COURSE ORGANIZERS:

Bijan Siassi, MD – Course Director
Associate Professor of Pediatrics and Radiology
Keck School of Medicine, University of Southern California

Mahmood "Mac" Ebrahimi, RDCS
Instructor of Clinical Pediatrics
Keck School of Medicine, University of Southern California

Shahab Noori, MD, MS CBTI, RDCS
Associate Professor of Pediatrics
Keck School of Medicine, University of Southern California

FACULTY:
Ruben Acherman, MD
Professor of Pediatrics, Cardiology
University of Nevada, Las Vegas, Nevada

Shazia Bhombal, MD
Assistant Professor of Pediatrics
Stanford University School of Medicine, CA
Medical Director, NICU Heart Team

Rangasamy Ramanathan, MD
Professor of Pediatrics
Keck School of Medicine, University of Southern California
Division Chief, LAC+USC Medical Center
Director, NICU and Fellowship Program

Jennifer Shepherd, MD
Assistant Professor of Pediatrics
Keck School of Medicine, University of Southern California

Merujan Uzunyan, MD
Assistant Professor of Clinical Pediatrics
Keck School of Medicine, University of Southern California
Director, Pediatric Cardiology, LAC+USC Medical Center

Pierre Wong, MD
Associate Professor of Pediatrics
Keck School of Medicine, University of Southern California
Director, Echocardiography Lab and Cardiac Pathology Registry, Children's Hospital, Los Angeles

Tai-Wei Wu, MD
Assistant Professor of Pediatrics
Keck School of Medicine, University of Southern California

Good Samaritan Hospital
Los Angeles

LAC+USC
MEDICAL CENTER

Registration fee is $800.
For those in training the registration fee is $500.
For program information please contact:
Ms. Reyna Mayoral, Activity Coordinator at mayoral@usc.edu
or call (323) 409-3406

Space is limited.
Please register prior to July 1, 2019

Simulation Instructors:
Mahmood Ebrahimi, RDCS
Evan Sander, MD
Bijan Siassi, MD
Merujan Uzunyan, MD
Amy Yeh, MD
Shahab Noori, MD
Jennifer Shepherd, MD
Thea Tagliaferro, MD
Tai-Wei Wu, MD

Recommended Book for the course:
Practical Neonatal Echocardiography
Mc Graw Hill, 2019

FACULTY DISCLOSURE
Current guidelines state that participants in continuing medical education activities should be aware of any affiliation or financial interest that could affect the speaker's presentation(s). Faculty members have completed conflict of interest declarations and those potential conflicts will be listed in the course syllabus.

ACCREDITATION STATEMENT
The Keck School of Medicine of the University of Southern California is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.
The Keck School of Medicine of the University of Southern California designates this educational activity for (to be determined) *AMA PRA Category 1 Credit(s)™*.

The 17th Annual Echo Course

Functional Echocardiography in the Neonate

September 9-13, 2019

Good Samaritan Hospital
University of Southern California
Los Angeles, California

Course Highlights

- **The most comprehensive echo course available for neonatologists**
- **Hands-on training on 10 echo simulators:**
  - ✓ **Obtain complete set of images from all cardiac windows and recognize various structures of a normal heart**
  - ✓ **Recognition of spatial relationship of cardiac structures obtained from cutting planes through a 3 dimensional heart image volume**
  - ✓ **Assessment of cardiac function and estimation of flow using calculation package**
  - ✓ **Differentiating abnormal cardiac structures from a normal heart**

- **Test of echo skills on simulators and provision of a certificate with successful completion of the test**
- **Opportunity to perform echocardiography on volunters**

Course Objectives

Upon completion of this course, the participants are expected to:

