.
5. Understand the options and indications for the use of airways stents in bronchial stenosis.

10:15 AM – 10:45 AM

COFFEE BREAK

10:45 AM – 11:50 AM

SMALL GROUP INTERACTIVE DISCUSSION C: FRAILITY

Moderator: Michelle Murray, MD, MSc, MRCPI, Mater Misericordiae University Hospital, Dublin, Ireland

10:45 AM

Summary of the state of the science of the session topic and the most pressing challenges relevant to the session topic

Michelle Murray, MD, MSc, MRCPI, Mater Misericordiae University Hospital, Dublin, Ireland

10:50 AM

CASE SCENARIO C1: A 35 year-old Patient with Cystic Fibrosis Referred for Lung Transplantation

Michelle Murray, MD, MSc, MRCPI, Mater Misericordiae University Hospital, Dublin, Ireland

Teaching/Discussion Points

1. Discuss the concept of frailty affecting both young and older candidates.
2. Learn about factors that contribute to frailty.
3. Discuss how frailty features may be different (or the same) in older and younger populations.
4. Are there tools or strategies that help us predict morbidity or mortality post-transplant? Are any perhaps better for the younger patient?
5. Suggest an approach to the care of a cystic fibrosis patient who is frail and seeking lung transplantation.

11:20 AM

CASE SCENARIO C2: A 65 year-old Patient with IPF Referred for Lung Transplantation

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

Teaching/Discussion Points

1. Discuss frailty in the older candidate and specifically those with fibrotic lung disease.
2. How can frailty tools be used correctly? How can they be misused?
3. Are there predictors that can be noted pre-transplant that confer higher post-transplant risk or morbidity or mortality?
4. How can physical therapy or pulmonary rehabilitation be used most effectively in the lung transplant candidate with frailty phenotype?

11:50 AM – 12:55 PM

SMALL GROUP INTERACTIVE DISCUSSION D: EX-VIVO LUNG PERFUSION (EVLP)

Moderator: Marcelo Cypel, MD, Toronto General Hospital, Toronto, Canada

11:50 AM

Summary of the state of the science of the session topic and the most pressing challenges relevant to the session topic

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

11:55 AM

CASE SCENARIO D1: A Case of a Patient Desperate for a Transplant, a Donor Presents with Low p/f Ratio and Evidence of Edema that Improves after EVLP

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

Teaching/Discussion Points

1. Selected donors that appear otherwise unusable for lung transplantation can be recognized as usable after a period of EVLP.
2. An approach to monitoring donor lungs during perfusion on the Toronto system will be outlined through a specific case (compliance, pO₂, perfusate fluid loss, bronchoscopy appearance).
3. Tricks and surgical techniques reviewed.
4. Outcomes of EVLP utilization will be reviewed.
5. Review reasons that some programs can't get an EVLP program off the ground (manpower, finances, maintenance of routine of doing cases).

12:25 PM

CASE SCENARIO D2: A Case of Donor Lungs Retrieved using Portable EVLP from a Distant Location Allowing for Successful Lung Transplantation

Dirk Van Raemdonck, MD, University of Leuven, Leuven, Belgium

Teaching/Discussion Points

1. Review of the evidence that portable EVLP allows for standard lungs as well as for extended criteria lungs.
2. An approach to monitoring donor lungs during portable EVLP perfusion on the OCS system will be outlined through a specific case (compliance, pO₂, perfusate fluid loss).
3. Tricks and surgical techniques reviewed.
4. What are some of the challenges to keeping up a program of portable EVLP? Why do some programs use it more, some use it less?

12:55 PM – 1:00 PM**CLOSING REMARKS**

Daniel F. Dilling, MD, Loyola University Chicago, Stritch School of Medicine, Maywood, IL, USA

Miranda Paraskeva, MBBS, Alfred Hospital, Melbourne, Australia

1:00 PM**ADJOURN**

ISHLT ACADEMY
MASTER CLASS IN LUNG TRANSPLANTATION
PRELIMINARY SCIENTIFIC PROGRAM SCHEDULE – AFTERNOON COURSE

2:00 PM – 2:05 PM

WELCOME AND OVERVIEW

Daniel F. Dilling, MD, Loyola University Chicago, Stritch School of Medicine, Maywood, IL, USA
Miranda Paraskeva, MBBS, Alfred Hospital, Melbourne, VC, Australia

2:05 PM – 3:10 PM

SMALL GROUP INTERACTIVE DISCUSSION A: COMPLEX INFECTIONS

Moderator: Amparo Sole, MD, PhD, Hospital Universitario la Fe Unidad de Transplante Pulmonar, Valencia Spain

2:05 PM

Summary of the state of the science of the session topic and the most pressing challenges relevant to the session topic

Amparo Sole, MD, PhD, Hospital Universitario la Fe Unidad de Transplante Pulmonar, Valencia Spain

2:10 PM

CASE SCENARIO A1: *M. abscessus* Infection Management Pre- and Post-transplant in a CF Patient

Amparo Sole, MD, PhD, Hospital Universitario la Fe Unidad de Transplante Pulmonar, Valencia Spain

Teaching/Discussion Points

5. Learn about the epidemiology of the different mycobacterial infections post cardiothoracic transplantation.
6. Review recent scientific evidence of *M. abscessus* infection as far as impact on patient survival and graft health.
7. Discuss therapeutic options and their limitations in treating *M. abscessus*.
8. Understand the possible complications of long-term treatment, including drug-drug interactions between antibiotics and various immunosuppressive medications.

