



14th Annual Master Class in Congenital Cardiac Morphology *Tetralogy of Fallot*

Saturday, Dec. 10, 2022 from 9:00 a.m. to 3:30 p.m.

Presented by UPMC Children's Hospital of Pittsburgh, the Heart Institute at UPMC Children's, the UPMC Center for Continuing Education in the Health Sciences, and the Congenital Heart Academy



A virtual educational experience via Zoom.

Welcome:

We are excited to host the 14th Annual Master Class in Congenital Cardiac Morphology at UPMC Children's Hospital of Pittsburgh.

Many individuals were instrumental in bringing this course to fruition. First, we would like to thank all the faculty who are giving presentations during the course. We are particularly appreciative of our visiting professors, especially Professor Robert Anderson and Diane Spicer, BS, for their precious contributions as guest faculty. We would also like to express our gratitude to the UPMC Children's Department of Pathology for their collaboration making the unique heart specimens from the Frank E. Sherman and Cora C. Lenox Heart Museum available for the course. In addition, we are most grateful to Mr. Bill Devine, ex curator of the Heart Museum, for his expertise and dedication to the Heart Institute's educational mission. Drew Berkhoudt and Angie Kinnunen have been a tremendous help organizing this event and we are thankful for their support. We are also appreciative of James Ferris from Massive Media for his skill and dedication to this virtual Master Class.

This educational event is generously sponsored by the Heart Institute at UPMC Children's.

Thank you for your participation in this meeting and we look forward to seeing you at our next annual Mater Class!

Introduction:

This year's Master Class will focus on Tetralogy of Fallot with pulmonary stenosis. A true understanding of the morphologic components of this anatomy is essential to correct interpretation of diagnostic testing, and ultimately high-quality treatment to assure optimal outcomes. With a focus on morphology, we will explore approaches to non-invasive imaging, pre and postoperative, as well as management algorithms. In this single full-day comprehensive course, we will focus on the morphological aspects that dictate therapeutic approaches. Thus, we will commence with a discussion of development, provided by Professor Anderson on the basis of his ongoing research into the developing human and murine heart, continue with a didactic pathology presentation by Diane Spicer, followed by a video demonstration of

autopsy specimens from the Frank E. Sherman and Cora C. Lenox Heart Museum by Bill Devine (retired curator for the museum). We will cover fetal diagnosis and echo imaging and further explore cross-sectional imaging. Controversies on the use of interventional therapies including transcatheter palliative approaches versus surgical interventions will be discussed. Surgical repair perspectives will be presented as well followed by postoperative ICU care. We will expand on postoperative imaging as well as transcatheter therapies, and explore aspects of long-term care, including electrophysiology and long-term outcomes. The session will include a review of novel research approaches to possibly impact the incidence of late right ventricular failure through myocardial regeneration, presented by Bernhard Kuhn, MD. Our expectations are that this be an interactive class, with discussion and audience participation in the Q&A section.

We are grateful to the many individuals that brought this course to fruition, to the Congenital Heart Academy for supporting its worldwide transmission, and to all the participating faculty and attendees.

Robert H. Anderson, Jackie Kreutzer, and Victor Morell.

Learning Objectives:

- Review of the morphology of Tetralogy of Fallot
- Review of Diagnostic Modalities
- Explore interventional treatment options
- Increase awareness of observed clinical outcomes for TOF patients across global Centers of Excellence
- Understanding the value of subspecialty expertise for this patient population
- Introduce concepts of stem cell myocardial regeneration for TOF

Target Audience:

This master class is designed for Pediatric and Adult Cardiologists, Pediatric and Adult Cardiac Surgeons, Physician Assistants, Nurse Practitioners, Nurses, Sonographers, Pathologists, Pathology Assistants, Cardiac Morphologists, Perfusionists, and other professionals interested in congenital heart disease.

Continuing Medical Education:

In support of improving patient care, the University of Pittsburgh is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Physician (CME)

The University of Pittsburgh designates this live activity for a maximum of 6.0 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nursing (CNE)

The maximum number of hours awarded for this Continuing Nursing Education activity is 6.0 contact hours.

