ADVANCED HEALTH EDUCATION CENTER®

EDUCATION ▲ STAFFING ▲ CONSULTING

Peripheral Vascular Ultrasound Course

16 AMA PRA Category 1

Faculty: Shawn Shanmuganathan BS, RDMS, RVT

Target Audience: This activity is designed for physicians, sonographers, nurses, and other healthcare professionals interested in ultrasound imaging.

Disclosure Summary: All relevant financial relationships of faculty and planners have been disclosed and mitigated. Full disclosure information is provided within this syllabus.

Advanced Health Education Center (AHEC) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

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Welcome to Advanced Health Education Center

On behalf of the faculty, staff, and your fellow students, I want to personally welcome you to your Ultrasound training course at AHEC. We're thrilled you've chosen us to advance your education, and we are committed to making your experience both enjoyable and rewarding.
Our courses are designed to help you build practical skills, deepen your knowledge, and perform at a high level of competency in sonography. Throughout your training, you will be evaluated in several areas to ensure your growth and success.

Since 1988, AHEC has been a trusted provider of continuing education for healthcare professionals in the imaging sciences. Our mission is to provide evidence-based education that enhances your competency and improves patient care. We have proudly supported the development of ultrasound skills for physicians, sonographers, nurses, midwives, and other healthcare professionals.

This registration packet includes essential information about AHEC, your course, CME credit, and disclosure of any relevant financial interests. We are here to support you in achieving your educational goals—please don't hesitate to reach out to us at **1-800-239-1361** if you need assistance.

Congratulations on taking this step in your professional journey. We look forward to seeing your skills and confidence grow!

Warm Regards,



Kelli Reddix, MBA, BAAS, LVN
Senior Vice President
Phone 1-800-239-1361 • 8502 Tybor, Houston, Tx, 77074

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Course Overview

Event Location: Advanced Health Education Center
8502 Tybor Drive
Houston, Texas, 77074
Credit: 16 AMA PRA Category 1™
Time: 8:00 am – 5:00 pm
Instructor: Shawn Shanmuganathan BS, RDMS, RVT

Course Description:

Peripheral Vascular Ultrasound – 16 Hours (2 Days) | In-Person | Houston, TX
Peripheral vascular ultrasound has advanced far beyond its early two-dimensional, black-and-white images to become a key tool for detecting arterial and venous disease in the extremities. Accurate diagnostics require a thorough understanding of vascular anatomy, hemodynamics, and the pathological conditions that can affect blood flow. Factors such as cardiac output, dehydration, and infection can all influence vascular imaging and interpretation.

This 2-day course combines lecture and hands-on scanning in our state-of-the-art lab with live models. Participants will gain a comprehensive overview of physics, instrumentation, anatomy, hemodynamics, and diagnostic criteria. Low student-to-instructor ratios and extensive case studies provide ample opportunity to practice scanning protocols and develop the skills necessary to perform diagnostic peripheral vascular exams with confidence. The course is designed for sonographers, other healthcare professionals, and physicians seeking foundational training or a deeper understanding of vascular lab capabilities and interpretive criteria.
Faculty: Shawn Shanmuganathan – No relevant financial relationships to disclose.

Course Objectives:

At the completion of this course, the learner will be able to:
• Correctly identify vessel anatomy and orientation in a vascular ultrasound examination.
• Identify the variations in instrumentation and Doppler principles and the effects in scanning parameters.
• Describe the flow characteristics and the manifestations of disease processes.
• Discuss QA of the procedure and equipment.
• Analyze the results of a vascular exam for pathological conditions and in certain cases, quantify the diseases.
• Identify additional resource information on vascular ultrasound.

Course Topics:

• Overview of the physical principles of ultrasound including Doppler and color flow
• Comprehensive review of the ultrasound platform controls enabling you to optimize your system for even the most difficult patient
• Arterial duplex testing
• Anatomy, hemodynamics, and diagnostic criteria
• Venous diagnostics including techniques for the detection of DVT and Venous reflux
• Case studies, pearls and pitfalls, and standardized reporting
• Hands-on scan lab

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Course Schedule

Lecture 8am-12 noon | Lunch 12-1pm | Scan Lab 1pm-5pm

Day 1 Lecture

- Principals
- Arterial Anatomy, Physiology, and Pathology
- 2D, Color Flow, and Doppler Spectral Analysis of the Arterial System

Scan Lab

Day 2 Lecture

- Physiologic Testing Concepts
- Segmental Pressures, Pulse Volume, and CW Doppler

Scan Lab

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Skills Checklist

The participant demonstrates an understanding of the following controls and utilizes them to produce an optimum image:

