



TORONTO PERIOPERATIVE ECHO SYMPOSIUM

TorontoPeriopEcho.ca

Hosted by

The Department of Anesthesia & Pain Management &
The Divisions of Cardiology & Cardiovascular Surgery,
Peter Munk Cardiac Centre, **Toronto General Hospital**
& Department of Anesthesia & Pain Medicine,
University of Toronto

2023

Virtual Symposium

Saturday–Sunday September 23–24, 2023

- ◉ Left Ventricle ◉ Tricuspid Valve ◉ Mitral Valve
- ◉ Minimally–Invasive Cardiac Surgery ◉ Structural Heart Disease Interventions
- ◉ Extra–Cardiac Ultrasound ◉ Point–of–Care Ultrasound (POCUS)

LECTURES ◉ CASE PANELS ◉ INTERACTIVE DISCUSSION



Preliminary Program

Day 1 : Saturday, September 23

8:45 Annette Vegas - **Opening Remarks**

9:00 Session 1 – The Left Ventricle

Moderators: *Bill Wong, Azad Mashari*

9:00 Sarka Moravcova - **LV Assessment: The Basics**

- *Describe the anatomy and physiology of the left ventricle*
- *Review 2D quantitative and qualitative assessment of LV function according to current guidelines*
- *Understand the limitations of 2D TEE in assessing LV function*

9:25 Roberto Mosca - **3D LV Volume Assessment**

- *Describe the current options to assess LV function using 3D TEE*
- *Understand the limitations of 3D TEE in assessing LV function*
- *Demonstrate practical application of 3D LV assessment using clinical examples*

9:50 Jakob Labus – **Assessing Fiber Motion with Strain**

- *Explain the concepts of fiber motion and strain*
- *Review current intraoperative imaging techniques for strain*
- *Show clinical examples for intraoperative strain imaging*

10:15 Massimiliano Meineri – **Focused TEE to Detect Wall Motion Abnormalities**

- *Describe the etiology of regional wall motion abnormalities*
- *Demonstrate TEE imaging techniques for assessing regional wall motion abnormalities*
- *Show clinical examples and implication of regional wall motion abnormalities*

10:40 **Q&A**

11:00 **BREAK (15 min)**

11:15 Session 2 – Extracardiac Ultrasound

Curator: Andre Denault; Moderator: Marcin Wasowicz

11:15 Andre Denault – **Transgastric Abdominal Ultrasound (TGAUS)**

- *Present an overview of extra-cardiac organs and vasculature that TEE can interrogate*
- *Describe normal intra-abdominal organs using TEE 2D imaging*
- *Identify common pathologies beyond the kidney and liver*

11:45 Jean-Simon Lalancette – **Perioperative Role of Liver TEE**

- *Review abnormal IVC, hepatic vein, hepatic artery and portal vein imaging using TEE*
- *Understand the clinical significance of abnormal Doppler findings in the liver*
- *Explain the hepatic artery resistance index and portal vein pulsatility index*

12:10 William Beaubien-Souligny – **Perioperative role of Renal Ultrasound**

- *Describe normal renal anatomy and blood flow*
- *Identify abnormal Doppler findings for the kidney*
- *Understand the clinical significance of abnormal Doppler findings in the kidney*

12:35 Andre Denault – **Case Discussion**

12:55 **Q&A**

13:15 **LUNCH (45 min)**

14:00 Session 3 – Tricuspid Valve

Curator: Jacobo Moreno; Moderator: Michael Sullivan

14:00 Jacobo Moreno – Two Cases

- *Present two clinical cases with tricuspid regurgitation*

14:10 Ahmad Omran – Echocardiographic TV Assessment using 2D, 3D TEE: Practical TR Assessment

- *Identify important views for imaging the TV*
- *Recognize the additive value of 3D TEE in assessing the TV*
- *Review the assessment of TR*

14:30 Annette Vegas – Pathophysiology and Assessment of Functional TR

- *Identify the mechanisms of functional TR*
- *Review the assessment of functional TR using 2D and 3D TEE imaging*
- *Understand the progression and management options for functional TR*

