



APRIL 2, 2019 • 7:55 AM – 5:15 PM

*Pacifica 1-2, Loews Royal Pacific Hotel
Orlando, FL, USA*

SCIENTIFIC PROGRAM CHAIRS

CHAIR: Ryan Butts, MD, University of Texas Southwestern, Dallas, TX, USA

CO-CHAIR: Heather Henderson, MD, Medical University of South Carolina, Charleston, SC, USA

SCIENTIFIC PROGRAM COMMITTEE

Rachel Andrews, FRCPCH, Great Ormond Street Hospital for Children, London, UK

Jennifer Conway, MD, University of Alberta/Stollery Children's Hospital, Edmonton, AB, Canada

Claire Irving, FRACP, MD, Children's Hospital West Mead, Sydney, Australia

Joseph Rossano, MD, Children's Hospital of Philadelphia, Philadelphia, PA, USA

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Rachel Andrews, FRCPCH, Great Ormond Street Hospital for Children, London, UK

Michael P. Carboni, MD, Duke Children's Hospital, Durham, NC, USA

Jennifer Conway, MD, Stollery Children's Hospital, University of Alberta, Edmonton, AB, Canada

Anne Dipchand, MD, Hospital for Sick Children, Toronto, ON, Canada

Claire Irving, FRACP, MD, Children's Hospital Westmead, Sydney, Australia

Robert Jaquiss, MD, Duke Children's Heart Center, Durham, NC, USA

Paul F. Kantor, MBBCh, FRCP, Stollery Children's Hospital, University of Alberta, Edmonton, AB, Canada

Richard Kirk, FRCP, FRCPCH, University of Texas Southwestern Medical Center, Dallas, TX, USA

Jodie Lantz, MSN, RN, PCNSBC, Children's Health Dallas, Dallas, TX, USA

Jack F. Price, MD, Texas Children's Hospital, Houston, TX, USA

Joseph Rossano, MD, Children's Hospital of Philadelphia, Philadelphia, PA, USA

Leonardo Salazar, MD, Fundacion Cardiovascular de Colombia, Floridablanca, Colombia

Robert Shaddy, MD, Children's Hospital, Philadelphia PA, USA

Jeffrey Towbin, MD, Le Bonheur Children's Hospital, Memphis, TN, USA



COURSE SUMMARY

This course is designed for pediatric cardiologists, early career professionals and advance practice nurses with an interest in pediatric heart failure. Each section is designed with focused, didactic lectures followed by an interactive Q&A. The course will start by covering general topics of pediatric heart failure – epidemiology, pathophysiology and etiology of pediatric heart failure. The course will then move to the diagnostic approach and medical management of pediatric heart failure, including a section on acute decompensated heart failure. The course will then cover the topics of a multi-disciplinary approach to heart failure as well as activity restrictions, precautions and the management of co-morbidities. Next, the timing and outcomes of advanced heart failure therapies will be discussed. The course will conclude with a discussion on unique patient populations (including heart failure in congenital heart disease) as well as future directions of heart failure therapies and research topics to progress the field of pediatric heart failure.

Educational Goals

The educational goals of this activity are to provide a concise review of clinical knowledge and essential professional skills to facilitate the development of core skills, diagnostic approach and management interventions to provide comprehensive care to pediatric heart failure patients.

Target Audience

While all members are invited to enroll, this course is primarily designed to be of benefit for clinicians and allied health professionals who are in the early stages of their careers, or who 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 pediatric heart failure, rather than as a detailed update for those who are already proficient experts in the field.

Learning Objectives

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

1. Discuss the different etiologies, natural history, pathophysiology and prognosis of pediatric heart failure.
2. Understand diagnostic approaches and therapies for acute and chronic heart failure.
3. Recognize challenges, co-morbidities, and complications in the multidisciplinary care of pediatric heart failure.

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 7.50 *AMA PRA Category 1 Credits*.™ Physicians should claim only the credit commensurate with the extent of their participation in the activity.

