

**Pediatric  
Emergency  
Medicine,  
Neonatal and  
Critical Care  
Medicine:  
Bedside  
Ultrasound Course**

**Saturday and Sunday,  
June 2 and 3, 2018**

Ruth and Tristram Colket, Jr.  
Translational Research  
Building on the Raymond G.  
Perelman Campus



**Children's Hospital  
of Philadelphia®**

Breakthroughs. Every day.



## COURSE OVERVIEW

This course is intended as an alternative to adult emergency and critical care ultrasound courses, with a focus on pediatric emergency ultrasound indications. It is designed for pediatric emergency medicine, neonatal and critical care medicine providers with limited or basic knowledge of emergency bedside ultrasound. Through a combination of lectures and hands-on practical sessions using live pediatric models and simulation equipment, course attendees will learn ultrasound fundamentals (physics and principles of scanning) and ultrasound scanning techniques pertinent to pediatric practice, including: basic procedural guidance (line placement, lumbar puncture, etc.); evaluation of abscesses and foreign bodies; bladder scanning; FAST (focused assessment with sonography for trauma); lung evaluation; basic cardiac evaluation; musculoskeletal applications (fracture and joint); bowel scanning (intussusception); fluid and function evaluation; and advanced procedures (nerve blocks, chest tube placement, peritoneal/pleural fluid drainage).

The course is being taught by emergency, neonatal and critical care ultrasound experts, and will have a low student-to-teacher ratio of 4/5 to 1. A limited portion of the course will be devoted to a knowledge and skills assessment exam and a brief discussion of program development and administrative issues with regard to point-of-care ultrasound.

## GENERAL INFORMATION

The conference will be held at Children's Hospital of Philadelphia in the Ruth and Tristram Colket, Jr. Translational Research Building on the Raymond G. Perelman Campus, June 2-3, 2018. The course registration fees are as follows:

Physicians: .....\$900

Fellows, nurse practitioners and CHOP-affiliated providers: .....\$450

The fee includes continental breakfast, refreshments, lunch, parking and course materials.

## TARGET AUDIENCE

Pediatric emergency medicine, neonatal and critical care medicine providers.

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## COURSE OBJECTIVES

1. Demonstrate core nonprocedural ultrasound skills (basic fluid and cardiac function assessment, FAST exam, pulmonary ultrasounds) using bedside ultrasound
2. Demonstrate core procedural ultrasound skills (intravenous line insertion and fluid drainage)
3. Discuss appropriate indications and limitations of the bedside ultrasound exam in pediatric acute care settings

## ACCME ACCREDITATION STATEMENT

Children's Hospital of Philadelphia is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

## AMA CREDIT DESIGNATION STATEMENT

Children's Hospital of Philadelphia designates this live activity for a maximum of *15.75 AMA PRA Category 1 Credit(s)*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## CANCELLATION AND REFUND POLICY

Children's Hospital of Philadelphia reserves the right to cancel or postpone any course due to any unforeseen circumstances. In the event of cancellation or postponement, the Hospital will refund registration fees, less a \$40 service fee, but is not responsible for any related costs, charges or expenses to participants, including cancellation charges assessed by airlines or travel agencies. In order to process refunds, cancellations must be received in writing by Friday, May 25, 2018. No refunds will be issued thereafter.

## SERVICES FOR PEOPLE WITH DISABILITIES

If special arrangements are required for an individual with a disability to attend this meeting, please contact the Continuing Medical Education Department at 215-590-5263.

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## PROGRAM — SATURDAY, JUNE 2, 2018

- 7 a.m.            **Registration and Continental Breakfast**
- 7:30 a.m.        **Welcome and Course Overview**  
*Aaron Chen, MD, FACEP; Thomas Conlon, MD; Maky Fraga, MD*
- 7:45 a.m.        **Physics and Fundamentals of Ultrasonography**  
*Alyssa Abo, MD*
- 8:15 a.m.        **Introduction to FAST/FAFF**  
*Lianne McLean, MB, BCh*
- 8:45 a.m.        **Vascular Access: Peripheral, Central and Arterial Line Placement**  
*Grace Chong, MD*
- 9:15 a.m.        **Lung Ultrasound: Pneumonia, Pneumothorax and Pleural Effusions**  
*Akira Nishisaki, MD*
- 9:45 a.m.        **Break**
- 10 a.m.           **Hands-on Skills: FAST/FAFF, Vascular Access, Lung**
- Noon             **Lunch: Lumbar Puncture, Neonatal PICCs and Anesthesia Applications**  
*Erik Brandsma, MD; Elaina Lin, MD*
- 1 p.m.            **Basic Cardiac Views**  
*Jason Stoller, MD*
- 1:45 p.m.        **Ultrasound Assessment of Shock and Hypotension**  
*Adam Himebauch, MD*
- 2:15 p.m.        **Break**
- 2:30 p.m.        **Hands-on Skills (Subcostal, Apical and Parasternal Views)**
- 4:30 p.m.        **Questions/Adjourn**

## PROGRAM — SUNDAY JUNE 3, 2018

- 7 a.m. Continental Breakfast
- 7:30 a.m. Review and Day 2 Overview
- 7:45 a.m. BREAKOUT

