ISHLT ACADEMY
MASTER CLASS
IN MECHANICAL CIRCULATORY SUPPORT
TUESDAY, APRIL 10, 2018 2:00 PM – 7:00 PM
CLIO AND THALIE

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 ≥ 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

2:00 PM – 2:10 PM
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

2:10 PM – 3:10 PM
SMALL GROUP INTERACTIVE DISCUSSION A: ACUTE MCS FOR SHOCK
Moderator: Finn Gustafsson, MD, PhD
Finn Gustafsson, MD, PhD, Rigshospitalet, Copenhagen, Denmark

2:10 PM CASE SCENARIO A1: IABP to non-ECMO percutaneous MCS transition
Teaching/Discussion Points
6. Challenges of assessing patients in profound cardiogenic shock:
   a. Lack of a universally accepted classification system of cardiogenic shock and its influence on patient management
   b. Important factors to consider at initial evaluation
   c. LV failure, RV failure or both?
7. Challenges in choosing the appropriate timing for MCS
8. Challenges in choosing the appropriate MCS device
   a. Theoretical advantages/disadvantages of each device
   b. Existing clinical evidence
9. SHOCK team approach to cardiogenic shock: patient benefits and logistical difficulties
10. How do I wean a temporary MCS device? How do I know a short term wean will be durable?

2:40 PM CASE SCENARIO A2: ECMO
Bart Meyns, MD, PhD, UZ Leuven, Leuven, Belgium
Teaching/Discussion Points
7. How do I differentiate components of right sided, left sided and peripheral contributors to the shock state?
8. IABP – in whom does it (not) work
9. Placement technique/cannula selection
10. Preemptive or reactive distal perfusion/LV venting?
11. Routine IABP placement/removal?
12. ECMO wean – how to do it and when does it (not) work.

3:15 PM – 4:15 PM
SMALL GROUP INTERACTIVE DISCUSSION B: BLEEDING AND THROMBOSIS
Moderator: Jerry Estep, MD
Snehal Patel, MD, Montefiore Medical Center, Bronx, NY, USA

3:45 PM CASE SCENARIO B2: Management of cerebrovascular hemorrhagic accidents
Jerry Estep, MD, The Methodist Hospital, Houston, TX, USA
Teaching/Discussion Points
8. Epidemiology and risk factors for intracerebral hemorrhage (ICH) in the MCS population
9. After the bleed, where to next? What are the immediate management priorities?
10. Recommendations for anticoagulation in the setting of intracerebral hemorrhage
11. Current evidence for alternate anticoagulation options available to minimize ICH
12. Should we expect a poor outcome post ICH?
13. Implications and management of neurologic events on treatment
14. Is CVA management device specific?

4:15 PM – 4:45 PM
COFFEE BREAK
**SMALL GROUP INTERACTIVE DISCUSSION C: ANCILLARY PROCEDURES IN LVAD**

**Moderator:** Igor Gregoric, MD

**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**
4. Should the mitral valve be repaired/replaced?
5. Should the LAA be closed?
6. Practical considerations for ancillary mitral surgery/LAA closure

**CASE SCENARIO C2:**
A patient with prior sternotomy and severe tricuspid regurgitation

**Meredith Brisco, MD, MSCE,** Temple University, Philadelphia, PA, USA

**Teaching/Discussion Points**
4. Is minimally invasive preferred approach?
5. Should tricuspid valve be addressed?
6. Should pericardium be closed (completely)?

**SMALL GROUP INTERACTIVE DISCUSSION D: BAILOUT STRATEGIES FOR ECMO/BYPASS WEANING FAILURE**

**Moderator:** JoAnn Lindenfeld, MD

**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**
6. Use of ECMO as bypass circuit
7. Transition to uni – or biventricular support?
8. Who can be successfully (!) transitioned
9. Surgical technique
10. Bailout high risk organ HTX

**CASE SCENARIO D2:**
Primary graft failure – ECMO?

**Mark Slaughter, MD,** University of Louisville, Louisville, KY, USA

**Teaching/Discussion Points**
5. Risk factors for PGF: VAD?
6. When to pull the trigger?
7. Central or peripheral ECMO – are you prepared?
8. Immunosuppression for PGF requiring MCS

**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

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