ANCC, ABTC, ACPE Credit

Credits in categories will be applied for as appropriate.

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

7:00 AM – 7:55 AM

REGISTRATION AND MORNING COFFEE

7:55 AM – 8:00 AM

WELCOME AND OVERVIEW

Ryan Butts, MD, University of Texas Southwestern, Dallas, TX, USA

8:00 AM – 9:00 AM

SESSION 1 – Defining The Problem: Pediatric Heart Failure

CHAIR: Rachel Andrews, FRCPC

8:00 AM *What is Heart Failure & Who Gets It? Definitions, Etiologies and Natural History*

Joseph Rossano, MD, Children's Hospital of Philadelphia, Philadelphia, PA, USA

Teaching/Discussion Points

1. Define heart failure.
2. Give an overview of conditions involving heart failure: primary & secondary cardiomyopathies, congenital & acquired forms of heart disease.
3. Review the incidence, presentation and natural history of pediatric heart failure.

8:15 AM *Symptoms, Signs & Staging of Pediatric Heart Failure*

Ryan Butts, MD, University of Texas Southwestern, Dallas, TX, USA

Teaching/Discussion Points

1. Describe the clinical symptoms of heart failure in different age groups.
2. Describe the clinical signs of heart failure in different age groups.
3. Review the scoring systems to assess disease severity.
4. Understand the implications for prognosis.

8:30 AM *Cellular and Genetic Basis of Pediatric Heart Failure*

Jeffrey Towbin, MD, Le Bonheur Children's Hospital, Memphis, TN, USA

Teaching/Discussion Points

1. Describe myocyte structure and contractility.
2. Describe cellular pathology in systolic and diastolic heart failure.
3. Review what we know of the genetic basis of different types of cardiomyopathy.
4. Discuss the limitations of current knowledge, including genotype/phenotype variability.

8:45 AM *Q&A with Panel*

9:00 AM – 10:00 AM

SESSION 2 – Diagnosis and Testing in Pediatric Heart Failure

CHAIR: Jennifer Conway, MD

9:00 AM *What Can Laboratory Values Tell Me about My Patient in Heart Failure?*

Claire Irving, FRACP, MD, Children's Hospital Westmead, Sydney, Australia

Teaching/Discussion Points

1. Review the role and implication of standard laboratory testing in heart failure (ex: hyponatremia, anemia).
2. Understand the various ways to monitor end organ function.
3. Review the role of B-type Natriuretic Peptide (chemistry, role in heart failure).
4. Discuss the laboratory testing that can be utilized at initial diagnosis and during follow-up.



9:15 AM *What Imaging Should I Do in My Patient with Heart Failure?*

Paul F. Kantor, MBBCh, FRCPC, Stollery Children's Hospital, University of Alberta, Edmonton, AB, Canada

Teaching/Discussion Points

1. Understand available modalities for the diagnostic evaluation of children with newly discovered heart failure and during follow-up.
2. Understand the prognostic implications of echo findings in heart failure.
3. Understand the prognostic implications of MRI findings in heart failure.

9:30 AM *What Testing is Useful in the Follow-up of Patients with Heart Failure?*

Heather T. Henderson, MD, Medical University of South Carolina, Charleston, SC, USA

Teaching/Discussion Points

1. Understand the monitoring of chronic heart failure and the role of diagnostic and functional testing in care of children with significant systolic and/or diastolic cardiac dysfunction including:
 - a. Exercise testing.
 - b. Cardiac catheterization.
 - c. Other ancillary testing (sleep studies, 6 minute walk test, holters/event monitors).

9:45 AM *Q&A with Panel*

10:00 AM – 10:30 AM

COFFEE BREAK

10:30 AM – 11:30 AM

SESSION 3 – Acute Heart Failure in Pediatrics

CHAIR: Ryan Butts, MD

10:30 AM *Diagnosing and Managing Acute Decompensated Heart Failure*

Joseph Rossano, MD, Children's Hospital of Philadelphia, Philadelphia, PA, USA

Teaching/Discussion Points

1. Identify key vasoactive medications, utilization and management in acute heart failure.
2. Discuss invasive and non-invasive mechanical ventilation strategies in acute decompensated heart failure.
3. Discuss co-morbidities including acute kidney injury and liver injury and their management in acute decompensated heart failure.

