Overview

As breakthroughs in surgical treatment have enabled most children with severe congenital heart diseases to reach adulthood, these patients face a critical dilemma in transitioning from care in pediatric cardiology to adult cardiology. Because their conditions are complex, their care requires the collaboration of an experienced and dedicated team of health care providers with specific training in adult congenital heart disease.

Parallel to advances in surgery, the fields of interventional cardiology and electrophysiology have experienced significant growth, driven by technological improvements and better understanding of the mechanisms and intermediate-term results of individual procedures. Our cardiologists have special expertise in the diagnosis and treatment of congenital heart lesions, whether or not they have been previously treated.

Conditions treated by the Adult Congenital Heart Disease Program include (but are not limited to):

- Aortic coarctation
- Atrial septal defect
- Ebstein anomaly
- Eisenmenger syndrome
- Marfan syndrome
- Pulmonary stenosis
- Single ventricle lesions including patients with a Fontan procedure
- Tetralogy of Fallot
- Transposition of the great arteries
- Tricuspid atresia
- Ventricular septal defect

Evaluation and treatment modalities

Our Adult Congenital Heart Disease (ACHD) Program offers a comprehensive array of diagnostic and treatment modalities. Patients are evaluated clinically in our Cardiology Clinics at the Mission Bay and Parnassus campuses. Advanced congenital echocardiographic evaluation is available at both locations, and advanced imaging with MR, CT, and nuclear medicine are also offered. In addition, we operate an inpatient specialty consult service.

Our structural and congenital interventional catheterization laboratory performs comprehensive hemodynamic assessment of patients with congenital heart disease, and structural interventional procedures, including device closures for septal defects such as atrial septal defect (ASD), ventricular septal defects (VSD) and patent foramen ovale (PFO). Closure for abnormal communication outside the heart such as patent ductus arteriosus (PDA), pulmonary arteriovenous malformations and coronary fistulae are also performed. Some of these procedures, such PFO and some ASD closures, can be performed by the use of intracardiac echo without the need for general anesthesia. We also offer a comprehensive transcatheter valve implantation program for pulmonic valve replacement and for valve implantation in other positions in the heart.

Our Congenital Cardiac Surgical Program offers comprehensive, state-of-the-art, surgical services for all adult patients with congenital defects.
Evaluation and treatment modalities (cont.)

The ACHD Program is involved in several interdisciplinary programs, including:

• **The Cardiovascular Genetics Program**, which offers comprehensive genetic testing and counseling for patients with inherited cardiovascular diseases and family members at risk for inheritance.

• **The Pregnancy and Cardiac Treatment (PACT) Program**, one of the first of its kind in the world, brings together our ACHD cardiologists, maternal-fetal medicine specialists, obstetrical anesthesiologists, specialists in the prenatal diagnostics and fetal treatment centers, and obstetrical nurses to provide coordinated care for women with congenital and acquired cardiac disease during pregnancy.

• **The Congenital Electrophysiology Program**, which is run jointly by Adult and Pediatric Electrophysiology, offers medical and interventional management of complex arrhythmias in patients with congenital heart disease.

**Highlights**

• UCSF Medical Center offers comprehensive care aimed at preventing complications of congenital heart conditions, repairing defects and allowing patients with heart defects to lead full, active lives.

• Our program was one of the first of its kind in the western United States and is committed to the care of patients with these conditions throughout their lives.

• The ACHD Program performs hundreds of cardiac procedures each year and has vast experience in treating a wide range of complex heart conditions.

• Congenital heart disease programs at UCSF combine pediatric cardiologists’ knowledge of birth defects and adult cardiologists’ deep understanding of heart conditions that can develop as these patients age.

• Experts with special expertise in treating adults with congenital heart disease work with congenital heart surgeons, diagnostic specialists and other health professionals to provide quality care for even the rarest congenital defects.

**Innovation and research**

• The ACHD Program is involved in a number of clinical research projects, and is currently recruiting subjects for two multicenter registries of shunt lesions and Eisenmenger syndrome.

• The ACHD Program participates in several research consortia, studying pregnancy outcomes in women with congenital heart disease and arrhythmias/sudden death in patients with congenital heart disease.

• In collaboration with scientists in the Cardiovascular Research Institute and the Gladstone Institutes, the ACHD Program is developing projects aimed at understanding the genetic basis of congenital heart disease and of outcomes in adults with congenital defects.

• Research projects looking at the effect of pulmonary regurgitation in heart function are also about to be commenced.

**Faculty**

**ADULT SPECIALISTS**

- Ian Harris, MD
  Director, Adult Congenital Heart Disease Service
- Vaikom Mahadevan, MD
  Director of Structural and Adult Congenital Interventions
- Elyse Foster, MD
- Nelson B. Schiller, MD
- Margo Dextrave Cordova, RN
  (Heart valve coordinator)
- Cindy Lohrentz, NP, MSN

**CONGENITAL HEART SURGEONS**

- V. Mohan Reddy, MD
  Chief, Pediatric Cardiothoracic Surgery
- Neil Cambronero, MD
- Gordon Cohen, MD
- Tara Karamlou, MD

**ELECTROPHYSIOLOGISTS**

- Edward Gerstenfeld, MD
  Chief, Cardiac Electrophysiology
- Jeffrey Olgin, MD (Adult)
- Akash Patel, MD
- Ronn Tanel, MD
- Zian Tseng, MD

**GENETIC SPECIALISTS**

- Robert Nussbaum, MD
- Julianne Wojciak, MS, CGC

**HIGH-RISK OBSTETRICIANS**

- Juan Gonzalez, MD
- Mari-Paule Thiet, MD

**INTERVENTIONAL CARDIOLOGISTS**

- Vaikom Mahadevan, MD (Adult)
- Jeffery Meadows, MD (Pediatric)
- Phillip Moore, MD (Pediatric)
- Thomas Ports, MD (Adult)
- David Teitel, MD (Pediatric)