ULTRASONOGRAPHY FOR INTENSIVISTS AND EMERGENCY MEDICINE CLINICIANS

Ultrasound is a useful imaging modality in the critical care setting, and practical bedside ultrasonography is becoming more and more accessible to a growing number of providers. Despite increased ease of use, there is a continued need to provide robust education regarding the diagnostic capabilities, limitations, and appropriate use of ultrasound technology. This course is specifically designed for Critical Care, Anesthesia and Emergency Medicine providers and covers all commonly used applications of critical care ultrasound. It is designed to provide useful knowledge and hands on skills to both absolute novices and clinicians with prior point of care ultrasound experience. The bulk of the course is centered around the basics of transthoracic echocardiography (TTE), with emphasis on the practical evaluation of critically ill patients, particularly those in shock. It includes instruction in the FEEL (Focused Echocardiographic Evaluation in Life Support) format for integration of ultrasonography into cardiac arrest algorithms. In addition to cardiac evaluation, the course will cover the use of lung ultrasound to diagnose common pulmonary pathology as well as the FAST (Focused Assessment with Sonography in Trauma) protocol. This course is designed to provide didactic lectures that set the groundwork for multiple daily small group hands on sessions. Hands on sessions provide the opportunity for extensive scanning of live models, review and discussion of ultrasound images with pathology, and simulation-based experiences. The course will provide the knowledge and practical competence to serve as a foundation for further practice and eventual integration of critical care ultrasonography into routine practice.

LEARNING OBJECTIVES

Upon completion of this activity, participants will be able to:

- Perform a focused echocardiographic exam
- Differentiate between normal and abnormal echocardiographic exams
- Screen for and identify 6 major causes of shock: hypovolemic, septic, tamponade, pulmonary embolism, cardiogenic, and pneumothorax
- Perform chest ultrasound for the diagnosis of pneumothorax, pulmonary edema, and pneumonia
- Perform the FAST exam for diagnosis of intra-abdominal bleeding in the setting of trauma
- Describe challenges involved in the incorporation of focused cardiac exams during resuscitation efforts

TARGET AUDIENCE

This course is targeted to Physicians and APP’s. This course may also be of interest to physicians who practice in Anesthesiology, Cardiology and Vascular Medicine, Critical Care and Trauma, Emergency Medicine, Internal Medicine, Pediatrics and Adolescent Medicine, Pulmonary Medicine, and Surgery.

ABMS/ACGME COMPETENCIES

The course is designed to meet the following American Board of Medical Specialties (ABMS) / Accreditation Council for Graduate Medical Educational (ACGME) competencies:

- Patient Care and Procedural Skills
- Medical Knowledge
- Practice-Based Learning and Improvement

FOR MORE INFORMATION
https://cmeregistration.hms.harvard.edu/734369-2001
FRIDAY, OCTOBER 4, 2019

6:30 AM - 7:00 AM  Registration/Continental Breakfast

7:00 AM - 7:20 AM  Introduction
Akiva Leibowitz, MD, Johann Patlak, MD

7:20 AM - 8:00 AM  Ultrasound Anatomy of the Heart: Basic TTE Views
Steve Odom, MD, Marilyn Riley, RDCS

8:00 AM - 8:25 AM  Basic Knobology
Romina Ilic, MD

8:25 AM - 8:50 AM  Principles of Doppler Ultrasound
Robert Canelli, MD

8:50 AM - 9:15 AM  Assessment of Left Ventricular Systolic Function
Junaid Nizamuddin, MD

9:15 AM - 9:30 AM  Break

9:30 AM - 12:00 PM  Hands-on Training (HOT #1)
All Faculty

12:00 PM - 1:00 PM  Lunch (on your own)

1:00 PM - 1:20 PM  Regional Wall Motion Abnormalties
Johann Patlak, MD

1:20 PM - 1:40 PM  Assessment of Right Ventricular Systolic Function
Mabel Chung, MD

1:40 PM - 2:05 PM  Tamponade Physiology
Abirami Kumaresan

2:05 PM - 2:35 PM  Pulmonary Embolism
Somnath Bose, MD

2:35 PM - 2:55 PM  Hypovolemic Shock
Akiva Leibowitz, MD

2:55 PM - 3:20 PM  Focused Echocardiographic Evaluation in Life Support (FEEL) Algorithm
Lyle Gerety, MD

3:20 PM - 3:30 PM  Break

3:30 PM - 6:00 PM  Hands-on Training (HOT #2)
All Faculty

6:00 PM - 7:30 PM  Reception
SATURDAY, OCTOBER 5, 2019

6:30 AM - 7:00 AM  Continental Breakfast

7:00 AM - 7:25 AM  Ultrasound Approach to the Patient in Shock
               Todd Sarge, MD

7:25 AM - 7:45 AM  FAST Exam
               Keith Boniface, MD

7:45 AM - 8:05 AM  Chest Ultrasound: Artifacts
               Kadhiresan Murugappan, MD

8:05 AM - 8:30 AM  Chest Ultrasound: Pneumothorax & Pneumonia
               Sara Neves, MD

8:30 AM - 8:50 AM  Chest Ultrasound: Pulmonary Edema
               Dan Walsh, MD

8:50 AM - 9:15 AM  Evaluation of Chest Trauma
               Keith Boniface, MD

9:15 AM - 9:30 AM  Break

9:30 AM - 12:00 PM  Hands-on Training (HOT #3)
               All Faculty

12:00 PM - 1:00 PM  Lunch (on your own)

1:00 PM - 1:25 PM  Introduction to Diastolic Dysfunction and Estimation of Left-Sided Filling Pressure
               Sam Brown, MD, MS, FASE, FCCM

