MCS

ISHLT ACADEMY

CORE COMPETENCIES IN MECHANICAL CIRCULATORY SUPPORT

TUESDAY, APRIL 10, 2018 **8:00 AM – 5:30 PM**

ATHENA

SCIENTIFIC PROGRAM COMMITTEE

CHAIR: **Diyar Saeed, MD, PhD,** Heinrich-Heine University, Dusseldorf, Germany

CO-CHAIR: **Palak Shah, MD, MS,** Inova Fairfax Hospital, Falls Church, VA, USA

CO-CHAIR: **Jennifer Cook, MD,** University of Arizona Heart Center, Tucson, AZ, USA

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Kavitha Muthiah, MBchB, St. Vincent's Hospital, Sydney, Australia

Samer Najjar, MD, Medstar Heart Institute, Washington, DC, USA

Evgenij Potapov, MD, PhD, Deutsches Herzzentrum, Berlin, Germany

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

Ryan Tedford, MD, Medical University of South Carolina, Charleston, SC, USA

Diyar Saeed, MD, PhD, Heinrich-Heine University, Dusseldorf, Germany

Christopher Salerno, MD, St Vincent Heart Center of Indiana, Indianapolis, IN, USA

Thomas Schloeglhofer, BSc, Medical University of Vienna, Vienna, Austria

Stephan Schueler, MD, PhD, FRCS, Newcastle Upon Tyne Hospital, Newcastle Upon Tyne, United Kingdom

Palak Shah, MD, MS, Inova Fairfax Hospital, Falls Church, VA, USA

Lynne Warner Stevenson, MD, Brigham & Women's Hospital, Boston, MA, USA

COURSE SUMMARY

The purpose of this Core Competency Course is to provide a concise review of clinical knowledge and outline of the essential professional skills for candidate assessment and longitudinal support for mechanical circulatory support patients. This course should serve programs providing mechanical circulatory support with a tool to review their standards of care, develop protocols, and implement guidelines established in management of mechanical circulatory support patients.

The course consists of six plenary sessions; in the first session, the current state of mechanical circulatory support systems is reviewed, followed by the challenging task of adequate patient selection and preoperative preparation including proper assessment tools of right ventricular function. In the third session, all surgical aspects and alternative approaches of assist device implantation are addressed, followed by immediate post-operative care related issues and management of right ventricular insufficiency. The fifth session addresses the preparation strategies for proper and safe patient transition to home. In the final session, adequate management of device related long term complications are presented.

PRACTICE GAPS

The field of the mechanical circulatory support systems has experienced steady growth during the last years. The management of these complex patients remains challenging and starts prior to the surgical procedures. There is still a lack of adequate knowledge of proper patient selection, right ventricular assessment, and proper management of device-related complications. This course will address all important aspects in the management of these patients starting from patient selection and preparation for the assist device implantation. Further, several alternative implantation approaches and surgical pitfalls are presented. Finally, issues related to the home transition and adequate state of art management strategies of assist device related complication management are addressed.

TARGET AUDIENCE

While all members are invited to enroll, this course is primarily designed to benefit clinicians and allied professionals who are in the early stages of their careers, are in training and/or are part of a new program, or desire an update on the current state of the field. The information presented covers core competencies and is intended to provide a strong foundation of the overarching principles of mechanical support, rather than a detailed update for those who are already proficient experts in the field.

EDUCATIONAL NEED

This course is designed to meet the practitioner's educational need for a targeted review of clinical knowledge and essential professional skills to facilitate best practice of surgical and medical aspects involved in the care of patients with mechanical circulatory support devices.

LEARNING OBJECTIVES

At the conclusion of this course, participants will have improved competence and professional performance in their ability to:

1. Explain how to risk stratify patients with advanced heart failure in order to assess MCS surgical risk and optimally time mechanical circulatory support (MCS) implantation.
2. Discuss the medical and social factors which impact patient outcomes during short- and long-term MCS.
3. Recognize the various types of MCS support available for patients with advanced single or biventricular heart failure and the technological differences that may impact pump selection and patient/device management.
4. Identify MCS implantation techniques and patient/pump management during the index admission intensive care unit and inpatient general care periods.
5. Describe how to manage patients and the MCS during outpatient long-term support with an understanding of interventions that can reduce patient- and device-related adverse events during MCS.
6. Diagnose and manage common clinical dilemmas and adverse events encountered after MCS.