- Understand basic principles of ultrasonography
- Recognize basic features of echocardiographic scanners
- Identify correctly basic echocardiographic views
- Evaluate blood flow direction and velocity by pulse and continuous wave and color flow Doppler
- Identify correctly shunts through patent ductus arteriosus and foramen ovale
- Understand application of indices used in measurements of systolic and diastolic function of the heart
- Be able to do quantitative measurements of blood flow through aortic valve, pulmonary valve and superior vena cava on an echo simulator
- Be able to do estimation and measurement of pulmonary arterial pressure by Doppler ultrasound on an echo simulator
- Recognize presence of hypertrophic cardiomyopathy in infants of diabetic mothers
- know echocardiographic findings of pericardial effusion and early signs of cardiac tamponade
- Distinguish normal vs selected CHD using simulators
- Recognize non-cardiac applications of ultrasonography

The participants will also be introduced to the techniques of hands-on echocardiography in the neonate using simulator. However, development of competence to independently obtain quality echocardiograms may require 6 to 9 months of training under supervision in our or any other echocardiography laboratory and NICU.

Presented by:

Division of Neonatology, LAC+USC Medical Center and Good Samaritan Hospital, Keck School of Medicine, University of Southern California, Los Angeles, CA, USA

Course Presentation Schedule

Monday, September 9, 2019

08:00 Introductory remarks
Rangasamy Ramanathan, MD.
08:20 Pretest
09:00 Basic physical principles of ultrasonography & Display Modes
Merujan Uzunyan, M.D.
10:00 Normal cardiac anatomy as revealed by 2D images
Bijan Siassi, M.D
11:00 Standard echocardiographic views
Mahmood "Mac" Ebrahimi, RDCS

12:00 Lunch

13:00 Echo simulation and hands on practice
Simulation Instructors
17:00 Adjourn

Tuesday, September 10, 2019

08:00 Doppler echocardiography
Merujan Uzunyan, M.D.
09:00 Measurement of aortic, pulmonary, SVC flow
Tai-Wei Wu, M.D.
10:00 Assessment of systolic, diastolic and global cardiac function and cerebral, renal and intestinal blood flows
Shahab Noori, M.D.
11:00 Myocardial dysfunction, heart failure and shock in neonate
Shahab Noori, M.D.

12:00 Lunch

13:00 Echo simulation and hands on practice
Simulation Instructors
17:00 Adjourn

Wednesday, September 11, 2019

08:00 Transitional circulation and perinatal manifestation of congenital heart disease
Bijan Siassi, M.D.
09:00 Assessment of pulmonary arterial pressure
Shazia Bhombal, M.D.
10:00 Excluding congenital heart disease
Mahmood "Mac" Ebrahimi, RDCS
11:00 Assessment of hemodynamic significance of patent ductus arteriosus in premature neonates
Shahab Noori, M.D.

12:00 Lunch

13:00 Echo simulation and hands on practice
Simulation Instructors
17:00 Adjourn

Thursday, September 12, 2019

08:00 Cardiac Function: Future direction
Pierre Wong, M.D.
09:00 Assessment of gradients and regurgitation
Merujan Uzunyan, M.D.
10:00 Effect of ventilator management on cardiovascular function
Rangasamy Ramanathan, MD
11:00 Use of non-cardiac ultrasonography in assessment and management of neonates in the NICU
Jennifer Shepherd, M.D.

12:00 Lunch

13:00 Echo simulation and hands on practice
Simulation Instructors
17:00 Adjourn

Friday, September 13, 2019

09:00 Fetal echocardiography and Doppler Ultrasonography in the Diagnosis of Congenital Heart Disease: An Overview
Ruben Acherman, M.D.
09:45 Fetal echocardiography in evaluation of cardiovascular function: arrhythmia, congestive heart failure, hydrops, and vascular flow patterns
Ruben Acherman, M.D.
10:30 Aneurysm of PDA, cardiomyopathy, systemic to pulmonary arterial shunts
Ruben Acherman, M.D.
11:00 Final evaluation
12:30 Lunch and reception
14:00 Adjourn