

# 2103 Pediatric Cardiology

Course: Pediatric Cardiology Course Number: PED 2103

**Department:** Pediatrics

**Faculty Coordinator:** Sarah Blumenschein, MD

**Assistant Faculty Coordinators:** N/A

**UTSW Education Coordinator Contact:** Anthony Lee ([Anthony.Lee@UTSouthwestern.edu](mailto:Anthony.Lee@UTSouthwestern.edu))

**Hospital: (Location of rotation)** Children’s Medical Center

**Periods Offered:** Periods 1-12

**Length:** 4 weeks

**Max # of Students:** 2 (Post Clerkship Students)

**First Day Contact:** Attending on duty

**First Contact Time:** 8:30am

**First Day Location:** Children’s Medical Center – 3<sup>rd</sup> Floor Tower B –Physician’s Touchdown

**Prerequisites:** PED 1801 Pediatric Core Clerkship

## I. Course Description

Students will receive extensive exposure to the diagnosis and management of malignant diseases and benign cardiologic disorders. Students will be integrated into the multidisciplinary Cardiology teams and will provide comprehensive subspecialty consultations and ongoing care in the outpatient setting for children with cardiologic disorders. Students will be taught procedures including patient physical examination, chest radiograph and ECG interpretation, cardiac catheterization and will participate in multidisciplinary conferences, education didactic sessions, and read prepared curriculum material.

<u>Goals</u>	<u>Objectives</u>	<u>Assessment Methods</u>
<p><b>Patient Care:</b> Students are expected to gather essential and accurate information about their patients, perform comprehensive histories, physical examinations and evaluate pertinent test results for children with known or suspected malignant and hematologic disorders.</p>	<ul style="list-style-type: none"> <li>Physical Examination: The resident or student should be able to recognize signs of structural and acquired heart disease including abnormal vital signs, abnormal impulses, and abnormal heart sounds including organic murmurs, cyanosis, clubbing, abnormal pulses, and organomegaly. He/she should be able to differentiate between a functional and organic murmur, and also be able to recognize the typical murmurs of VSD, PS, AS, PDA and mitral and aortic insufficiency.</li> <li>Chest radiograph interpretation: The resident or student should be able to</li> </ul>	<ul style="list-style-type: none"> <li>Quality of Medical Records entries</li> <li>Skills evaluation from direct observation.</li> </ul>

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	<p>recognize cardiomegaly vs. normal heart size, and increased or decreased pulmonary blood flow, and aortic arch location.</p> <ul style="list-style-type: none"> <li>• ECG Interpretation: The resident or student should be able to recognize the rhythm, abnormal intervals, and signs of atrial enlargement, and ventricular hypertrophy. He/she should also be able to recognize supraventricular tachycardia, atrial fibrillation, ventricular fibrillation, and heart block.</li> <li>• Cardiac Catheterization: The house officer should become familiar with interpretation of the hemodynamic findings on a cardiac catheterization report, that is, localize the levels of intracardiac shunting, recognize the presence of pulmonary hypertension, and valvar stenoses.</li> </ul>	
<p><b>Medical Knowledge:</b> Students must demonstrate knowledge about the etiology, pathophysiology, natural history, evaluation and management of common pediatric malignant and hematologic disorders.</p>	<ul style="list-style-type: none"> <li>• The student will be able to diagnose (<i>clinically</i>) and understand the pathophysiology, natural history, long-term post-operative prognosis, and current management concepts of common cardiac problems in children, including:             <ul style="list-style-type: none"> <li>○ Ventricular septal defect</li> <li>○ Atrial septal defect</li> <li>○ Coarctation</li> <li>○ Pulmonary valve stenosis</li> <li>○ Aortic valve stenosis</li> <li>○ Patent ductus arteriosus</li> <li>○ Tetralogy of Fallot, including hypercyanotic spells</li> <li>○ Transposition of the great arteries</li> <li>○ Acute pericarditis (with pericardial effusion)</li> <li>○ Rheumatic fever</li> <li>○ Myocarditis</li> <li>○ Cardiomyopathy</li> <li>○ Paroxysmal supraventricular tachycardia</li> <li>○ Heart block</li> <li>○ Premature atrial or ventricular contractions</li> <li>○ Syncope</li> <li>○ Long QT syndrome</li> <li>○ Hypertension</li> <li>○ Lipid disorders</li> </ul> </li> <li>• The student will develop (<i>or already knows</i>) a basic knowledge of normal cardiovascular and pulmonary physiology.</li> </ul>	<ul style="list-style-type: none"> <li>• Each student is required to create a case presentation and to present it to the faculty and fellows during the rotation. It is recommended that students present an interesting case they encountered during their rotation. However, they are also permitted to present on a topic of interest that relates to pediatric course topic.</li> </ul>