10:45 AM *Using Mechanical Circulatory Support in Acute Decompensated Heart Failure*

Robert Jaquiss, MD, Duke Children's Heart Center, Durham, NC, USA

Teaching/Discussion Points

1. Discuss patient selection and timing of mechanical circulatory support.
2. Discuss device selection including temporary VADs v. ECMO in acute decompensated heart failure.
3. Discuss management of mechanical circulatory support.
4. Discuss removal of mechanical circulatory support in acute heart failure for recovery or withdrawal of care.

11:00 AM *Myocarditis: More than just Whether or Not to Give IVIG – Case Presentation*

Leonardo Salazar, MD, Fundacion Cardiovascular de Colombia, Floridablanca, Colombia

Teaching/Discussion Points

1. Identify signs and symptoms of acute myocarditis in different age groups.
2. Discuss diagnostic modalities (strengths and weaknesses).
3. Discuss supportive strategies to address acute heart failure in acute myocarditis.
4. Discuss literature and utilization of IVIG and other immunomodulatory therapies in acute myocarditis.

11:15 AM *Q&A with Panel*

11:30 AM – 12:30 PM

LUNCH/NETWORKING BREAK (a box lunch is included in the registration fee)

12:30 PM – 1:45 PM

SESSION 4 – Chronic Heart Failure in Pediatrics

CHAIR: Claire Irving, FRACP, MD

12:30 PM *The Multidisciplinary Approach to Heart Failure Management*

Jodie Lantz, MSN, RN, PCNSBC, Children's Health Dallas, Dallas, TX, USA

Teaching/Discussion Points

1. Discuss the importance of a multidisciplinary team approach to the provision of comprehensive pediatric heart failure care.
2. Review the important members of the team caring for pediatric heart failure patients and discuss their roles.
3. Discuss transition from pediatric to adult care for patients with chronic heart failure.



12:45 PM *Medications for Chronic Heart Failure*

Rachel Andrews, FRCPCH, Great Ormond Street Hospital for Children, London, UK

Teaching/Discussion Points

1. Review current available medications for use in pediatric heart failure.
2. Discuss how these medications target the various steps in the pathogenesis of heart failure.
3. Discuss choice of medications and review how various combinations of medical therapies may be used.
4. Review significant adverse effects and possible contraindications of medications used in pediatric heart failure.
5. Discuss differences in metabolism and pharmacokinetics in children compared to adults.

1:00 PM *Recognizing and Managing Comorbidities*

Jack F. Price, MD, Texas Children's Hospital, Houston, TX, USA

Teaching/Discussion Points

1. Discuss the pathophysiology of the co-morbidities frequently found with pediatric heart failure.
2. Review the monitoring and investigations that should be carried out for early detection of co-morbidities.
3. Review the best treatment options for these medical co-morbidities to maximize outcomes.

1:15 PM *Promotion of Healthy Lifestyle*

Anne Dipchand, MD, Hospital for Sick Children, Toronto, ON, Canada

Teaching/Discussion Points

1. Discuss the importance of lifestyle factors in the management of chronic heart failure.
2. Review recommendations and potential restrictions with regard to exercise.
3. Review the role of nutrition in patients with chronic heart failure.

1:30 PM *Q&A with Panel*

1:45 PM – 2:45 PM

SESSION 5 – Advanced Heart Failure Therapies

CHAIR: Heather T. Henderson, MD

1:45 PM *Arrhythmia's, Pacers, ICD's and CRT*

Michael P. Carboni, MD, Duke Children's Hospital, Durham, NC, USA

Teaching/Discussion Points

1. Describe the most common arrhythmias encountered in pediatric heart failure patients and their treatments.
2. Review the role of pacemakers in pediatric heart failure including the use of resynchronization therapy.
3. Describe the use of implantable defibrillators in pediatric heart failure.