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 8.00 *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 8.00 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. These disclosures will be distributed at the meeting. 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

7:00 AM – 8:00 AM
REGISTRATION AND MORNING COFFEE

8:00 AM – 8:05 AM
WELCOME AND OVERVIEW
Diyar Saeed, MD, PhD, Heinrich-Heine University, Dusseldorf, Germany

8:05 AM – 9:15 AM
SESSION 1: REVIEW OF THE CURRENT STATE OF MCS
Chair: Diyar Saeed, MD, PhD

8:05 AM *MCS Technology 101*
Evgenij Potapov, MD, PhD, Deutsches Herzzentrum, Berlin, Germany

Teaching/Discussion Points
- Review of current technologies available
- Pump behaviors with different loading conditions
- TAH

8:25 AM *BTT and DT Outcome*
Lynne Warner Stevenson, MD, Brigham & Women's Hospital, Boston, MA, USA

Teaching/Discussion Points
- Outcomes with current technologies
- Adverse events with current technologies

8:40 AM *Short-term Support and Shock*
Jonathan Haft, MD, University of Michigan, Ann Arbor, MI, USA

Teaching/Discussion Points
- Percutaneous technologies
- Biventricular support considerations
- ECMO

9:00 AM *Q&A with panel*

9:15 AM – 10:30 AM
SESSION 2: PATIENT SELECTION
Chair: Palak Shah, MD, MS

9:15 AM *When Should Patients be Referred: Warning Signs*
Douglas Horstmanshof, MD, Integris Baptist Medical Center, Oklahoma City, OK, USA

Teaching/Discussion Points
- Risk factors which presage patient decline (renal function, intolerance of medications, hospitalizations
- Risk stratification of patients based on HF severity and MCS operative risk (case based)

9:35 AM *Assessing and Optimizing RV Function Preoperatively*
Ryan Tedford, MD, Medical University of South Carolina, Charleston, SC, USA

Teaching/Discussion Points
- Impact of RV failure
- Pre-operative assessment and management of the RV including imaging and risk prediction (case based)

9:55 AM *Quality of Life After VAD and the Impact of Frailty and Social Behaviors on VAD Success*
Susan M. Joseph, MD, Baylor University Medical Center, Dallas, TX, USA

Teaching/Discussion Points
- Factors that can have a significant impact on success after VAD
- Screening tools available for risk assessment

10:15 AM *Q&A with panel*

10:30 AM – 10:45 AM
COFFEE BREAK

10:45 AM – NOON
SESSION 3: SURGICAL CONSIDERATIONS
Chair: Diyar Saeed, MD, PhD

10:45 AM *Key Surgical Aspects of Implantation*
Nader Moazami, MD, NYU Langone Medical Center, New York, NY, USA

Teaching/Discussion Points
- Inflow cannula/pump placement
- Intraoperative considerations
- Driveline tunneling
- Optimal outflow graft anastamose
- Surgical tips and tricks

11:05 AM *How Much Else is Too Much?*
Stephan Schueler, MD, PhD, FRCS, Newcastle Upon Tyne Hospital, Newcastle Upon Tyne, United Kingdom

Teaching/Discussion Points
- Management of aortic valve insufficiency
- Approach to tricuspid and mitral valve insufficiency
- Challenges like prior Dor procedures and Congenitals

11:25 AM *Tailoring Pumps to Patients*
Diyar Saeed, MD, Heinrich-Heine University, Dusseldorf, Germany

Teaching/Discussion Points
- Considerations for pump-patient matching
- Different approaches for VAD implantation
- Advantages and disadvantages of minimal invasive approaches
- Off-Pump vs. On-Pump VAD implantation options

11:45 AM *Q&A with panel*

NOON – 1:00 PM
LUNCH BREAK
(a box lunch is included in the registration fee)

