



**ISHLT ACADEMY MASTER CLASS IN MECHANICAL CIRCULATORY SUPPORT (MCS)**

**Saturday, April 30, 2016**

**1:45 PM – 6:30 PM**

**Marriott Wardman Park Hotel, Washington, DC, USA**

***WASHINGTON BALLROOMS 1 & 2***

## **ISHLT ACADEMY MASTER CLASS IN MECHANICAL CIRCULATORY SUPPORT (MCS)**

**Saturday, April 30, 2016**

**1:45 PM – 6:30 PM**

### **Chairs**

Stavros Drakos, MD, University of Utah School of Medicine, Salt Lake City, UT, USA

Simon Maltais, MD, PhD, Mayo Clinic, Rochester, MN, USA

### **Scientific Program Committee**

Navin Kapur, MD, Tufts Medical Center, Boston, MA, USA

Sanem Nalbantgil, MD, Ege University Medical Center, Izmir, Turkey

Salpy Pamboukian, MD, MSPH, University of Alabama at Birmingham, Birmingham, AL, USA

Vivek Rao, MD, PhD, University of Toronto, Toronto, ON, Canada

Jan Schmitto, MD, PhD, MBA, Hannover Medical School, Hannover, Germany

### **Course Summary**

The MCS Master Class presents a unique international educational opportunity for specialists and developing experts in the field of Mechanical Circulatory Support. A concerted effort brings together faculty and experts to provide an interactive environment well beyond core competency training. 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.

### **Educational Goals**

The overarching goal is to provide an advanced learning opportunity for specialists and developing experts in the field of MCS and devices for treatment of heart failure patients.

### **Practice Gaps**

**1:** The therapeutic options of acute cardiogenic shock have been evolving with the introduction of various reliable MCS options. Comprehensive clinical expertise of advanced usage of these therapies including patient and device selection and transition to next step therapies constitute currently major limitations in the care of these critically ill patients.

**2:** The diagnosis and therapy of complex and combined adverse events such as device thrombosis, gastrointestinal bleeding and thromboembolic complications is challenging and individual practitioners often face difficulties in developing effective strategies to appropriately identify and treat these adverse events.

**3:** With the rapid evolution of surgical approaches and significant advances in internal medicine, the individual practitioners may lack the extensive expertise required to appropriately select (a) patients and (b) surgical approaches to achieve the best possible outcome.

**4:** The diagnostic and therapeutic approaches for right ventricular failure and aortic insufficiency in MCS patients have recently been revolutionized with the introduction of hemodynamics, new echocardiographic criteria and new technologies/ therapeutic options. Such practice gaps in specialist knowledge and clinical skills constitute major limitations in the care of MCS patients.

## **Learning Objectives**

- 1:** Understand the technical and hemodynamic aspects of various acute circulatory support devices and review the evidence supporting their use in the setting of ischemic cardiogenic shock
- 2:** Develop a systematic approach to diagnosis and therapy of complex adverse events after MCS implantation such as device thrombosis, recurrent gastrointestinal bleeding and thromboembolic complications.
- 3:** Appropriately select patients for long-term MCS options with particular consideration in anticipated surgical management aspects (e.g. concomitant surgical interventions) and medical aspects like minimizing the risk for post-operative need for chronic dialysis.
- 4:** Understand the diagnostic and therapeutic challenges of RV failure (both early and late) and aortic insufficiency during chronic MCS therapy

## **Target Audience**

Cardiothoracic Surgeons and Cardiologists with MCS experience, Specialists in Heart Failure Care, allied health professionals with involvement in MCS patients, VAD Coordinators and critical care specialists, heart transplant professionals.

## **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 the International Society for Heart and Lung Transplantation (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.

**ISHLT ACADEMY MASTER CLASS IN MECHANICAL CIRCULATORY SUPPORT (MCS)**

**SATURDAY, APRIL 30, 2016**

**1:45 PM – 6:30 PM**

**SCIENTIFIC PROGRAM SCHEDULE**

**(All Sessions for those assigned to the Orange Group will take place in Washington Ballroom 1)**

**1:00 PM – 1:45 PM**

**REGISTRATION AND REFRESHMENTS**

**1:45 PM – 1:50 PM**

**WELCOME AND INTRODUCTIONS**

Simon Maltais, MD, PhD, Mayo Clinic, Rochester, MN, USA

**1:50 PM – 2:50 PM**

**SMALL GROUP INTERACTIVE DISCUSSION B: Complex Coagulation issues in MCS Patients**

**Moderator:** Simon Maltais, MD, PhD

**1:50 PM**

**Case Scenario: Will he clot or will he bleed?**

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

**Teaching/Discussion Points**

1. Workup of hemolysis
2. Treatment of hemolysis – one size fits all?
3. Proposal: Hemolysis alone requires device exchange!
4. Logfile analysis to diagnose and treat device thrombosis – device specific review.
5. Comprehensive treatment algorithm for device thrombosis with or without recurrent gastrointestinal bleeding: When to cut and when to bust.
6. Device thrombosis complicated by stroke – what now?