14:50 David Latter – Surgical Decision-Making During Tricuspid Valve Surgery

- *Review indications for TV intervention based on current guidelines*
- *Understand surgical assessment of TV*
- *Explain the surgical interventions for the TV*

15:10 Wendy Tsang – Percutaneous TV Interventions

- *Update the evolving percutaneous options to manage TR*
- *Review patient selection and pre-assessment for percutaneous TV interventions*
- *Explain the role of TEE during a percutaneous tricuspid valve intervention*

15:30 Q&A

16:00 Day 1 Closing.

Day 2: Sunday, September 24

8:30 Annette Vegas - **Opening Remarks**

8:45 Session 4 – Mitral Valve

Curator: Fabio Papa; Moderator: Rafael Zamper

8:45 Hilda Alfaro, Michael Chu, Raffael Zamper - **Minimally Invasive MV: What Does the Surgeon Need to Know, and How Does it Affect Their Approach?**

- *Apply a step-wise approach to evaluate the mechanism and quantify the severity of the mitral valve disease*
- *Discuss the role of intraoperative TEE in the decision-making process*
- *Review recommendations of relevant ASE guidelines or significant scientific publications pertinent to the clinical scenario.*

9:15 Yannis Amador, Carolyn Teng- **Echocardiographic Assessment and Surgical Management of Functional MR**

- *Apply a step-wise approach to evaluate the mechanism and severity of functional mitral regurgitation*
- *Discuss the role of intraoperative TEE in the decision-making process*
- *Review recommendations of relevant ASE guidelines or significant scientific publications pertinent to the clinical scenario.*

9:45 Carlos Galhardo - **Rheumatic Mitral Valve Disease: What are the take-home points from the new ASE guidelines?**

- *Review hemodynamic considerations in the assessment of rheumatic mitral valve disease (MS/ MR)*
- *Discuss technical aspects in echocardiographic imaging of rheumatic heart disease*
- *Apply recommendations based on the latest ASE guideline in the intraoperative decision-making process*

10:15 **Q&A**

10:45 **BREAK (15 min)**

11:00 Session 5 – Structural Heart Disease Interventions

Curator: Aidan Sharkey; Moderator Wendy Tsang

11:00 Sankalp Sehgal – Transcatheter MV Interventions: Current Evidence and Best Practice

- *Review current options for percutaneous MV interventions*
- *Describe current patient selection for percutaneous MV intervention*
- *Critically review the outcomes related to percutaneous MV procedures*

11:20 Charles Nyman – Essential Imaging for MV SHD Interventions (MPR)

- *Describe pre-procedure MV assessment using echocardiography*
- *Describe step-by-step approach to guide TEE imaging for intra-procedural intervention*
- *Demonstrate complications of percutaneous MV interventions identifiable by TEE*

11:45 Aidan Sharkey – Transseptal Puncture

- *Describe the anatomy of the intra-atrial septum (IAS)*
- *Understand 2D and 3D imaging planes of the IAS*
- *Show examples of TEE guided transseptal puncture for different percutaneous procedures*

12:10 Aidan Sharkey, Feroze Mahmood, Marie-France Poulin – MV Edge-to-Edge Repair – Difficult Cases

- *Illustrate through case examples the challenges associated with complex percutaneous MV interventions*
- *Identify risk factors for difficult percutaneous MV interventions*
- *Present innovative solutions for complex percutaneous MV interventions*

12:40 **Q&A**

13:00 **LUNCH (45 min)**

13:45 Session 6 – Point-of-Care Ultrasound (POCUS)

Curator: Pablo Perez D'Empaire; Moderator: Marcus Salvatori

13:45 Katie Wiskar – VeXUS score for fluid tolerance

- *Describe the VeXUS concept*
- *Review the concept of fluid tolerance using ultrasound*
- *Identify significant gaps in knowledge, technique, and translation to practice of VeXUS*

