



TORONTO PERIOPERATIVE ECHO SYMPOSIUM

TorontoPeriopEcho.ca

Presented by

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

2022

Virtual Symposium

Saturday–Sunday October 29–30, 2022

- Minimally Invasive & Videoscopic Valve Surgery
- Echo Outside the CV OR
- The Dilated Aorta & Aortic Insufficiency
- Thoracic Surgery, Critical Care
- Improving Access to Periop Echo
- State-of-the-Art on Echo Fundamentals

LECTURES ● CASE PANELS ● INTERACTIVE DISCUSSION



Program & Objectives

This event is an **Accredited Group Learning Activity (Section 1)** as defined by the Maintenance of Certification program of The Royal College of Physicians and Surgeons of Canada and approved by the Canadian Anesthesiologists' Society. You may claim a maximum of **12 hours** (credits are automatically calculated)

Day 1: Saturday, October 29

8:45 Azad Mashari – Opening Remarks

9:00 Session 1 Thoracic Surgery, Critical Care & ECLS

Curator & Moderator: *Jacobo Moreno*

9:05 Yiorgos Alexandros Cavayas – **What can TEE tell us about lung function?**

- Discuss the use of point-of-care real-time trans-esophageal lung ultrasonography (TELU) for quickly establishing the etiology of acute hypoxemia.
- Define the advantages and disadvantages of TELU vs trans-thoracic lung ultrasonography.

9:35 Andy Roscoe – **Perioperative TEE for management of right heart dysfunction in severe lung disease.**

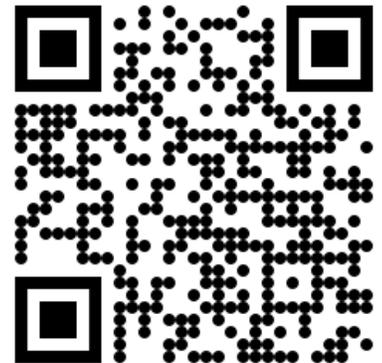
- Explain the manifestations of RV adaptation to lung pathophysiology
- Describe a goal-oriented approach for TEE assessment of RV function in the setting of lung disease

10:05 Selene Martinez – **Echocardiographic differences in RV dysfunction between acute & chronic lung Disease**

- Explain the mechanisms of RV adaptation to chronic volume and pressure overload
- Discuss the different imaging phenotypes of RV dysfunction related to acute vs. chronic stress
- Outline a goal-oriented approach to RV assessment to guide clinical management in the OR

10:40 **Q&A**

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



11:15 Session 2 Minimally Invasive & Videoscopic Valve Surgery

Curator & Moderator: *Elmari Neethling*

11:20 Piroze Davierwala – **Minimally Invasive Mitral Valve Repair: Surgical Set-up, Assessment, Decision Making & Repair**

- *Describe the key surgical steps and significant decision points in minimally invasive mitral valve repair*
- *Explain the use of TEE finding in decision making in minimally invasive mitral valve repair.*

11:45 Elmari Neethling – **Anesthesia for Minimally Invasive Cardiac Surgery: Key Difference**

- *Describe specific pre-operative assessment considerations for minimally invasive cardiac surgery*
- *Demonstrate the intra-operative anesthesia set-up and important safety considerations specific to MIS*
- *Demonstrate the integration of hemodynamic and TEE findings in monitoring and point-of-care decision making in MIS*

12:10 Massimiliano Meineri – **Echocardiographic Assessment of Minimally Invasive Mitral Valve Repair**

- *Describe the utility of intraoperative TEE in minimally invasive mitral valve repair.*
- *Outline a structured approach for MV assessment repair, highlighting specific measurements for MIS techniques*
- *Explain the use of TEE to detect unexpected intraoperative complications requiring immediate remedy in minimally invasive mitral valve repair.*

12:35 Yannis Amador, Massimiliano Meineri – **Difficult Cases: Interactive Panel**

- *Illustrate the use of intraoperative TEE for decision making in MIS MV repair*
- *Describe common complications and pitfalls of TEE assessment in this setting*
- *Illustrate the use of intraoperative TEE for decision making around management of sub-optimal repairs*

13:05 **Q&A**

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

14:00 Session 3 Echo Outside the Cardiovascular OR

Curator & Moderator: *Fabio Papa*

14:05 André Denault, Geneviève Riendeau Beaulac – **TEE use during hemodynamic instability outside the CV OR: the heart and beyond**

- *Recognise the essential role of TEE in cardiac arrest*
- *Assess key findings in unstable and hypoxic patients using TEE*
- *Examine key findings in unstable patients using extra-cardiac TEE*

14:30 Cristian Arzola – **POCUS for management of emergencies L&D**

- *Discuss the essential role of POCUS during hemodynamic resuscitation of obstetrics patients*
- *Recognize key findings in unstable and hypoxic patients using POCUS*
- *Assess key findings in obstetric unstable patients using extra-cardiac POCUS*

14:55 Fabricio Zasso – **POCUS for Airway Management**

- *Describe the essential role of POCUS in airway management*
- *Recognize key findings during airway assessment using POCUS*
- *Identify the basic description of the ultrasonography of the airway*

15:20 Alberto Goffi – **POCUS use during hemodynamic instability outside the OR: the heart and beyond**

- *Describe the essential role of trans-thoracic POCUS in cardiac arrest*
- *Identify key findings in unstable and hypoxic patients using POCUS*
- *Assess key findings in unstable patients using extra-cardiac POCUS*

