

CONGENITAL CARDIAC ANESTHESIA SOCIETY

CCAS 2025 Annual Meeting

March 27, 2025

Orlando, FL

WEDNESDAY, MARCH 26, 2025

PBLD and Roundtable Discussions with Wine & Cheese

6:00 PM – 7:00 PM

PBLD 1: The Fine Line: Balancing Advanced Anticoagulation Strategies in Pediatric Cardiac Surgery

Anila B. Elliott, MD; Kirsten Groody, MD

*Objectives:**Upon completion of this PBLD, the participant will be able to:*

- * Review the mechanisms of action of the most utilized anticoagulants used in pediatric cardiac surgery patients.
- * Discuss the diagnosis of heparin-induced thrombocytopenia (HIT) and implications for patients undergoing cardiac surgery.
- * Delineate considerations for maintenance anticoagulation for patients with various percutaneous mechanical circulatory support (p-MCS) devices in place.
- * Discuss transition from maintenance anticoagulation to intra-operative anticoagulation in patients with mechanical circulatory support devices.
- * Review rotational thromboelastometry (ROTEM) and thromboelastogram (TEG) and utilization in the peri-operative period.

6:00 PM – 7:00 PM

PBLD 2: Singing the Blues: Cyanosis, Sickle Cell Disease, Cardiopulmonary Bypass and Staged-Palliations

Destiny F. Chau, MD; Meera Gangadharan, MBBS, FAAP

*Objectives:**Upon completion of this PBLD, the participant will be able to:*

- * Describe the pathophysiology of sickle cell disease and its implications during cardiopulmonary bypass (CPB).
- * Discuss the ramifications of adding cyanotic heart disease to sickle cell disease and their anesthetic considerations.
- * Explain the protective mechanisms against vaso-occlusive crisis during the first few months of life.
- * Formulate strategies to minimize red blood cell sickling during cardiopulmonary bypass.

6:00 PM – 7:00 PM

PBLD 3: Lightning Strikes Twice: Tumor and Tet Spells

Erin A. Gottlieb, MD; Jamie Sinton, MD

*Objectives:**Upon completion of this PBLD, the participant will be able to:*

- * Triage the order of operations: cardiac or noncardiac condition should receive surgical palliation first.
- * List anesthetic considerations for simultaneous total intravenous anesthesia (TIVA), indwelling EVD and Blalock-Taussig-Thomas shunt (BTTS) physiology.
- * Debate ethical considerations in cancer treatment for children with palliated heart disease.

6:00 PM – 7:00 PM

PBLD 4: Navigating Complex Neonatal Challenges: The Art of Weaning from CPB! (OFFERED IN SPANISH!)

Montserrat Fontanals, MD; Pablo Motta, MD

*Objectives:**Upon completion of this PBLD, the participant will be able to:*

- * Grasp the anatomical and physiological challenges of Tetralogy of Fallot (ToF) with an absent pulmonary valve, focusing on airway issues.
- * Master preoperative strategies, including ventilation, for absent pulmonary valve syndrome.
- * Explore intraoperative findings and critical techniques for surgical repair.
- * Navigate the weaning process from cardiopulmonary bypass in complex heart repairs, including the need for mechanical circulation.
- * Tackle postoperative care and recognize potential complications.

6:00 PM – 7:00 PM

PBLD 5: Bigger is Not Always Better: New Valves Present Different Challenges When Replacing a Child's Mitral Valve

Mali Hetmaniuk, MD; Susan C. Nicolson, MD

*Objectives:**Upon completion of this PBLD, the participant will be able to:*

- * Anticipate the changing demographics and associated risks of patient population with surgical innovation.
- * Escalate diagnostic work-up when complications arise during surgery.
- * Understand considerations of intraoperative transfers of hemodynamically unstable patients.

6:00 PM – 7:00 PM

RTD 1: Sedation Versus General Anesthesia for Cardiac Catheterization in Infant

Wenyu Bai, MD; Morgan L. Brown, MD, PhD

Objectives:
Upon completion of this Round Table Discussion, the participant will be able to:
** Examine catheterization and procedure risks in pediatric cardiac catheterization laboratory, specifically focused on infants.*
** Discuss common and uncommon perioperative adverse events and develop risks mitigation strategies including using checklists.*
** Compare the pro and cons of sedation vs general anesthesia and formulate optimal anesthetic technique for infants undergoing cardiac catheterization.*

6:00 PM – 7:00 PM

RTD 2: Use of Regional Anesthesia in Pediatric Cardiac Surgery
Alexander C. Mittnacht, MD; Emad B. Mossad, MD