1:25 PM - 1:45 PM  Deep Vein Thrombosis
               Lisa Rapoport, MD

1:45 PM - 2:00 PM  Break

2:00 PM - 4:30 PM  Hands-on Training (HOT #4)
               All Faculty

4:30 PM - 5:30 PM  Introduction to TEE – Basic Views and Applications (optional)
               Achickam Oren-Grinberg, MD, MS
SUNDAY, OCTOBER 6, 2019

6:30 AM - 7:00 AM  Continental Breakfast

7:00 AM - 7:25 AM  The Non-Invasive Cath: Measurement of CVP, Pulmonary Artery Pressures and Cardiac Output
                   Amit Bardia, MD

7:25 AM - 8:05 AM  Assessment of Fluid Responsiveness
                   Doug Hsu, MD

8:05 AM - 8:35 AM  Evaluation of Septic Shock
                   Sajid Shahul, MD

8:35 AM - 9:00 AM  Vascular Access
                   Dustin Boone, MD

9:00 AM - 9:20 AM  Basic Assessment of Valvular Dysfunction
                   Ameeka Pannu, MD

9:20 AM - 9:35 AM  Break

9:35 AM - 12:00 PM Hands-on Training (HOT #5)
                   All Faculty

12:00 PM - 1:00 PM Lunch (on your own)

1:00 PM - 1:25 PM  Pitfalls and Limitations of Focused Echocardiography
                   Johann Patlak, MD

1:25 PM - 1:45 PM  Implementation and Organization of an Ultrasound Program
                   Achickam Oren-Grinberg, MD, MS

1:45 PM - 2:00 PM  Break

2:00 PM - 4:00 PM  Clinical Cases
                   Akiva Leibowitz, MD, Achickam Oren-Grinberg, MD, MS, Johann Patlak, MD,
                   Marilyn Riley, RDVS, Todd Sarge, MD

4:00 PM  Adjourn
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<tr>
<th>Name</th>
<th>Affiliation</th>
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ACCREDITATION

Physicians
The Harvard Medical School is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The Harvard Medical School designates this live activity for a maximum of 26.00 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Nurse Practitioners and Registered Nurses
For the purpose of recertification, the American Academy of Nurse Practitioners Certification Board and American Nurses Credentialing Center accept AMA PRA Category 1 Credit™ issued by organizations accredited by the ACCME (Accreditation Council for Continuing Medical Education). We would also suggest that learners check with their state licensing board to ensure they accept reciprocity with AMA PRA Category 1 Credit™ for re-licensure.

Physician Assistants
The National Commission on Certification of Physician Assistants (NCCPA) states that AMA PRA Category 1 Credits™ are acceptable for continuing medical education requirements for recertification. We would also suggest that learners check with their state licensing board to ensure they accept reciprocity with AMA PRA Category 1 Credit™ for re-licensure.

Canadian Accreditation
The Royal College of Physicians and Surgeons of Canada recognizes conferences and workshops held outside of Canada that are developed by a university, academy, hospital, specialty society or college as accredited group learning activities.

European Accreditation
Through an agreement between the American Medical Association and the European Union of Medical Specialists, physicians may convert AMA PRA Category 1 Credits™ to an equivalent number of European CME Credits® (ECMEC®s). Information on the process of converting AMA PRA Category 1 Credits™ to ECMEC®s can be found at: www.eaccme.eu.

Note: AMA PRA Category 1 Credit™ is calculated based on submission of a preliminary agenda and may be subject to change.

COURSE TUITION

Tuition for Ultrasonography for Intensivists and Emergency Medicine Clinicians is listed below. You may register through our secure online environment and will receive an email confirmation upon receipt of your payment.

- **Physician (MD/DO)** ........................................ $2,500.00 ($2,375.00*)
- **Resident/Fellow** ........................................... $2,000.00 ($1,900.00*)
- **Allied Health Professional/Other** ............ $2,000.00 ($1,900.00*)

*Discounted Price If Registered By Tuesday, June 4, 2019.

Tuition includes an electronic syllabus, refreshments at breaks, breakfast, FoCUS pocket reference book, and welcome reception on Friday evening.

Refunds, less an administrative fee of $75, will be issued for all cancellations received at least two weeks prior to the start of the course. Refund requests must be made in our secure online system or by email. “No shows” are subject to the full course fee.

DISCLOSURE POLICY

Harvard Medical School (HMS) adheres to all ACCME Accreditation Criteria and Policies. It is HMS’s policy that those who have influenced the content of a CME activity (e.g. planners, faculty, authors, reviewers and others) disclose all relevant financial relationships with commercial entities so that HMS may identify and resolve any conflicts of interest prior to the activity. These disclosures will be provided in the activity materials along with disclosure of any commercial support received for the activity. Additionally, faculty members have been instructed to disclose any limitations of data and unlabeled or investigational uses of products during their presentations.

Disclaimer
CME activities accredited by Harvard Medical School are offered solely for educational purposes and do not constitute any form of certification of competency. Practitioners should always consult additional sources of information and exercise their best professional judgment before making clinical decisions of any kind.

LOCATION

All sessions will be held at:

**Royal Sonesta Hotel**
40 Edwin H Land Blvd
Cambridge, MA 02142, USA

www.sonesta.com/us/massachusetts/cambridge/royal-sonesta-boston

A limited block of rooms has been reserved at the Royal Sonesta Hotel. Please specify that you are enrolled in this course to receive a conference rate. The discounted room block may sell out prior to the deadline, early booking of hotel reservations is encouraged.

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