



APRIL 2, 2019 MORNING COURSE • 8:00 AM – 1:00 PM

*Banda Sea & Timor Sea, Loews Royal Pacific Hotel
Orlando, FL, USA*

NOTE: The next four pages contain the schedule for the morning course.

The identical course will be offered in the afternoon from 2pm–7pm.

The detailed schedule for the afternoon course is available on the ISHLT Academy website.

SCIENTIFIC PROGRAM CHAIRS

CHAIR: Susan Joseph, MD, Baylor University and Vascular Hospital, Dallas, TX, USA

CO-CHAIR: Daniel Zimpfer, MD, MBA, Medical University of Vienna, Vienna, Austria

CASE MODERATORS

Jens Garbade, MD, PhD, MHBA, University of Leipzig, Leipzig, Germany

Finn Gustafsson, MD, PhD, Rigshospitalet, Copenhagen, Denmark

Scott Silvestry, MD, Florida Hospital Transplant Network, Orlando, FL, USA

Melana Yuzepolskya, MD, New York-Presbyterian/Columbia University Medical Center, New York, NY, USA

CASE DISCUSSANTS

Peter Eckman, MD, Minneapolis Heart Institute, Minneapolis, MN, USA

Kelsey Flint, MD, University of Colorado, Aurora, CO, USA

P. Christian Schulze, MD, PhD, University Hospital Jena, Jena, Germany

Vivek Rao, MD, PhD, Toronto General Hospital, Toronto, ON, Canada

COURSE SUMMARY

The MCS Master Class is designed for clinicians with higher levels of expertise in MCS (completed the core curriculum course on MCS and/or primary practice in MCS (≥ 5 years)). The course format is intended to generate highly interactive discussion among experienced users of these technologies, in order to tackle the most complex nuances of managing these complex patients. Rather than didactic lectures, this course will employ the concept of “convergent discussion” composed of small groups. Faculty moderators and case discussants will engage the audience by focusing on areas with gaps in knowledge and absence of consensus in the field. The case-based format will allow moderators and discussants to use real-world complex situations in order to lead the group through active audience participation, towards specific answers designed to address the practice gaps and learning objectives.



Practice Gaps

1. The outcomes of cardiogenic shock have remained poor, large randomized trials are scarce and the management of these patients remains challenging. Comprehensive clinical expertise of advanced usage of evolving MCS options including patient and device selection and transition to next step therapies continue to constitute major limitations in the care of these critically ill patients. Knowledge in this area is rapidly evolving and frequent updates are necessary.
2. The diagnosis and management of complex and combined adverse events such as cerebrovascular hemorrhagic accidents, device thrombosis and gastrointestinal bleeding is challenging and practitioners often face difficulties in developing effective strategies to appropriately identify and treat these adverse events. Recent improvements in device technology have eliminated thrombosis and new anticoagulation strategies continue to evolve.
3. The diagnostic and therapeutic approaches for early and late right ventricular failure in MCS patients has been evolving with the introduction of new diagnostic criteria and new technologies/therapeutic options. Such practice gaps in specialist knowledge and clinical skills constitute major limitations in the care of MCS patients.
4. The implantation of results from large clinical studies such as MOMENTUM 3 and ENDURENCE supplement into clinical practice is still lagging. The Master Academy will review the information from those studies and discuss their use in daily practice.

Target Audience

This course has been developed for cardiac and mechanical circulatory support surgeons, advanced heart failure cardiologists, VAD Coordinators, and allied health professionals with at least 5 years of experience in the field of mechanical circulatory support or who have attended a prior ISHLT core competency course in mechanical circulatory support. While all members are invited to enroll, Master Classes are primarily designed to be of benefit for health care professionals who are beyond the training stages of their careers. This may be professionals who are seeking additional proficiencies, who wish to understand current areas of controversy, or who desire an update on the current advanced topics of the field. The information presented is intended to provide insights beyond core competencies established in the specialty.

Educational Need

Mechanical circulatory support is a rapidly growing and rapidly evolving therapy for advanced heart failure. There are now several options approved for use to support patients both acutely in the short term, as well as for durable support. Optimizing outcomes and survival in these complex patients requires mastery of the identification of cardiogenic shock phenotypes, knowledge of device choice and timing, as well as pre-operative optimization of these patients. Multidisciplinary

teams are an essential part of modern day mechanical circulatory support management. This Class is designed to meet the target audience's need for an advanced learning opportunity that explores and seeks to address the unique clinical challenges faced by specialists and developing experts in the field of MCS for treatment of heart failure patients.