Objectives:
Upon completion of this Round Table Discussion, the participant will be able to:
** Review the most common regional techniques for pediatric and adult patients undergoing surgical repair of congenital heart defects.*
** Examine the risks and benefits of various techniques and medications used.*
** Discuss the clinical impact of regional anesthesia on the perioperative care.*

6:00 PM – 7:00 PM

RTD 3: It's Just an MRI: A Pediatric Cardiac Mass and the Trials and Tribulations of an Increasingly More Common Imaging Modality
Stephanie N. Grant, MD; Carl L. McMullen, DO; Kristin L. Richards, MD; Morgan Ulloa, MD

Objectives:
Upon completion of this Round Table Discussion, the participant will be able to:
** Discuss the anesthetic challenges of caring for congenital heart disease patients undergoing cardiac MRI.*
** Describe which patient populations necessitate post operative admission after non invasive imaging under general anesthesia.*
** Describe the increased use of cardiac MRI's and benefits of this imaging technique in the pediatric population.*
** Discuss perioperative anesthetic plans for patients with cardiac dysfunction.*
** Discuss the MRI environment and steps needed during cardiac events during an MRI.*

THURSDAY, MARCH 27, 2025

6:00 AM – 5:00 PM

Registration

BREAKFAST WITH EXHIBITORS
6:15AM - 7:15AM

7:15 AM – 7:40 AM

Welcome/Board Change/Outline of Educational Program
Nischal K. Gautam, MD; Viviane G. Nasr, MD; Luis M. Zabala, MD

Session I: The Developing Brain and Cardiac Surgery
Moderators: Rania K. Abbasi, MD; Kenneth M. Brady, MD

7:40 AM – 8:00 AM

Global Perspective on Cardiac ND Outcomes
Mike Seed, MBBS, MRCPCH, FRCR

8:00 AM – 8:20 AM

Brain Injury: Risk Stratification and Potential Targets for Mitigation
Daniel Licht, MD

Objectives:
Upon completion of this presentation, the participant will be able to:
** Provide an understanding of the types and frequency of brain injury that occur in subjects with severe forms of congenital heart disease (CHD)*
** Provide an understanding of the origins of risk for these injuries.*
** With an understanding of the risks, provide the audience with potential targets for intervention to mitigate risks.*

8:20 AM – 8:40 AM

Neuromonitoring: Past, Present, and Future
Jennifer Lynch, MD, PhD

Objectives:
Upon completion of this presentation, the participant will be able to:
** Understand the Evolution and Current State of Neuromonitoring used in Congenital Heart Disease.*
** Identify Key Insights on Cerebral Pathophysiology Already Gained through Advanced Neuromonitoring.*
** Discuss Periods of Increased Neurologic Risk in Neonates with Critical Congenital Heart Disease and the Potential Future Benefits of Advanced Neuromonitoring.*

8:40 AM – 9:00 AM

Q & A Discussion

COFFEE BREAK WITH EXHIBITORS
9:00AM - 9:30AM

Session II: Cardiac Breakthroughs: Protection, Treatment, and Imaging
Moderators: Nischal K. Gautam, MD; Wanda C. Miller-Hance, MD

9:30 AM – 10:00 AM

Arthur Keats Lecture: Myocardial Protection: Past, Present, and Future
Pedro J. del Nido, MD

10:00 AM – 10:20 AM

Emerging Therapies for Heart Failure in Pediatric Patients

Jason Maynes, MD PhD

*Objectives:**Upon completion of this presentation, the participant will be able to:*

- * Learn about current fundamental limitations to improving cardiac function in congenital heart disease.*
- * Learn about new paradigms of treatment, including the inducing endogenous cardiac repair and regeneration.*
- * Understand how precision patient phenotyping can improve patient care and pharmacological choices.*

10:20 AM – 10:40 AM

Next-Gen Cardiac Imaging for CHD Patients

Shubhika Srivastava, MD

*Objectives:**Upon completion of this presentation, the participant will be able to:*

- * Identify current and future of imaging modality applications in CHD assessment and management.*
- * Appreciate the partnership with Anesthesia team in the process of planning image acquisition.*
- * Recognize the influence and interpretation of Function indices while under anesthesia.*

10:40 AM – 11:00 AM

Q & A Discussion**Session III: Lung and Kidney Protection***Moderators: James A. DiNardo, MD; Manchula Navaratnam, MD*

11:00 AM – 11:20 AM

Newer Ventilation Strategy for Neonates Undergoing Cardiac Surgery

Devon Aganga, MD

*Objectives:**Upon completion of this presentation, the participant will be able to:*