Physician Assistant (AAPA)

The University of Pittsburgh has been authorized by the American Academy of PAs (AAPA) to award AAPA Category 1 CME credit for activities planned in accordance with AAPA CME Criteria. This activity is designated for 6.0 AAPA Category 1 CME credits. PAs should only claim credit commensurate with the extent of their participation.

Other health care professionals will receive a certificate of attendance confirming the number of contact hours commensurate with the extent of participation in this activity.

14th Annual Master Class in Congenital Cardiac Morphology

Tetralogy of Fallot

Saturday, Dec. 10, 2022

Live from Rangos Auditorium

Participants via Zoom

Program Agenda:

9 a.m.

WELCOME

Professor Robert H. Anderson, MD, FRCPath

Jacqueline Kreutzer, MD, FACC, FSCAI

Victor O. Morell, MD

Section I

Tetralogy of Fallot Morphology

9:10 a.m.

Embryology and Developmental Anatomy

Professor Robert H. Anderson, MD, FRCPath

9:30 a.m.

Didactic Pathology Presentation

Diane Spicer, BS, PA (ASCP)

9:50 a.m.

Video Demonstration

William Devine, BS

Section II

Tetralogy of Fallot Imaging Modalities- Preoperative

10:10 a.m.

Fetal Diagnosis

Jacqueline Weinberg, MD

10:30 a.m.

Echocardiography: Preoperative

Lizabeth Lanford, MD

10:50 a.m.

Cross-sectional Imaging: Preoperative

Adam Christopher, MD

11:10 a.m.

The Future of Tetralogy of Fallot Management: Myocardial Regeneration

Bernhard Kuhn, MD

11:30 a.m.

Tetralogy of Fallot Imaging Modalities: Discussion Panel

Moderator: Tarek Alsaied, MD

11:50 a.m.

BREAK/LUNCH

Section III

Tetralogy of Fallot Interventional Therapies

- 12:20 p.m.** **Role of Cardiac Catheterization in the Preoperative Management of Tetralogy of Fallot**
Bryan H. Goldstein, MD
- 12:40 p.m.** **Surgical Options for Management of Tetralogy of Fallot**
Victor O. Morell, MD
- 1 p.m.** **CICU Care in TOF**
Justin Yeh, MD
- 1:20 p.m.** **Tetralogy of Fallot Invasive Interventions: Discussion Panel**
Moderator: Jacqueline Kreutzer, MD, FACC, FSCAI
- 1:40 p.m.** **Break**
- Section IV** **Sub-Specialty Enhancement of Tetralogy of Fallot Management- Postoperative**
- 1:50 p.m.** **Cross Sectional Imaging: Postoperative**
Laura Olivieri, MD
- 2:10 p.m.** **Transcatheter Interventional Therapies**
Sara Trucco, MD
- 2:30 p.m.** **The Role of Electrophysiology in Tetralogy of Fallot Management**
Gaurav Arora, MD
- 2:50 p.m.** **Adult Congenital Heart Disease and Tetralogy of Fallot- Late Outcomes**
Arvind Hoskoppal, MD
- 3:10 p.m.** **Tetralogy of Fallot Management: Discussion Panel**
Moderator: Tarek Alsaied, MD
- 3:30 p.m.** **Adjournment**

Course Directors:

Professor Robert H. Anderson, MD, FRCPath
Visiting Professor, Institute of Genetic Medicine
Newcastle University
Newcastle-upon-Tyne, United Kingdom

Jacqueline Kreutzer, MD, FACC, FSCAI
Professor of Pediatrics
Peter and Ada Rossin Endowed Chair in
Pediatric Cardiology
Division Chief, Pediatric Cardiology
Co-Director, Heart Institute at UPMC Children's
Hospital of Pittsburgh
UPMC Children's Hospital of Pittsburgh
Pittsburgh, Pennsylvania

Victor O. Morell, MD
Eugene S. Wiener Endowed Professor and Chair
of Pediatric Cardiothoracic Surgery
Surgeon-In-Chief, UPMC Children's Hospital of
Pittsburgh
Vice Chair & Director of Cardiovascular Services,
Dept. CT Surgery
Executive Director, UPMC Heart & Vascular
Institute
Co-Director, Heart Institute
UPMC Children's Hospital of Pittsburgh
Pittsburgh, Pennsylvania

