PEDIATRICS/CONGENITAL HEART DISEASE

Mission Statement

The Pediatric Cardiology/Congenital Heart Disease Elective will provide the Cardiology Fellow with knowledge and experience in treating adults with congenital heart disease, in addition to learning about the initial manifestations of these medical conditions as they first present in childhood.

Educational Objectives for Fellows

The curriculum is designed to promote the six broad goals based on the six ACGME core Competencies:

1. **Medical Knowledge:**

- The fellow should understand the age-related changes in normal and abnormal cardiac physiology including the fetal circulation, age-related changes in heart rate and blood pressure and the age-related evolution of the pediatric electrocardiogram
- Fellows should develop a working knowledge of common and uncommon congenital and acquired heart disease in the young including the presentation, differential diagnosis, natural and unnatural history, treatment, and long-term outcome
- Understand the indications for, utility of, and limitations of both noninvasive and invasive tests in the pediatric population
- Understand the most common symptoms precipitating cardiovascular referral in the young.
- The fellow should also develop a working knowledge of the common presentation of congenital heart disease in the adult population as well as understand the late manifestations and complications of repaired and un-repaired congenital defects.

2. **Patient Care:**

- Participate in the development of accurate diagnosis of pediatric cardiac issues using beside clinical skills, including appropriate history taking from patients and parents, physical examination skills (including observation and auscultation using appropriate maneuvers) as well as judicious and appropriate non-invasive and invasive testing.
- Formulate both diagnosis and management plans appropriate to the individual patient taking into consideration the life circumstances of both the patient and the family. Issues of separation, cost, loss of time from school and other childhood activities are important considerations to be learned.
- The fellow should understand the unique problems associated with living with longterm heart disease from childhood, as well as the social and psychological effects it can have on adults who present with complications of their disease later in life.

3. **Professionalism**
   Learn to work with other allied health professionals to provide patient focused care with special attention to the unique problems and issues associated with the pediatric population. Maintaining the highest ethical standards surrounding issues of privacy given the fact that patients are minors and guardians need to be involved in decisions. This becomes more of an issue with adolescents, some of whom may value a more private relationship with their physicians.

4. **Interpersonal Skills and Communication:**
   This is a critically important area when dealing with children and adolescents. Fellows should become adept at talking in an age appropriate manner to children of all ages, while being able to explain disease states in a way these patients can understand. The unique issue of having to also interact with parent and guardians and being sensitive to these issues is critically important to learn. Many patients are quite young and may have life threatening illnesses. Developing the communication skills necessary to impart understanding and confidence in patients and parents is necessary and is something which needs to be developed during this rotation. Learning when to talk and when to listen is a critical skill to be developed as well.

5. **Practice Based learning:**
   Using information technology, literature and other resources to practice evidenced based medicine. Understanding best practices to provide cost efficient, high quality care of the pediatric patient is something which should be developed during this rotation.

6. **Systems Based Learning:**
   The fellow should learn to interact with other medical services including CT surgery, NICU, nutritional support, social work, nursing and others involved in the management of these pediatric patients. Understanding the work flow, protocols and other issues whereby these other services operate is critical. Many pediatric cardiac patients may have a number of other medical problems, including genetic abnormalities and a host of other social and developmental issues in additional to congenital heart disease. Learning to effectively interact and coordinate the cardiac care with the multiple other provider teams caring for these individuals is an important skill to learn during the rotation.

How the learning goals will be achieved:

These goals will be achieved by the active participation of fellows in the inpatient and outpatient evaluation and management of patients on the pediatric cardiology service. The fellows will be integrated members of the Pediatric Cardiology team during their rotation and will have the opportunity to see a large number of young patients with a wide spectrum of both normal and abnormal cardiovascular structure and function.

To these ends, the objectives will be met in the following ways:

- participate in outpatient clinics where adults with congenital heart disease are seen
- participate in clinical management conferences within the Division of Pediatric Cardiology
- participate in didactic sessions held for pediatric cardiology fellows
- participate in the review of echocardiograms performed on children and adults with congenital heart disease
- observe or participate in cardiac catheterizations on older children or adults with congenital heart disease

The goals of this rotation do not include the following:

- to train the cardiology fellow to independently care for adults with complex congenital heart disease
- to train the cardiology fellow to perform diagnostic or interventional cardiac catheterization on adults with complex congenital heart disease.

The faculty member directly responsible for fellow education is Roger P. Vermilion, MD, Program Director of the Pediatric Cardiology Fellowship.