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	<ul style="list-style-type: none"> <li>• The student will develop an approach to include a differential diagnosis and plan for further evaluation for a patient with: <i>(If necessary)</i> <ul style="list-style-type: none"> <li>○ Cyanosis</li> <li>○ Chest pain</li> <li>○ “Irregular heart beat”</li> <li>○ Palpitations</li> <li>○ Rapid heart beat</li> <li>○ Dizziness/syncope</li> <li>○ Excessive fatigue/dyspnea with exertion</li> </ul> </li> </ul>	
<p><b>Interpersonal and Communication Skills:</b> Students must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients and families.</p>	<ul style="list-style-type: none"> <li>• Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills. These include taking complete history from pediatric patient and their family and writing a careful evaluation in the chart.</li> <li>• Work effectively with others as a member of a health care team.</li> </ul>	<ul style="list-style-type: none"> <li>• Observations of faculty and staff.</li> </ul>
<p><b>Practice-Based Learning and Improvement:</b> Students must be able to assimilate scientific evidence and improve their patient care practices.</p>	<ul style="list-style-type: none"> <li>• Locate and assimilate evidence from scientific studies related to their patients’ health problems, including literature searches.</li> <li>• Use information technology to manage information, access on-line medical information; and support one’s education.</li> </ul>	<ul style="list-style-type: none"> <li>• Each student is required to create a case presentation and to present it to the faculty and fellows during the rotation. It is recommended that students present an interesting case they encountered during their rotation. However, they are also permitted to present on a topic of interest that relates to pediatric course topic.</li> <li>• Critical review of a relevant article.</li> </ul>
<p><b>Professionalism:</b> Students must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.</p>	<ul style="list-style-type: none"> <li>• Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and their families; accountability to patients and their families and the profession; and a commitment to excellence and on-going professional development.</li> <li>• Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, and confidentiality of patient information.</li> <li>• Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.</li> </ul>	<ul style="list-style-type: none"> <li>• Observations of faculty and staff.</li> </ul>

### II. Methods of Instruction

**Didactic:**

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- Reading of handouts in orientation packet, Dr. Lynn Mahony's handbook for the inpatient cardiology service (*especially for discussion of the various structural lesions*), basic texts and recommended journal articles (*provided in the binder in the conference room*).
- Attendance at all scheduled cardiology conferences.

### **Clinical:**

- Examination of patients, with direct discussion of findings with attending cardiologist. Some attending(s) will have you accompany them to see the patient and others will have you see the patient first.
- Select one cath patient each week, observe cath and go over cath data with cardiologist to understand the calculations of physiological data.

### **III. Overview of Student Responsibilities**

- Attend all outpatient clinics and see patients as directed by attending cardiologist.
- Present written interpretations of assigned ECG's at ECG Conference.
- Attend the Cath Conference and Cardiac Surgery Case Conference.
- Students will let the Attending Cardiologist or Cardiology Receptionist **know** of their whereabouts at all times.
  - *Unless pediatric call responsibilities interfere, the students are expected to take part in the activities of the Cardiology Service until afternoon clinics and conferences are completed.*
- If it is necessary for you to be absent for any part of the rotation, you should speak with Dr. Fixler.

### **IV. Method of Evaluation of Students and Requirements**

Pass-Fail Grades: Your evaluation will be completed by Dr. Sarah Blumenschein or her designate, with comprehensive input from the other cardiologists you have worked with extensively. If you have any questions about your evaluation or would like to discuss it beforehand, contact Dr. Sarah Blumenschein.