- ☐ Doppler
- ☐ Master Gain
- ☐ Scale, PRF, Nyquist Limit
- ☐ Color Bar
- ☐ Invert Color
- ☐ Filters
- ☐ Baseline
- ☐ Color Sector Steering
- ☐ Color Maps
- ☐ Angle Correction
- ☐ Sample Volume
- ☐ Gate Size
- ☐ Measure Peak Systolic Velocity
- ☐ Measure End Diastolic Velocity

The participant identifies the following vessels utilizing gray scale, color, and spectral Doppler imaging:

- ☐ Lower Extremity
- ☐ Common Femoral
- ☐ Superficial Femoral
- ☐ Popliteal
- ☐ Anterior Tibial
- ☐ Posterior Tibial
- ☐ Peroneal
- ☐ Upper Extremity
- ☐ Axillary
- ☐ Brachial
- ☐ Radial
- ☐ Ulnar

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CME Credit:

- "The Advanced Health Education Center is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians."
- "The Advanced Health Education Center designates this educational activity for a maximum of 16 hours AMA PRA Category I™. Physician should claim credit commensurate with the extent of their participation in the activity."

AHEC Cancellation and Refund Policy for Skills Courses:

AHEC defines a skills course as a limited enrollment course where a received registration with payment reserves your place in a course (i.e. all Ultrasound courses, Mammography Initial Training and other theory courses). For cancellations received at least two weeks prior to the course date, a refund less a 30% processing fee will be given. Within two weeks of the course, no refund is given, but a tuition credit – less a 30% processing fee – may be applied to a future course. No refunds or tuition credit is given for non-attendance. Facilities may substitute employees by notification to AHEC at least one week in advance.

Disclosure of Relevant Financial Interest for Individuals in Control of Content

As an ACCME-accredited provider, Advanced Health Education Center (AHEC) is committed to ensuring balance, independence, objectivity, and scientific rigor in all of its educational activities.

In accordance with ACCME Standard 3, AHEC requires that all individuals in control of content—including planners, faculty, committee members, and administrative personnel involved in the planning, development, or production of educational activities—disclose all financial relationships with ineligible companies within the past 24 months. A financial relationship is considered relevant if it exists between the individual and an ineligible company whose products or services are related to the content of the educational activity.

AHEC has implemented mechanisms to identify, mitigate, and disclose relevant financial relationships to prevent commercial bias in its educational activities. All disclosed relevant financial relationships have been mitigated prior to the commencement of the educational activity.

The individuals listed below are acknowledged by AHEC as having control of the content, planning, development, or administrative support of all educational activities.

- Marilyn Sackett, M. Ed, RT (R), Committee Member
  - AHEC: President
  - No relevant financial interest to disclose
- Jence Garza, MHA RT(R) - Committee Member
  - AHEC: Chief Executive Officer (CEO)
  - No relevant financial interest to disclose

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- Peggy Hoosier, M.Ed RT(R)(M) - Committee Member
  - AHEC: Consultant
  - No relevant financial interest to disclose
- Kelli Reddix, MBA, BAAS, LVN - Program Director
  - AHEC: Senior Vice President
  - No relevant financial interest to disclose
- Nanette Joiner
  - AHEC: Administrative Support
  - No relevant financial interest to disclose
- Chevaun Fletcher, BS, RDMS
  - Ultrasound Faculty
  - No relevant financial interest to disclose
- Jessica Smith, BS, MHA, RDMS
  - Ultrasound Faculty
  - No relevant financial interest to disclose
- Virlene Guzman, RT(R), RDMS, RVT
  - Ultrasound Faculty
  - No relevant financial interest to disclose
- Shawn Shanmuganathan, BS, RDMS, RVT
  - Ultrasound Faculty
  - No relevant financial interest to disclose

Content Validation:

All presentations designated for AMA PRA Category 1™ credit undergo a rigorous review process to ensure content validity. This process includes:

- Curriculum Committee Review: All content is reviewed and approved by members of the curriculum committee for scientific accuracy, balance, and alignment with current evidence-based practices.
- Peer Review: Where applicable, content is subjected to peer review by individuals with appropriate clinical expertise and no relevant financial relationships with ineligible companies.
- Conflict of Interest Assessment: Prior to the advertisement and delivery of the educational activity, all individuals involved in the planning, development, or production of the activity disclose any relevant financial relationships. Any identified conflicts are resolved in accordance with ACCME Standard 3.5.
- Identification of Emerging Topics: New and evolving topics are clearly identified as such within the program to distinguish them from established, evidence-based practices.

This comprehensive approach ensures that all educational content is fair, balanced, and based on the best available evidence, thereby supporting safe and effective patient care.