Course Coordinator:

Katie Scollon, MPAS, PA-C
Director, Pediatrics Heart and Vascular Services
UPMC Children's Hospital of Pittsburgh
Pittsburgh, Pennsylvania

Faculty:

Tarek Alsaied, MD, FACC, MSc
Assistant Professor of Pediatrics
University of Pittsburgh School of Medicine
Advanced Cardiac Imager
UPMC Children's Hospital of Pittsburgh
Pittsburgh, Pennsylvania

Gaurav Arora, MD
Associate Professor of Pediatrics
University of Pittsburgh School of Medicine
Associate Director of Electrophysiology
Associate Vice Chair of Pediatrics, Clinical
Affairs, Ambulatory Care
UPMC Children's Hospital of Pittsburgh
Pittsburgh, Pennsylvania

Adam Christopher, MD
Assistant Professor of Pediatrics
University of Pittsburgh School of Medicine
Director of Cardiology MRI and CT Programs
UPMC Children's Hospital of Pittsburgh
Pittsburgh, Pennsylvania

Erin Colvin, CRNP
Supervisor, APP HVI
UPMC Children's Hospital of Pittsburgh
Pittsburgh, Pennsylvania

William Devine, BS
Retired Curator of the Frank E. Sherman and
Cora C. Lenox Heart Museum
Department of Pathology
UPMC Children's Hospital of Pittsburgh
Pittsburgh, Pennsylvania

Bryan H. Goldstein, MD
Professor, Department of Pediatrics
Director, Cardiac Catheterization Laboratory
UPMC Children's Hospital of Pittsburgh
Pittsburgh, Pennsylvania

Arvind Hoskoppal, MD, MHS
Associate Professor of Pediatrics
University of Pittsburgh School of Medicine
Director, Adult Congenital Heart Disease
Program
UPMC Children's Hospital of Pittsburgh
Pittsburgh, Pennsylvania

Bernard Kuhn, M.D.

Professor of Pediatrics
Co-Director, Heart Institute at UPMC
Children's Hospital of Pittsburgh
Director of Cardiovascular Research, Heart
Institute

Lizabeth Lanford, MD

Clinical Associate Professor
Interim Director, Echocardiography Laboratory
UPMC Children's Hospital of Pittsburgh
Pittsburgh, Pennsylvania

Laura Olivieri, MD, FAHA, FSCMR

Director, Noninvasive Cardiac Imaging
Associate Professor of Pediatrics
UPMC Children's Hospital of Pittsburgh

Diane Spicer, BS, PA (ASCP)

Curator of the Lodewyk Van Mierop Archive
University of Florida
Gainesville, Florida

Sara M. Trucco, MD, FSCAI, FACC, FPICS

Associate Professor of Pediatrics, Division of
Cardiology
Associate Director, Cardiac Catheterization
Laboratory
Director, Quality Improvement for Cardiac
Catheterization
UPMC Children's Hospital of Pittsburgh

Jacqueline Weinberg, MD

Assistant Professor of Pediatrics, University
of Pittsburgh School of Medicine
Interim Director, Perinatal Cardiology

Justin Yeh, MD

Associate Professor of Critical Care Medicine
and Pediatrics
Chief, Division of Pediatric Cardiac Intensive
Care Medicine
Co-Director, Heart Institute at UPMC Children's
Hospital of Pittsburgh
UPMC Children's Hospital of Pittsburgh
Pittsburgh, Pennsylvania

CONTINUING MEDICAL EDUCATION CREDIT

Accreditation and Designation Statement

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All of the relevant financial relationships for the individuals listed below have been mitigated:

Bryan H. Goldstein, MD

Grant/Research Support: Medtronic, Edwards Lifesciences

Consultant: Medtronic, W.L. Gore & Associates, PECA Labs, Mezzion Pharma

Jacqueline Kreutzer, MD, FACC, FSCAI

Grant/Research Support: Medtronic; Edwards Lifesciences

Laura Olivieri, MD, FAHA, FSCMR

Grant/Research Support: R01, R01HL143468-0, NHLBI

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