**2:20 PM**

**Case Scenario: Chronic infection management on durable support with/without thromboembolic complications**

Robert Kormos, MD, FRS(C), FAHA, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

**Teaching/Discussion Points**

1. Medical management of chronic driveline infection
  - a. Antibiotics strategies in MCS patients with chronic device related infections including IV vs. oral therapy and duration of treatment
  - b. Role of prophylactic antibiotics
    - i. Patients who have not experienced a device related infection
    - ii. Patient who have had a previous device related infection

2. Utility vs. futility of surgical management
  - a. Role of less invasive surgical techniques including surgical debridement and use of wound vac therapy
  - b. Role of more invasive surgical strategies for infection management including device exchange and transplantation
3. Pathophysiology that leads to perturbations in coagulation cascade in chronically infected patients
4. Practical considerations in patients with bleeding/thrombotic complications with ongoing driveline infection.
  - a. Changes in anticoagulation targets in chronically infected patients  
Management of infected patients with concomitant (bleeding or thromboembolism)

**2:55 PM – 3:55 PM**

**SMALL GROUP INTERACTIVE DISCUSSION A: Acute MCS for INTERMACS 0-1 Profiles**

**Moderator:** Stavros Drakos, MD

**2:55 PM**

**Case Scenario: Management challenges for patients with acute ischemic cardiogenic shock**

Navin Kapur, MD, Tufts Medical Center, Boston, MA, USA

**Teaching/Discussion Points**

1. Cardiogenic shock definition and various approaches to classify it based on acuity and severity
2. Technical features of existing acute circulatory support device including: cannulation approaches, pump types, and advantages/ disadvantages of each device
3. Hemodynamic impact of each acute circulatory support device on ventricular function, left ventricular wall stress, and ventriculo-arterial coupling
4. Revascularization options and the role of acute circulatory support in the management of myocardial ischemia due to both abrupt coronary thrombosis or in the setting of chronic multivessel coronary disease
5. Existing evidence on the utilization of acute circulatory support in the setting of ischemic cardiogenic shock
6. Intra-procedural and post-procedural management of acute circulatory support devices for ischemic cardiogenic shock with a specific focus on assessing myocardial recovery while on circulatory support

**3:25 PM**

**Case Scenario: Transition from short to long-term support**

Jan Schmitto, MD, PhD, MBA, Hannover Medical School, Hannover, Germany

**Teaching/Discussion Points**

1. Different option strategies for acute MCS support and assess utility vs. futility of support
2. How to balance efficacy and appropriateness of current available acute MCS options
3. Advantages and disadvantages for each acute device options and how to balance the choice of support with different clinical scenarios (univentricular vs. biventricular failure; cardiac vs. mixed cardiopulmonary collapse; short vs. prolonged acute MCS support)
4. Treatment option for frequent complications on acute MCS support (peripheral vascular compromise, left ventricular decompression and pulmonary edema, hemolysis and bleeding)
5. Left ventricular recovery assessment on acute device support

6. Right ventricular function and risk assessment for transition to long-term support
7. Appropriate timing and strategy for transition of acute to long-term support

**3:55 PM – 4:10 PM**

**COFFEE BREAK**

**4:10 PM – 5:10 PM**

**SMALL GROUP INTERACTIVE DISCUSSION D: Management of post-VAD complications**

**Moderator:** Simon Maltais, MD, PhD

**4:10 PM**

**Case Scenario: Management of early and late RV failure after LVAD implantation**

Sanem Nalbantgil, MD, Ege University Medical Center, Izmir, Turkey

**Teaching/Discussion Points**

1. RV failure risk prediction and management before LVAD implantation (Pre-operative IABP or percutaneous RV support devices)
2. BiVAD vs. TAH vs. transplantation decision making
3. Medical management of early RV failure after durable LVAD support (emphasis on speed optimization, drug therapy)
4. Timing and selection of temporary RVAD support for early RV failure
5. Decision making for switch from temporary to durable RV support.
6. Definition and management of late RV failure after VAD implantation

**4:40 PM**

**Case Scenario: Chronic aortic insufficiency on durable support: diagnosis and treatment**

Nir Uriel, MD, University of Chicago, Chicago IL, USA

**Teaching/Discussion Points**

1. New echo criteria for aortic insufficiency in CF-LVAD
2. Hemodynamics effect of aortic insufficiency on LVAD
3. Treatment algorithms to decide on the need for intervention in patients with aortic insufficiency.
4. Current treatment options for patients with significant aortic insufficiency.
5. Potential effect of new CF-LVAD (HM 3, MVAD) on the development of aortic insufficiency.
6. Medical and surgical strategies to improve or correct aortic insufficiency post-LVAD implantation

**5:15 PM – 6:15 PM**

**SMALL GROUP INTERACTIVE DISCUSSION C: Patient Selection Challenges for long-term MCS Support**

**Moderator:** Stavros Drakos, MD

**5:15 PM**

**Case Scenario: Predicting renal function recovery in marginal MCS candidates**

Meredith Brisco, MD, MSCE, Medical University of South Carolina, Charleston, SC, USA

**Teaching/Discussion Points**

1. Renal function in LVAD patients (estimation equations, creatinine clearance, proteinuria)

2. Heart failure-induced renal dysfunction with a high potential for recovery vs. intrinsic and irreversible kidney disease
3. Potential for renal recovery against the risk of acute kidney injury and need for chronic dialysis post operatively
4. Prevention of acute kidney injury (medication, imaging and hemodynamic considerations before surgery)
5. When to pull the trigger on dialysis
6. Important considerations when dialyzing an LVAD patient: method, duration, frequency of monitoring

**5:45 PM**

**Case Scenario: Management of Valvular Disease During LVAD Implant**

Vivek Rao, MD, PhD, University of Toronto, Toronto, ON, Canada

**Teaching/Discussion Points**

1. Rationale for concomitant repair of the mitral and/or tricuspid valve at the time of LVAD implant
2. Risks and benefits of aortic valve intervention and surgical strategies to address it.
3. Organized surgical plan defining appropriateness of concomitant surgical intervention.
4. Risk of concomitant surgical interventions at the time of durable implant, balanced with indication for implant (bridge-to-transplantation, destination therapy, potential recovery)

**6:15 PM – 6:30 PM**

**CLOSING REMARKS**

Stavros Drakos, MD, University of Utah School of Medicine, Salt Lake City, UT, USA