- * Review respiratory failure in neonates with congenital heart disease.*
- * Discuss ventilator management strategies in neonates with CHD.*
- * Examine the role of extracorporeal membranous oxygenation (ECMO) for respiratory failure in neonatal CHD.*

11:20 AM – 11:40 AM

Advanced Strategies for Kidney Protection in CHD Patients

David J. Kwiatkowski, MD

*Objectives:**Upon completion of this presentation, the participant will be able to:*

- * Understand the incidence and risk factors for postoperative acute kidney injury after congenital cardiac surgery*
- * Describe the associated outcomes in a patient who develops postoperative acute kidney injury.*
- * Review methods and limitations for the monitoring of peri-operative renal function and injury.*
- * Describe peri-operative strategies for the prevention of renal injury.*
- * Describe postoperative strategies for treatment and support of renal injury or insufficiency.*

11:40 AM – 12:00 PM

Q & A Discussion**LUNCH WITH EXHIBITORS****12:00PM - 1:00PM****Session IV: Best Posters and Research Award***Moderators: Laura Downey, MD; Nina A. Guzzetta, MD; Jamie Sinton, MD*

1:00 PM – 1:40 PM

Best Posters

1:40 PM – 1:50 PM

DDH Research Award*Objectives:**Upon completion of this presentation, the participant will be able to:*

- * Discuss the latest scientific studies that are being performed in pediatric cardiac anesthesia to advance the specialty.*
- * Discuss the advantages and disadvantages of new techniques and data related to pediatric cardiac anesthesiology studies.*
- * Understand specific lessons learned from the literature as they relate to various aspects of pediatric cardiac anesthesia, including regional, cardiac and pain management.*

Session V: Ask The Presidents/Experts*Moderators: Viviane G. Nasr, MD; Luis M. Zabala, MD*

1:50 PM – 2:50 PM

Panel Discussion - Pearls, Nightmares, & Lesions I Hate

James A. DiNardo, MD; Nina A. Guzzetta, MD; Wanda C. Miller-Hance, MD; Emad B. Mossad, MD; Chandra Ramamoorthy, MBBS, FRCA; Mark D. Twite, MD, BCh

*Objectives:**Upon completion of this presentation, the participant will be able to:**1-Acquire Practical Tips and Tricks:*

- * Collect practical advice ("pearls") that the presenter has developed through experience in managing cardiac challenging situations.*

- * Discuss how to integrate these pearls into day-to-day clinical practice to improve patient outcomes*

2- Explore Case Studies:

- * Analyze real-world case studies to better understand the diagnostic and treatment challenges of cardiac lesions.
- * Draw lessons from the detailed examination of "nightmare" cases that have proven particularly difficult to resolve.

2:50 PM – 3:05 PM

Q & A Discussion**ICE CREAM BREAK WITH EXHIBITORS****3:05PM - 3:35PM****Session VI: Workshops (Optional)**

3:15 PM – 5:15 PM

WORKSHOP: Cardiac Crisis Conundrums: Navigating Complex Cardiac Scenarios through Simulation

Coordinator: Lenard Babus, MD; Lisa Caplan, MD; Reese Murray-Torres, MD

Musa Bilal, MD; Victor Mendoza, CCP, LP; Elaine K. Ng, MD, FRCPC, MSHPE; Maricarmen Roche-Rodriguez, MD; Annette Y. Schure, MD; Devika Singh, MD; Premal Trivedi, MD

*Objectives:**Upon completion of this workshop, the participant will be able to:*

- * Enhance participants' medical management of perioperative crisis scenarios for patients with congenital heart disease undergoing cardiac and non-cardiac surgery.
- * Improve teamwork, communication, and appropriate resource utilization during emergencies.
- * Increase awareness of the utility of simulation in clinical and educational avenues and grow the use of this modality at participants' home institutions.

3:15 PM – 5:15 PM

WORKSHOP: Management of Hemostasis and Coagulation for Congenital Cardiac Surgery

Coordinator: Elena Ashikhmina Swan, MD, PhD; Andrew Giustini, MD, PhD

Laura Downey, MD; Kara E. Furman, MD PhD; Eduardo Javier J. Goenaga Diaz, MD; Sherry Kim, MD

*Objectives:**Upon completion of this workshop, the participant will be able to:*

- * Review preoperative, intraoperative and post-operative optimization of hemostasis in congenital cardiac surgery patients.
- * Discuss the risk and benefits of non-red blood cell transfusions in pediatric cardiac surgery patients.
- * Discuss blood product alternatives to optimize hemostasis and minimize risk in congenital cardiac surgery patients.
- * Discuss the use of transfusion algorithms for optimizing hemostasis and reducing donor exposures in congenital cardiac surgery.
- * Demonstrate proficiency of interpreting VET and determining appropriate hemostatic treatment.