Learning Objectives

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

1. Identify patients with cardiogenic shock, including complex presentation, appropriate devices for short-term mechanical circulatory support, and factors impacting transition to longer term support platforms.
2. Understand the management of durable MCS patients with complex hemo-compatibility related adverse events, including recurrent GI bleed, bleeding in the setting of thrombosis, or the patient with a history of confounding events (i.e. bleeding and thrombosis).
3. Review predictors of early and late right ventricular failure post LVAD implantation, understand the utility of presently available risk scores, and identify management strategies.
4. Understand the implications of the Momentum 3 and Endurance clinical trials for clinical practice.

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.

ANCC, ABTC, and ACPE Credit

Credit for the above designations will be applied for as appropriate.

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.



SCIENTIFIC PROGRAM

8:00 AM – 8:10 AM

WELCOME AND OVERVIEW

Susan Joseph, MD, Baylor University and Vascular Hospital, Dallas, TX, USA

Daniel Zimpfer, MD, MBA, Medical University of Vienna, Vienna, Austria

8:10 AM – 9:10 AM

SMALL GROUP INTERACTIVE DISCUSSION A: IABP, ECMO and Beyond – Short Term MCS for Profound Cardiogenic Shock / Intermacs 0-1 Profiles

MODERATOR:

Jens Garbade, MD, PhD, MHBA

8:10 AM CASE SCENARIO A1: Short-Term MCS for Cardiogenic Shock: Timing and Device Selection

Jens Garbade, MD, PhD, MHBA, University of Leipzig, Leipzig, Germany

Teaching/Discussion Points

1. Defining refractory cardiogenic shock and its prognosis. What parameters are essential, which predictors are reliable and when should the “shock team” evaluate a patient for short term MCS.
2. Proper timing of short term MCS implantation. Too early or too late. Can scores reliably predict outcomes or is it still a matter of trial and error?
3. Selection of short-term devices. IABP, ECMO percutaneous pumps and beyond. Should we use them in an escalating scenario starting with the least invasive or tailor specific device for specific patient phenotype.
4. Safeguards and pitfalls in short term device implantation. Problems solved and future challenges.

8:40 AM CASE SCENARIO A2: MCS Weaning and Transition to Permanent MCS

P. Christian Schulze, MD, PhD, University Hospital Jena, Jena, Germany

Teaching/Discussion Points

1. Avoiding complications during and promoting short term MCS weaning. Best practice management of short-term MCS devices. Which strategies to promote myocardial recovery work, which don't. What is the threshold for left ventricular venting, how should it be done and does it improve LV recovery? Discuss existing and novel approaches for left ventricular venting.
2. Can catheter interventions to coronary arteries and heart valves increase the likelihood of myocardial recovery and short-term MCS weaning?
3. When is the heart and patient ready for short-term MCS weaning. Should we rely on echo, invasive hemodynamics or scores and how-long should we wait for recovery? What is a reasonable inotropic support and when should weaning be abandoned?

4. Which patient is eligible for permanent MCS transition? Minimum criteria for end-organ function – kidneys can be replaced livers not. Anything else to look for, age limits, irreversible cachexia, poor RV function.
5. How to transition patients to permanent MCS. Should it impact the way we perform surgery. Can an ECMO safely replace cardiopulmonary bypass, do we need to close the transeptal puncture after a tandem heart, any evidence for increased aortic valve insufficiency after long-time Impella support.

9:15 AM – 10:15 AM

SMALL GROUP INTERACTIVE DISCUSSION B: To Pulse or Not to Pulse: Implications on Coagulation and Physiology

MODERATOR:

Scott Silvestry, MD

9:15 AM CASE SCENARIO B1: Bleeding and Clotting and Both, Oh My!

Scott Silvestry, MD, Florida Hospital Transplant Institute, Orlando, FL, USA

Teaching/Discussion Points

1. What is the definition of a pulse in humans? How much is enough? Does timing matter ie synchronous versus random? Discuss Lavare on versus off and latest data?
2. Why do they keep bleeding? It's not just von Willebrand Factor! Define the complexity of this conundrum at a master level, including definition, risk factors, and etiology. Discuss the role of pulselessness.
3. Pathophysiology of angioectasia and can we block vasculogenesis?
4. When to intensify or reduce antithrombotic therapy, and how to tailor to different patient characteristics.
5. Best surveillance strategies to detect early pump thrombosis in different devices, and how to diagnose.
6. When to pull the trigger for pump exchange versus medical treatment. Understanding risk and benefit trade-off.