2:40 PM

CASE SCENARIO A2: Mold Infection (non *Aspergillus*) in the Early Post-Lung Transplant Period (*Scedosporium* or *Mucor* or *Fusarium*): A Lung Transplant Recipient with Disseminated Infection

Shahid Husain, MD, MS, Toronto General Hospital, Toronto, Ontario, Canada

Teaching/Discussion Points

7. Understand and appreciate the differences in the incidence, epidemiology, timing and clinical presentation of mold infections in the lung transplant recipient in the early and late post-transplant periods.
8. Recognize the risk factors for these different scenarios in order to plan reasonable prophylaxis.
9. Know that there are emerging molds thought to be related to prolonged systemic prophylaxis as well as emerging azole resistance.
10. Understand the role of non-microbiological tests in blood and bronchoalveolar lavage fluid for the diagnosis of mold infection.
11. Review the monitoring of therapeutic drug levels in prophylaxis and invasive disease treatment.
12. Examine new and old antifungal drugs, drug-drug interactions and novel drug administration (i.e. nebulized antifungal therapies).

3:10 PM – 4:15 PM

SMALL GROUP INTERACTIVE DISCUSSION B: AIRWAY COMPLICATIONS

Moderator: Aleem Siddique, MBBS, University of Nebraska Medical Center, Omaha, NE, USA

3:10 PM

Summary of the state of the science of the session topic and the most pressing challenges relevant to the session topic

Aleem Siddique, MBBS, University of Nebraska Medical Center, Omaha, NE, USA

3:15 PM

CASE SCENARIO B1: Necrosis and Dehiscence of the Airway 4 Weeks after Lung Transplant in a Recipient with Cystic Fibrosis

Aleem Siddique, MBBS, University of Nebraska Medical Center, Omaha, NE, USA

Teaching/Discussion Points

4. Examine the risk factors for and the prevention of airway complications.
5. Review the strengths and limitations of the current grading system with regards to necrosis and dehiscence of the airway and how it relates to previous systems.
6. Discuss the management of airway infections including the the role of stents and surgery for necrosis/dehiscence.

3:45 PM

CASE SCENARIO B2: Bronchial Stenosis 5 Months after Lung Transplant in a Patient with Idiopathic Pulmonary Fibrosis

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

Teaching/Discussion Points

6. Review the strengths and limitations of the current grading system as it pertains to bronchial stenosis and how it relates to previous systems.
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4:15 PM – 4:45 PM

COFFEE BREAK

4:45 PM – 5:50 PM

SMALL GROUP INTERACTIVE DISCUSSION C: FRAILITY

Moderator: Michelle Murray, MD, MSc, MRCPI, Mater Misericordiae University Hospital, Dublin, Ireland

4:45 PM

Summary of the state of the science of the session topic and the most pressing challenges relevant to the session topic

Michelle Murray, MD, MSc, MRCPI, Mater Misericordiae University Hospital, Dublin, Ireland

4:50 PM

CASE SCENARIO C1: A 35 year-old Patient with Cystic Fibrosis Referred for Lung Transplantation

Michelle Murray, MD, MSc, MRCPI, Mater Misericordiae University Hospital, Dublin, Ireland

Teaching/Discussion Points

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5:20 PM

CASE SCENARIO C2: A 65 year-old Patient with IPF Referred for Lung Transplantation

Jonathan Singer, MD, UC San Francisco, San Francisco, CA, USA

Teaching/Discussion Points

5. Discuss frailty in the older candidate and specifically those with fibrotic lung disease.
6. How can frailty tools be used correctly? How can they be misused?
7. Are there predictors that can be noted pre-transplant that confer higher post-transplant risk or morbidity or mortality?
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5:50 PM – 6:55 PM

SMALL GROUP INTERACTIVE DISCUSSION D: EX-VIVO LUNG PERFUSION (EVLP)

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

5:50 PM

Summary of the state of the science of the session topic and the most pressing challenges relevant to the session topic

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

5:55 PM

CASE SCENARIO D1: A Case of a Patient Desperate for a Transplant, a Donor Presents with Low p/f Ratio and Evidence of Edema that Improves after EVLP

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

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6:25 PM

CASE SCENARIO D2: A Case of Donor Lungs Retrieved using Portable EVLP from a Distant Location Allowing for Successful Lung Transplantation

Dirk Van Raemdonck, MD, University of Leuven, Leuven, Belgium

Teaching/Discussion Points

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6:55 PM – 7:00 PM**CLOSING REMARKS**

Daniel F. Dilling, MD, Loyola University Chicago, Stritch School of Medicine, Maywood, IL, USA

Miranda Paraskeva, MBBS, Alfred Hospital, Melbourne, VC, Australia

7:00 PM**ADJOURN**