15:45 Fabio Papa – **POCUS Cases and Q&A**

16:15 Day 1 Debrief: Open Discussion

16:15-16:45 Open discussion with audience, organizers and available faculty

Day 2: Sunday, October 30

8:45 Session 4 The Dilated Aorta & Aortic Insufficiency

Curator: Ilya Lembrikov, Azad Mashari

Moderator: Jennifer Chung

8:55 Alex Gregory – **Not just a tube: The biomechanics of the aorta in the setting of aortic valve dysfunction**

- Summarize the material and mechanical properties of the thoracic aorta in healthy individuals.
- Describe pathophysiologic changes in thoracic aortic aneurysms and their related effects on aortic biomechanics.
- Outline the invasive and non-invasive techniques for studying aortic biomechanics.
- Discuss the relevance of altered aortic biomechanics in perioperative and critical care management.

9:20 Annette Vegas – **Update on the Bicuspid Valve: Imaging and Surgical Management**

- Describe International consensus statement on nomenclature and classification of the congenital bicuspid aortic valve and its aortopathy, for clinical, surgical, and interventional purposes.
- Explain the key anatomic factors that determine success of BAV repair
- Discuss the recent updates in BAV repair and outcomes

9:45 Hans-Joachim Schäfers – **From failure to concept: The evolution of Aortic Valve Evaluation & Repair**

- Discuss the history of aortic valve repair, highlighting key challenges, landmark achievements and current obstacles to increasing access to this procedure
- Describe the surgical geometry of the aortic valve complex and how common congenital and acquired morphological abnormalities lead to insufficiency
- Explain the contribution of the key parameters measured in perioperative imaging to surgical decision-making

10:20 Q&A

10:30 Aidan Sharkey – **AV repair and dilated aorta: Interactive Case Panel**

- Demonstrate the use of perioperative TEE to assess need for and feasibility of AV repair chronic aortic dilation.
- Describe the key prognostic factors for AV repair success in tricuspid and bicuspid aortic valves with aortic dilation
- Demonstrate and explain the integration of perioperative TEE information with other imaging modalities and measurements for clinical decision making in AV repair.

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

11:15 Session 5 Translation: Improving Access, Improving Outcomes

Curator & Moderator: Azad Mashari

11:25 Michael Kirlew – **Why Does Acute Rheumatic Fever Have a 75 times higher incidence in Indigenous Communities on Turtle Island? What is the Impact?**

- Describe the burden of acute rheumatic fever in indigenous and remote communities on Turtle Island
- Explain the role of poor housing and other social determinants of health in contributing to the disease burden
- Describe the current state of access to cardiac diagnostic services and discuss their potential benefit in ensuring optimal outcomes for the patients affected
- Discuss the responsibility of acute care physicians to advocate not only for improved diagnosis and treatment but also prevention and addressing the underlying social determinants

11:50 Nicholas Grubic – **Remote Support Interventions to Improve Access to Ultrasound Services in Remote Communities: Barriers, Achievements, and Future Directions**

- Identify barriers to access to ultrasound services and education in remote communities.

- Compare the features, workflow, and feasibility of various types of remote support interventions that have been used to deliver ultrasound services.
- Understand the ARCTICA program model and evaluate preliminary findings in two Canadian communities.

12:15 **Q&A**

12:30 **LUNCH (45 min)**

13:15 Session 6 State-of-the-Art on Echo Fundamentals

Curator & Moderator: Marcus Salvatori

13:20 Raffael Zamper – **Transesophageal Echocardiography in Patients Undergoing Coronary Artery Bypass Graft Surgery**

- Review the evidence of use of trans-esophageal echocardiography in Coronary Artery Bypass Graft surgery.
- Discuss the methodology and present the results of the study.
- Present two clinical cases when TEE changed the surgical approach in surgeries of CABG

13:45 Feroze Mahmood – **The Best Papers I Read This Year**

- Highlight some important, practice relevant new developments published in the past year.
- Critically discuss the application of these findings to day-to-day perioperative echocardiography practice.

14:10 Wendy Tsang – **AI and ML for automation of chamber quantification and other common measurements**

- Describe the state-of-the art in automation of chamber quantification and other routine measurements in clinical echocardiography
- Explain the potential benefits and pitfall of this technology
- Discuss the extent of and barriers to translating this technology into bedside practice
- Discuss standardized methods to evaluate artificial intelligence studies in a systematic fashion.

14:35 Sankalp Sehgal – **Structural Heart Disease Interventions: New Lessons on Not-so-new Procedures**

- Critically discuss recent evidence (past 2-3 years) on the efficacy and medium-long term outcomes of the most common SHD interventions.
- Describe our current understanding of the indications and patient populations that appear to benefit
- Discuss the relevance of indication creep and the correspondence between the populations included in major trials and those actually being treated
- Recognize the ASE Structural Heart Intervention Guideline

15:00-15:15 **Q&A**

15:15 Marcus Salvatori and Annette Vegas – **Echo Jeopardy**

- Review common high-yield topics in PTE
- Highlight some rare but important PTE findings

15:45 Fabio Papa, Azad Mashari – **Presentation of Jorge Cruz Award and Closing Remarks**

16:00 **Adjournment**

16:05 Symposium Debrief: Open Discussion

16:05-16:30 Open discussion with audience, organizers and available faculty