9:45 AM CASE SCENARIO B2: Systemic Infection, Stroke and Secondary Bleeding – The Unhappy Triad of VAD Therapy

Vivek Rao, MD, PhD, Toronto General Hospital, Toronto, ON, Canada

Teaching/Discussion Points

1. Ischemic strokes in patients with positive blood cultures – disconnected coincidence or typical pattern? Do all germs behave the same?
2. How aggressive should we treat? Is it antibiotics only or should patients undergo complete device exchange? How should we modify anticoagulation? Appropriate imaging/workup to rule out infective thrombus formation in the VAD.



3. Infected thrombus embolization to the brain! Is secondary bleeding inevitable and can it be prevented?
4. Stroke with hemorrhagic transformation, should we immediately stop and reverse anticoagulation, how should we manage blood pressure what is the significance of neurosurgical interventions.
5. When is anticoagulation safe again and to which extent?

10:15 AM – 10:45 AM

COFFEE BREAK

10:45 AM – 11:45 AM

SMALL GROUP INTERACTIVE DISCUSSION C: Patient Selection and Pre-Operative Optimization

MODERATOR:

Melana Yuzefpolskya, MD

10:45 AM CASE SCENARIO C1: The RV Looks “Bad” – Strategies for Management

Melana Yuzefpolskya, MD, New York-Presbyterian/Columbia University Medical Center, New York, NY, USA

Teaching/Discussion Points

1. RV optimizing, does it work, is it just a myth and where is the evidence?
2. No sternotomy – no RV problem! Can surgical strategies reduce right ventricular failure. Have less invasive approaches have eliminated RV failure.
3. No need to walk on water! Novel surgical and percutaneous options for perioperative RV support are game changers and should be liberally applied.
4. Severe TR and poor RV function. No go, tricuspid reconstruction and temporary RVAD, primary BIVAD or TAH.
5. Poor RV and failure to thrive. When to add pulmonary vasodilators, adapt LVAD speed or upgrade to a BIVAD or TAH.

11:15 AM CASE SCENARIO C2: The Patient Looks Frail – Should We Move Forward?

Kelsey Flint, MD, University of Colorado, Aurora, CO, USA

Teaching/Discussion Points

1. Review available frailty assessment tools and impact on prognosis in heart failure.
2. Understand the differences and overlap between frailty and heart failure symptomatology.
3. Identify VAD-reversible vs irreversible frailty and describe the mechanisms involved, including inflammation and sarcopenia.
4. Understand when to “pre”-hab patient prior to LVAD vs when to not delay.

11:50 AM – 12:50 PM

SMALL GROUP INTERACTIVE DISCUSSION D: Long Term Management of the LVAD Recipient

MODERATOR:

Finn Gustafsson, MD, PhD

11:50 AM CASE SCENARIO D1: What to Do with ICD: Pacing Strategies and Minimizing Shocks

Finn Gustafsson, MD, PhD, Rigshospitalet, Copenhagen, Denmark

Teaching/Discussion Points

1. Should we keep LV lead on?
2. The patient doesn’t have an ICD; should we put one in?
3. Understand when and how to minimize shock therapy and for which patient.
4. The device is at end of life – should we change the generator? Understand nuances of bleeding risk in these patients and Exercise capacity-including biV and rhythm management.

12:20 PM CASE SCENARIO D2: Low Flow Alarms and Blood Pressure Management: Nuances Among Different Devices

Peter Eckman, MD, Minneapolis Heart Institute, Minneapolis, MN, USA

Teaching/Discussion Points

1. Describe the challenges associated with measuring blood pressure in patients with currently approved LVADs and relevant differences between the various pumps.
2. Discuss blood pressure goals and optimal management strategies in patients with CF-LVAD, and how to mitigate risks of RV failure and arrhythmia in these patients.
3. Master the evaluation and management of low flow alarms among device types, including asymptomatic low flow alarms.
4. How to approach the patient who is “weak and dizzy.”

12:50 PM – 1:00 PM

CLOSING REMARKS/EVALUATION

Susan Joseph, MD, Baylor University and Vascular Hospital, Dallas, TX, USA

Daniel Zimpfer, MD, MBA, Medical University of Vienna, Vienna, Austria

1:00 PM Adjourn