3:15 PM – 5:15 PM

WORKSHOP: When the Anesthesia Machine is No Longer Adequate: How to Effectively Use Alternative Modes of Invasive and Noninvasive Ventilation for Our Sickest Patients

Coordinator: Cori R. Banerdt, MD

Destiny F. Chau, MD; Dupree Hatch, MD; Kareen Jones, MD; Thomas J. Long, MD, FAAP; Casie Smith, BS, RRT - NPS; Brian Tinch, MD; Richard Wendorf, MD

*Objectives:**Upon completion of this workshop, the participant will be able to:*

- * Understand how to operate various ventilators and develop skills in ventilator troubleshooting and problem-solving, including identifying and resolving alarms and malfunctions.
- * Practice hands-on ventilator and respiratory modality management through case scenarios.
- * Understand when to choose one ventilation strategy over another based on the patient condition.
- * Gain confidence in providing optimal care for patients requiring invasive and noninvasive ventilation beyond the anesthesia machine.

3:15 PM – 5:15 PM

WORKSHOP: Revolutionizing Pediatric Heart Failure: Hands-On VAD Workshop

Coordinator: Erica P. Lin, MD; Pablo Motta, MD

Andres Bacigalupo Landa, MD; Ingrid Moreno Duarte, MD, FASE; David Preston, DO; Ashraf Resheidat, MD

*Objectives:**Upon completion of this workshop, the participant will be able to:*

- * Identify various forms of VAD support utilized in the pediatric patient population.
- * Understand the difference between ECMO and VAD physiology.
- * Explain the transition from CPB to VAD support.
- * Discuss the use of echocardiography to optimize VAD function.
- * Review the caveats on the management of VAD patients for non-cardiac procedures.

3:15 PM – 5:15 PM

WORKSHOP: Regional Anesthesia for Cardiac Surgery

Coordinator: Chris Denny, MD

Walid Alrayashi, MD; Michael A. Evans, MD, FAAP, FASA; Carine Foz, MD; John G. Hagen, MD, MBA, FAAP, FASA; Deepa Kattail, MD; Alexander C. Mitnacht, MD; Zoel Quinonez, MD; Lauren Smith, MD; Kevin Spellman, MD; Karla Wyatt-Thompson, MD, MS

*Objectives:**Upon completion of this workshop, the participant will be able to:*

- * Introduce different regional techniques including relevant innervation and anatomy currently in use for congenital cardiac surgery.
- * Define relevant anatomy for various truncal blocks using ultrasound.
- * Provide hands-on education on optimizing ultrasound views and tips on patient positioning and approach to various truncal blocks.

Session VII: Back to Basics: Revisiting Landmark Trials*Moderators: Zhe Amy Fang, MD, MPH; Chandra Ramamoorthy, MBBS, FRCA*

3:35 PM – 3:55 PM

Landmark Papers - The SVR trial

Katherine L. Zaleski, MD

*Objectives:**Upon completion of this presentation, the participant will be able to:*

- * Review the SVR trial.*
- * Appreciate the historical significance of the SVR trial.*
- * Present follow-up studies using the SVR trial data set.*

3:55 PM – 4:15 PM

Landmark Papers - The PRIMACORP Study

Edmund Jooste, MB, ChB

*Objectives:**Upon completion of this presentation, the participant will be able to:*

- * Describe how practice changed initially after the PRIMACORP study.*
- * Describe whether those practice changes have been sustained.*
- * Understand current prevention and treatment options for low cardiac output syndrome.*

4:15 PM – 4:35 PM

Bloodless Neonatal Cardiac Surgery

Gregory J. Latham, MD

*Objectives:**Upon completion of this presentation, the participant will be able to:*

- * Appreciate the iterative development of a neonatal bloodless surgical program.*
- * Identify benefits and barriers to maintaining a transfusion-free perioperative period.*
- * Understand the anesthesiologist's role in supporting a bloodless neonatal surgical program.*

4:35 PM – 5:00 PM

Q & A Discussion**Session IX: Professor Poster Rounds**

5:15 PM – 6:30 PM

Professor Poster Rounds**CCAS 20th Anniversary Reception****6:30PM - 8:00PM**