### \*\*\*\* EM/GENERAL PEDIATRICS BREAKOUT SESSION \*\*\*\*

1. Basic Diagnostic and Procedural Applications (bladder, abscess, foreign body, nerve)  
*Aaron Chen, MD, FACEP*
2. Ocular Pathology Evaluated by Point-of-Care Ultrasound  
*Ronald F. Marchese, MD*
3. Abdominal Ultrasonography in Pediatric Emergency Medicine  
*Sathyaseelan Subramaniam, MD*
4. Musculoskeletal Applications  
*Rachel Rempell, MD*

### \*\*\*\* NEONATAL/CRITICAL CARE BREAKOUT SESSION \*\*\*\*

1. Volume Assessment  
*Christie Glau, MD*
2. Left Ventricular Functional Assessment  
*Sabine Pallivathukal, MD*
3. Pulmonary Hypertension and Right Ventricular Function  
*Shazia Bhombal, MD*
4. Neonatal Focus: PDA Assessment and Primer on Head Ultrasound  
*Maky Fraga, MD; Asef Khwaja, MD*

- 9:45 a.m. Break
- 10 a.m. Hands-on Skills (EM) (Abscess, IV, Shock Assessment)  
Hands-on Stations (ICU) (Ventricular Functional, Shock/Volume, Expert)
- Noon Working Lunch: Ultrasound in Cardiac Arrest and ECPR  
*Erik Su, MD*
- 12:45 p.m. Knowledge Assessment: Critical Review of Ultrasound Scans  
*Aaron Chen, MD, FACEP; Thomas Conlon, MD; Maky Fraga, MD*

**PROGRAM — SUNDAY JUNE 3, 2018 *continued***

- 1:15 p.m.    **International Ultrasound: The Medecins Sans Frontieres (Doctors Without Borders) Experience**  
*Erin Stratta, MD; Carla Schwanfelder*
- 1:45 p.m.    **Ultrasound Education and Program Development**  
*Thomas Conlon, MD*
- 2:15 p.m.    **Faculty Q&A: Ultrasound Moving Forward**
- 2:30 p.m.    **Break**
- 2:45 p.m.    **Skill Assessment**  
**EM:** FAST/Bladder, IVC/Foreign Body, Cardiac/Lung  
**Neonatal/CCM:** Cardiac, Lung, Abdomen/Procedure
- 4:30 p.m.    **Conference Adjourns**

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*Unless otherwise noted, faculty are from Children's Hospital of Philadelphia and/or the Perelman School of Medicine at the University of Pennsylvania.*

## **COURSE DIRECTORS**

### **Aaron Chen, MD, FACEP**

*Director, Emergency Ultrasound  
Division of Pediatric Emergency Medicine  
Associate Professor of Clinical Pediatrics*

### **Thomas Conlon, MD**

*Director, Pediatric Critical Care Ultrasound  
Department of Anesthesiology and Critical Care  
Assistant Professor of Anesthesiology and Critical Care Medicine*

### **Maky Fraga, MD**

*Director, Harriet and Ronald Lassin Newborn/Infant Intensive Care Unit Ultrasound  
Division of Neonatology  
Associate Professor of Clinical Pediatrics*

## **COURSE FACULTY**

### **Alyssa Abo, MD**

*Associate Director, Emergency Ultrasound  
Division of Emergency Medicine  
Children's National Medical Center  
Associate Professor of Pediatrics and Emergency Medicine  
George Washington University School of Medicine*

### **Shazia Bhombal, MD**

*Clinical Assistant Professor, Pediatrics  
Medical Director, NICU Heart Team  
Division of Neonatal & Developmental Medicine  
Stanford University School of Medicine*

### **Erik Brandsma, MD**

*Assistant Professor, Clinical Pediatrics  
Division of Neonatology*

### **Grace Chong, MD**

*Assistant Professor, Pediatrics  
Division of Critical Care Medicine  
Comer Children's Hospital  
University of Chicago*

### **Christie Glau, MD**

*Assistant Professor, Anesthesiology and Critical Care Medicine*

*continued >*

**Adam Himebauch, MD**

*Assistant Professor, Anesthesiology and Critical Care Medicine*

**Asef Khwaja, MD**

*Assistant Professor, Clinical Radiology*

**Elaina Lin, MD**

*Assistant Professor, Anesthesiology and Critical Care Medicine*

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*Division of Pediatric Emergency Medicine*

**Lianne McLean, MB, BCh**

*Emergency Physician, Paediatric Emergency Medicine*

*The Hospital for Sick Children (SickKids), Toronto*

**Michael McWay, MD**

*Pediatric Emergency Ultrasound Fellow*

*New York Presbyterian Brooklyn Methodist*

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*Associate Professor of Pediatrics*

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*Center for Congenital Heart Disease*

*University Hospital Inselspital Bern, Switzerland*

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*Division of Pediatric Emergency Medicine*

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*Department of Anesthesiology and Critical Care Medicine*

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*Diagnostic Imaging Adviser-Ultrasound*

*Médecins Sans Frontières/Doctors Without Borders*

*Amsterdam, The Netherlands*

**Jason Stoller, MD**

*Associate Director, N/IICU Point-of-care Ultrasound Program*

*Division of Neonatology*

*Associate Professor, Clinical Pediatrics*

*continued >*



**Erin Stratta, MD**

*Diagnostic Imaging Adviser-Ultrasound  
Médecins Sans Frontières/Doctors Without Borders  
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**Sathyaseelan Subramaniam, MD**

*Ultrasound Fellow  
Pediatric Emergency Medicine*

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**Mark Weber, RN, CRNP-AC**

*Pediatric Critical Care Medicine*

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