

**ISHLT ACADEMY
MASTER CLASS
IN MECHANICAL CIRCULATORY
SUPPORT****TUESDAY, APRIL 10, 2018
CLIO AND THALIE****8:00 AM – 1:00 PM****SCIENTIFIC PROGRAM CHAIRS****CHAIR:** Ulrich Jorde, MD, Montefiore Medical Center, Bronx, NY, USA**CO-CHAIR:** Ivan Netuka, MD, PhD, Institute for Clinical and Experimental Medicine, Prague, Czech Republic**FACULTY****Meredith Brisco, MD, MSCE**, Temple University, Philadelphia, PA, USA**Jerry Estep, MD**, The Methodist Hospital, Houston, TX, USA**Igor Gregoric, MD**, Center for Advanced Heart Failure, Houston, TX, USA**Finn Gustafsson, MD, PhD**, Rigshospitalet, Copenhagen, Denmark**JoAnn Lindenfeld, MD**, Vanderbilt University, Nashville, TN, USA**Bart Meyns, MD, PhD**, UZ Leuven, Leuven, Belgium**Snehal Patel, MD**, Montefiore Medical Center, Bronx, NY, USA**Mark Slaughter, MD**, University of Louisville, Louisville, KY, USA

COURSE SUMMARY

The MCS Master Class is intended for members with higher levels of expertise (completed the core curriculum course on MCS and/or primary practice in MCS \geq 5 years). The course setting will generate a highly interactive environment composed of a small group of individuals and designed to enhance individual expertise and network development. Utilizing the concept of “convergent discussion” and the technique of “audience response system,” faculty moderators will use complex situations and controversial statements during practical case presentations in order to lead the group through active audience participation, towards specific answers based on practice gaps and learning objectives. The MCS Master Class is arranged in advanced breakout sessions for every participant to take full advantage of an integrated curriculum and the exceptional networking opportunity. The specific topics are devised according to defined clinical practice gaps in this fast developing specialty.

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, constitute currently major limitations in the care of these critically ill patients.
2. Structures to seamlessly communicate events occurring in and outside of the operating room to ensure optimal performance by providers in each setting are lacking. Surgeons, cardiologists and critical care practitioners often lack in depth insight of decision algorithms employed by their counterparts before, during and after device implant and explant procedures.
3. The outcome impact and preferred technique of ancillary procedures – such as valve repair/replacement or left atrial appendage occlusion – during LVAD implantation has not been established.
4. 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.
5. 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.
6. The use of extracorporeal membrane oxygenation is growing rapidly, both as a bridge to decision tool before LVAD/HTX and as a rescue bridge to recovery tool in the setting of primary graft failure, yet outcomes of patients transitioned from ECMO to LVAD or HTX remain poor and MCS based PGF treatment strategies have not been developed.

TARGET AUDIENCE

The target audience for this class includes cardiothoracic surgeons and cardiologists with MCS experience, specialists in heart failure care, allied health professionals with involvement in MCS patients, VAD coordinators, transplant coordinators, critical care specialists and heart transplant professionals.

EDUCATIONAL NEED

Mechanical circulatory support is a relatively new and rapidly evolving therapy for advanced congestive heart failure. Multiple device technologies are now in use for short and long term support and patient outcomes are highly dependent on in-depth understanding of device-induced changes in physiology as well as device specific serious adverse events. 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

Upon completion of the Master Class, participants will be able to:

1. Identify the challenges during the diagnosis and management of complex cardiogenic shock patients and the potential benefits of a multidisciplinary team approach
2. Explain how to appropriately select patients for long-term MCS options with particular consideration of the need for/utility of ancillary procedures
3. Enhance understanding of the bidirectional impact of surgical and medical technique and management approaches
4. Describe how to develop a systematic approach to diagnosis and therapy of complex and combined adverse events such as device thrombosis, recurrent gastrointestinal bleeding and stroke
5. Name the diagnostic and therapeutic challenges of early and late RV failure
6. Acquire in depth understanding of ECMO placement, management, and explant in combination with LVAD or heart transplantation

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 CREDIT

AMEDCO is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation.

This course is co-provided by AMEDCO and ISHLT. Maximum of 4.25 contact hours.

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 SCHEDULE

8:00 AM – 8:10 AM WELCOME AND OVERVIEW

Ulrich Jorde, MD, Montefiore Medical Center, Bronx, NY, USA

Ivan Netuka, MD, PhD, Institute for Clinical and Experimental Medicine, Prague, Czech Republic

8:10 AM – 9:10 AM SMALL GROUP INTERACTIVE DISCUSSION A: ACUTE MCS FOR SHOCK

Moderator: Finn Gustafsson, MD, PhD

8:10 AM CASE SCENARIO A1: IABP to non-ECMO percutaneous MCS transition

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

Teaching/Discussion Points

- Challenges of assessing patients in profound cardiogenic shock:
 - Lack of a universally accepted classification system of cardiogenic shock and its influence on patient management
 - Important factors to consider at initial evaluation
 - LV failure, RV failure or both?
- Challenges in choosing the appropriate timing for MCS
- Challenges in choosing the appropriate MCS device
 - Theoretical advantages/disadvantages of each device
 - Existing clinical evidence
- SHOCK team approach to cardiogenic shock: patient benefits and logistical difficulties
- How do I wean a temporary MCS device? How do I know a short term wean will be durable?