14:10 Sara Nikravan – Lung US in the CVICU

- *Describe an overview of lung ultrasound*
- *Critically discuss evidence on the clinical value of Lung US in cardiac critical care*
- *Describe common pitfalls*

14:35 Felipe Teran – TEE During Cardiac Arrest

- *Define the goals of resuscitative TEE*
- *Critically discuss evidence for the clinical value of TEE in resuscitation*
- *Identify significant gaps in knowledge, technique, and translation to practice of resuscitative TEE*

15:00 Jose Diaz-Gomez – POCUS usefulness in ECLS/MCS

- *Describe the application of POCUS for ECLS/MCS*
- *Discuss the role on the clinical value of POCUS before and during ECLS/MCS*
- *Describe common pitfalls*

15:25 Q & A

15:45 PEG Award and Closing Remarks

16:00 Meeting Adjournment

Faculty

Hilda Alfaro, Anesthesiologist, Western University, London

Yannis Amador, Anesthesiologist, Kingston Health Science Center, Kingston

William Beaubien-Souligny, Nephrologist, Centre Hospitalier de l'Universite de Montreal

Michael Chu, Cardiac Surgeon, Western University, London

Andre Denault, Anesthesiologist, Montreal Heart Institute, Montreal

Jose Diaz-Gomez, Anesthesiologist, Baylor College of Medicine, Houston, USA

Pablo Perez D'Empaire, Anesthesiologist, Sunnybrook Health Science Center, Toronto

Carlos Galhardo Jr. Anesthesiologist, National Institute of Cardiology, Rio de Janeiro, Brazil

Jakob Labus, Anesthesiologist, University Hospital of Cologne, Germany

Jean-Simon Lalancette, Cardiologist, Critical Care Fellow, Montreal Heart Institute, Montreal

David Latter, Cardiac Surgeon, St Michael's Hospital, Toronto

Feroze Mahmood, Anesthesiologist, Beth Israel Deaconess Medical Center, Boston, USA

Azad Mashari, Anesthesiologist, Toronto General Hospital, Toronto

Massimiliano Meineri, Anesthesiologist, Herzzentrum Leipzig, Germany

Sarka Moravcova, Anesthesiologist, Royal Brompton & Harefield Hospitals, London, UK

Jacobo Moreno, Anesthesiologist, Sunnybrook Health Sciences Center, Toronto

Roberto Mosca, Anesthesiologist, University Hospital of South Manchester, Manchester, UK

Charles Nyman, Anesthesiologist, Brigham and Women's Hospital, Boston, USA

Sara Nikravan, Anesthesiologist, University of Washington, Seattle, USA

Ahmad Omran, Cardiologist, Toronto General Hospital, Toronto

Marie-France Poulin, Int. Cardiologist, Beth Israel Deaconess Medical Center, Boston, USA

Fabio de V. Papa, Anesthesiologist, St. Michael's Hospital, Toronto

Marcus Salvatori, Anesthesiologist, Toronto General Hospital, Toronto

Sankalp Sehgal, Anesthesiologist, Beth Israel Deaconess Medical Center, Boston, USA

Aidan Sharkey, Anesthesiologist, Beth Israel Deaconess Medical Center, Boston, USA

Michael Sullivan, Anesthesiologist, Toronto General Hospital, Toronto

Carolyn Teng, Cardiovascular Surgeon, Kingston Health Sciences Centre, Kingston

Felipe Teran, Emergency Physician, Weil Cornell Medicine, New York, USA

Wendy Tsang, Cardiologist, Toronto General Hospital, Toronto

Annette Vegas, Anesthesiologist, Toronto General Hospital, Toronto

Katie Wiskar, General Internist, Vancouver General Hospital, Vancouver, British Columbia

Marcin Wasowicz, Anesthesiologist, Toronto General Hospital, Toronto

Bill Wong, Anesthesiologist, Trillium Health Partners, Toronto

Raffael Zamper, Anesthesiologist, Western University, London