2:00 PM *Advanced Circulatory Support*

Jennifer Conway, MD, Stollery Children's Hospital, University of Alberta, Edmonton, AB, Canada

Teaching/Discussion Points

1. Understand the role for long term inotrope use both in the hospital and at home as bridge to transplant or in palliation.
2. Review the use of pulmonary artery banding in pediatric dilated cardiomyopathy to improve function/symptoms.
3. Discuss the use of durable ventricular assist devices as bridge to transplant vs destination therapy.

2:15 PM *When is it Time to Talk Transplant?*

Richard Kirk, FRCP, FRCPCH, University of Texas Southwestern Medical Center, Dallas, TX, USA

Teaching/Discussion Points

1. Review indications and evaluation for heart transplantation.
2. Discuss important contraindications, relative and absolute to transplantation.
3. Understand management of the heart failure patient on the wait-list.

2:30 PM *Q&A with Panel*

2:45 PM – 3:15 PM

COFFEE BREAK



2:45 PM – 3:15 PM

SESSION 6 – Unique Patient Populations

CHAIR: Heather T. Henderson, MD

3:15 PM *Managing Chemotherapy-Induced Cardiomyopathy*

Rachel Andrews, FRCPCH, Great Ormond Street Hospital for Children, London, UK

Teaching/Discussion Points

1. Review risk factors for chemotherapy induced cardiomyopathy.
2. Describe treatment strategies and ways to possibly prevent chemotherapy induced cardiomyopathy.
3. Review barriers to long term survival and transplantation.

3:30 PM *Managing Neuromuscular Cardiomyopathy*

Claire Irving, FRACP, MD, Children’s Hospital Westmead, Sydney, Australia

Teaching/Discussion Points

1. Understand which neuromuscular disorders carry the highest risk for cardiomyopathy.
2. Review diagnostic evaluation and treatment strategies for neuromuscular patients.
3. Describe the role for advanced therapies in neuromuscular cardiomyopathy.

3:45 PM *Heart Failure in the Single Ventricle Patient*

Jennifer Conway, MD, Stollery Children’s Hospital, University of Alberta, Edmonton, AB, Canada

Teaching/Discussion Points

1. Review the limitations in traditional heart failure therapies in single ventricle patients.
2. Describe the challenges of long term circulatory support as bridge to transplant.
3. Understand failing Fontan physiology and transplant candidacy.

4:00 PM *Q&A with Panel*

4:45 PM – 5:15 PM

SESSION 7 – DEBATE: Future Directions and Research in Pediatric Heart Failure: Registry vs Randomized Control Trials

CHAIR: Joseph Rossano, MD

4:15 PM *Randomized Trials in Pediatric Heart Failure and Why We Need Them*

Robert Shaddy, MD, Children’s Hospital, Philadelphia, PA, USA

Teaching/Discussion Points

1. Discuss rationale / importance of randomized trials.
2. Discuss limitations of observational studies.
3. Describe recent and ongoing randomized trials.

4:25 PM *Research from Registries in Heart Failure and Why We Need Them*

Anne Dipchand, MD, Hospital for Sick Children, Toronto, ON, Canada

Teaching/Discussion Points

1. Discuss rationale / importance of observational and registries.
2. Discuss limitations of randomized trials.
3. Describe going registries for pediatric heart failure.

4:35 PM *Rebuttal*

Robert Shaddy, MD, Children’s Hospital, Philadelphia, PA, USA

4:40 PM *Rebuttal*

Anne Dipchand, MD, Hospital for Sick Children, Toronto, ON, Canada

4:45 PM *Q&A with Panel*

5:15 PM *Summary/Evaluation*

Heather T. Henderson, MD, Medical University of South Carolina, Charleston, SC, USA

5:15 PM *Adjourn*