1:00 PM – 2:15 PM
SESSION 4: POSTOPERATIVE CARE
Chair: Jennifer Cook, MD

1:00 PM *Managing the RV Postop*
Christopher Salerno, MD, St Vincent Heart Center of Indiana, Indianapolis, Indiana, USA

Teaching/Discussion Points
- Considerations for impact of LVAD pump speed on RV function
- Use of inotropes, pulmonary vasodilators and temporary RV support postoperatively

1:20 PM *Anticoagulation and Antiplatelet Therapy*
Vivek Rao, MD, PhD, Toronto General Hospital, Toronto, ON, Canada

Teaching/Discussion Points
- When to start anticoagulation and antiplatelet therapy regimens
- Data on platelet function testing and heparin level monitoring

1:40 PM *Pump Speed Optimization: The Role of Imaging and Hemodynamics*
Palak Shah, MD, MS, Inova Fairfax Hospital, Falls Church, Virginia, USA

Teaching/Discussion Points
- How to meld imaging and hemodynamics to optimize pump settings
- Highlight early and late postoperative pump speed considerations
- Define the role of echocardiography to evaluate underlying hemodynamics and optimize the pump speed to curb smoldering heart failure

2:00 PM *Q&A with panel*

2:15 PM – 3:15 PM
SESSION 5: TRANSITION TO HOME
Chair: Jennifer Cook, MD

2:15 PM *VAD Education: Patient/Caregiver Assessments and Strategies for Successful VAD Self-Care*
Thomas Schloeglhofer, BSc, Medical University of Vienna, Vienna, Austria

Teaching/Discussion Points
- Approaches to education of the patient and caregiver prior to discharge
- Strategies for educating the local medical community

2:30 PM *Starting New: How to Start and Succeed in MCS*
Michael Dickinson, MD, Spectrum Health, Grand Rapids, MI, USA

Teaching/Discussion Points
- Challenges of starting a VAD program
- Key elements of success

2:45 PM *Optimal Outpatient Management of VAD Recipients*
Antonio Loforte, MD, PhD, S. Orsola Hospital, Bologna, Italy

Teaching/Discussion Points
- Lab
- Blood pressure monitoring
- Echo monitoring

3:00 PM *Q&A with panel*

3:15 PM – 3:30 PM
COFFEE BREAK

3:30 PM – 5:20 PM
SESSION 6: LONG TERM MANAGEMENT OF PATIENTS AND COMPLICATIONS
A case based session
Chair: Palak Shah, MD, MS

3:30 PM *LVAD Infections: Prevention, Diagnosis and Management*
Saima Aslam, MD, MS, UCSD Medical Center, San Diego, CA, USA

Teaching/Discussion Points
- VAD infections
- Radiology studies important for diagnosis
- Therapeutic recommendations

3:50 PM *Stroke: Risk Factors for Hemorrhagic and Embolic CNS Complications and Management Strategies*
Samer Najjar, MD, Medstar Heart Institute, Washington, DC, USA

Teaching/Discussion Points
- Diagnosis
- Risk factors
- Management strategies

4:10 PM *Pump Thrombosis: Diagnostic Strategies and Management Algorithms*
Palak Shah, MD, MS, Inova Fairfax Hospital, Falls Church, Virginia, USA

Teaching/Discussion Points
- Frequency, diagnosis, and management strategies for suspected pump thrombosis

4:30 PM *Aortic Insufficiency in LVAD Recipients: Incidence, Screening and Management*
Jennifer Cook, MD, University of Arizona Heart Center, Tucson, AZ, USA

Teaching/Discussion Points
- Cumulative incidence
- Clinical consequences
- Management of AI after LVAD

4:50 PM *GI Bleeding*
Kavitha Muthiah, MBchB, St. Vincent's Hospital, Sydney, Australia

Teaching/Discussion Points
- Frequency, diagnosis and management of GI bleeding after LVAD therapy
- New data on octreotide

5:10 PM *Q&A with panel*

5:20 PM *COURSE SUMMARY AND ASSESSMENT*
Palak Shah, MD, MS, Inova Fairfax Hospital, Falls Church, Virginia, USA

5:30 PM *ADJOURN*