8:40 AM CASE SCENARIO A2: ECMO

Bart Meyns, MD, PhD, UZ Leuven, Leuven, Belgium

Teaching/Discussion Points

- How do I differentiate components of right sided, left sided and peripheral contributors to the shock state?
- IABP – in whom does it (not) work
- Placement technique/cannula selection
- Preemptive or reactive distal perfusion/LV venting?
- Routine IABP placement/removal?
- ECMO wean – how to do it and when does it (not) work.

9:15 AM – 10:15 AM SMALL GROUP INTERACTIVE DISCUSSION B: BLEEDING AND THROMBOSIS

Moderator: Jerry Estep, MD

9:15 AM CASE SCENARIO B1: Recurrent GI Bleeding and Pump Thrombosis

Snehal Patel, MD, Montefiore Medical Center, Bronx, NY, USA

Teaching/Discussion Points

- Definition, risk factors, and the inevitable “conundrum”
- Pathophysiology of angioectasia development
- Treatment of recurrent GI bleeding – blocking vasculogenesis?
- The yin and yang of hemocompatibility: Absence of pump thrombosis eliminates the need for antithrombotic therapy in LVAD – or does it?
- Evidence-based approach for pump thrombosis: from prevention to treatment algorithm

9:45 AM CASE SCENARIO B2: Management of cerebrovascular hemorrhagic accidents

Jerry Estep, MD, The Methodist Hospital, Houston, TX, USA

Teaching/Discussion Points

- Epidemiology and risk factors for intracerebral hemorrhage (ICH) in the MCS population
- After the bleed, where to next? What are the immediate management priorities?
- Recommendations for anticoagulation in the setting of intracerebral hemorrhage
- Current evidence for alternate anticoagulation options available to minimize ICH
- Should we expect a poor outcome post ICH?
- Implications and management of neurologic events on treatment
- Is CVA management device specific?

10:15 AM – 10:45 AM COFFEE BREAK

10:45 AM – 11:45 AM
SMALL GROUP INTERACTIVE
DISCUSSION C: ANCILLARY
PROCEDURES IN LVAD**Moderator: Igor Gregoric, MD****10:45 AM CASE SCENARIO C1:**
A patient with atrial
fibrillation and severe
*mitral regurgitation***Igor Gregoric, MD**, Center for Advanced
Heart Failure, Houston, TX, USA**Teaching/Discussion Points**

1. Should the mitral valve be repaired/replaced?
2. Should the LAA be closed?
3. Practical considerations for ancillary mitral surgery/LAA closure

11:15 AM CASE SCENARIO C2:
A patient with prior
sternotomy and severe
*tricuspid regurgitation***Meredith Brisco, MD, MSCE**, Temple
University, Philadelphia, PA, USA**Teaching/Discussion Points**

1. Is minimally invasive preferred approach?
2. Should tricuspid valve be addressed?
3. Should pericardium be closed (completely)?

11:50 AM – 12:50 PM
SMALL GROUP INTERACTIVE
DISCUSSION D: BAILOUT
STRATEGIES FOR ECMO/BYPASS
WEANING FAILURE**Moderator: JoAnn Lindenfeld, MD****11:50 AM CASE SCENARIO D1:**
ECMO weaning failure –
transition to durable
device or “high risk
*organ?”***JoAnn Lindenfeld, MD**, Vanderbilt
University, Nashville, TN, USA**Teaching/Discussion Points**

1. Use of ECMO as bypass circuit
2. Transition to uni- or biventricular support?
3. Who can be successfully (!) transitioned
4. Surgical technique
5. Bailout high risk organ HTX

12:20 PM CASE SCENARIO D2:
Primary graft failure –
*ECMO?***Mark Slaughter, MD**, University of
Louisville, Louisville, KY, USA**Teaching/Discussion Points**

1. Risk factors for PGF: VAD?
2. When to pull the trigger?
3. Central or peripheral ECMO – are you prepared?
4. Immunosuppression for PGF requiring MCS

12:50 PM – 1:00 PM
COURSE SUMMARY AND
ASSESSMENT**Ulrich Jorde, MD**, Montefiore
Medical Center, Bronx, NY, USA**Ivan Netuka, MD, PhD**, Institute for
Clinical and Experimental Medicine,
Prague, Czech Republic**1:00 PM ADJOURN**