General Statement of Expectations of Fellows

The rotation is usually one month in length. Additional experience in Pediatric Cardiology is available upon discussion with the fellowship program directors of both adult and pediatric cardiology. The fellow will have access to the times and location of the various conferences via the weekly CVD fellow schedule. During the rotation, the cardiology fellow will be expected to:

- attend outpatient adult congenital heart disease clinic; other clinic time may be arranged at the discretion of the fellow on the rotation.
- participate in teaching and clinical management conferences.
- attend echocardiography teaching sessions.
- observe or participate in cardiac catheterizations each week.

Below is a suggested reference list. These textbooks are excellent references; the cardiology fellow may review them in our Division before choosing one for purchase.

References

Park MK: Pediatric Cardiology for Practitioners (3rd ed), Mosby, St. Louis. 1996.

Fink BW. Congenital Heart Disease: A Deductive Approach to its Diagnosis. Mosby, St. Louis. 1991.

Perloff JK, Child SS. Congenital Heart Disease in Adults. WB Sanders, Philadelphia. 1998

Snider AR, Serwer GA, Ritter SB. Echocardiography in Pediatric Heart Disease (2nd ed). Mosby, St. Lous. 1997.

Emmanouilides GC, Allen HD, Riemenschneider TA, Gutgesell HP. Moss and Adams – Heart Disease in Infants, Children, and Adolescents (5th ed). Williams & Wilkins, Baltimore. 1995.

Research Opportunities

It is recognized that each fellow may have a particular interest in a particular aspect of pediatric cardiology. These interests can be fostered by a discussion of the individual fellow's expectations at the beginning of the rotation. Because of time limitations, the goals of this rotation do not include active participation in clinical or basic research programs, but the pediatric cardiology division is always amenable to collaborative work with our adult cardiology colleagues.

There are several active clinical research studies within the Division of Pediatric Cardiology. The Cardiology fellow may discuss any interest in clinical research with the principal investigators. If the Cardiology Fellow has an interest in collaborative studies with our Division, he/she should discuss ideas for such collaboration with Dr. Vermilion.

Staff

Faculty	Beeper	Office
George Alfieris, MD	16-5266	52735
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Sonographers		
Tiffany Bast	16-2083	56108
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Credentials of Medical Staff

Carol J. Buzzard, M.D.
SUNY (Stony Brook) School of Medicine
Pediatric Residency, Children's Medical Center, Dallas, TX
Pediatric Cardiology Fellowship, University of Texas SW Medical School
Special Interests: Fetal Cardiology, Cardiac Catheterization, Echocardiography

J. Peter Harris, M.D.
University of Rochester School of Medicine
Pediatric Residency, Strong Memorial Hospital, University of Rochester
Pediatric Cardiology Fellowship, Strong Memorial Hospital, University of Rochester
Special Interests: Syncope, Arrhythmias

Cecilia Meagher, MD
College of Physicians and Surgeons, Columbia University, New York, NY
Pediatric Residency, Children's Hospital, Boston, MA
Pediatric Cardiology Fellowship, University of Michigan Medical Center, Ann Arbor, MI
Special Interests: Pediatric Echocardiography, Fetal & Transesophageal Echocardiography specifically transthoracic

Dan E. Miga, M.D.
State University of New York at Buffalo Medical School
Pediatric Residency, Medical College of Virginia, Richmond, Virginia
Pediatric Cardiology Fellowship, Medical University of South Carolina, Charleston
Fourth year Fellowship, Interventional Pediatric Cardiology, Medical University of South Carolina, Charleston
Special Interests: Interventional Pediatric Cardiology

George A. Porter, Jr, MD, PhD
University of Maryland School of Medicine
Pediatric Residency, Yale-New Haven Hospital
Pediatric Cardiology Fellowship, Yale University
Special Interests: General Pediatric Cardiology, Pediatric Cardiology Research

Roger P. Vermilion, M.D.
University of Washington School of Medicine
Pediatric Residency, University of Washington Medical Center
Pediatric Cardiology Fellowship, University of Michigan
Special Interests: Echocardiography, Fetal Cardiology, Transesophageal Echo

Credentials of Medical Staff (continued)

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SUNY Downstate Medical Center
Pediatric Residency, New York Hospital
Pediatric Cardiology Fellowship, Montreal Children's Hospital
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Pediatric Cardiology Fellowship, Strong Memorial Hospital
Special Interest: Echocardiography, General Pediatric Cardiology

Regina Cable, RN, MS, PNP
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Special Interests: Pediatric Cardiovascular Surgery, Heart Transplant