

Introduction to Abdominal and OBGYN Ultrasound Course

2023

48 AMA PRA Category 1



## **Introduction to Abdomen and OB/GYN Ultrasound**

Faculty: Shawn Shanmuganathan BS, RDMS, RVT

Faculty: Debbie Robertson, BS, RDMS

## **Welcome to Advanced Health Education Center**

As the Senior Vice President, I would like to thank you for choosing Advanced Health Education Center's (AHEC) for your Ultrasound training course. The faculty, staff, and fellow students join me in welcoming you. We will make reasonable efforts to ensure that your time with us is enjoyable as well as educational. These courses are designed to help you develop the skills and acquire the information necessary to perform at a high level of competency in sonography. There are various areas in which you will be evaluated during the course to ensure your learning and success.

AHEC has been a leading provider of continuing education for healthcare professionals in imaging sciences since 1988. Our mission is to provide you with evidence-based education and training that will increase your knowledge, enhance your competency, and improve patient care. Since receiving ACCME Accreditation in 1998, we have assisted in the development of ultrasound skills for physicians, sonographers, nurses, midwives and other healthcare professionals.

The registration packet is designed to provide students with general information regarding AHEC, course information, CME credit, and disclosure of relevant financial interest. We wish you well in your professional advancements and are here to assist you in pursuing your educational goals. Please contact us if we can be of further assistance to you at 1-800-239-1361.

Congratulations and good luck pursuing your professional goals!

Best,



*KReddix*

Kelli Reddix, MBA, BAAS, LVN

Senior Vice President

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## **Introduction to Abdomen and OB/GYN Ultrasound**

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Faculty: Debbie Robertson, BS, RDMS

### **Course Overview**

**Event Location:** Advanced Health Education Center

8502 Tybor Drive

Houston, Texas, 77074

**Credit:** 48 AMA PRA Category 1™

**Time:** 8:00 am – 5:00 pm

**Instructors:** Shawn Shanmuganathan BS, RDMS, RVT and Debbie Robertson, BS, RDMS

### **Course Description:**

The six-day ultrasound program is a systematic presentation of abdominal, obstetrics, and gynecological scanning using an integrated teaching approach of lecture, assigned reading, testing, demonstration, and clinical scanning of models. Didactic training is reinforced through clinical laboratory experience.

The focus of this six-day course is to provide participants with the confidence necessary to complete an abdominal, OB and GYN ultrasounds based on AIUM protocols. The Abdomen portion of the course covers the basic protocols involved in an examination and general use of the ultrasound system. Normal anatomy of the liver, gall bladder, kidneys, spleen, abdominal vessels, and pancreas will be discussed. Also included are soft tissue applications and abdominal doppler. The OB/GYN portion of the course will begin each day with lecture, including physics, instrumentation, female anatomy, fetal biometry. Case studies will be presented to familiarize the participants with normal and abnormal findings. Participants will finish the day in our on-site scanning lab, where they will benefit from live models and hands on experience supervised by a faculty member. The course will give participants the skills and knowledge necessary to complete and understand an ultrasound using transabdominal and endovaginal protocols according to AIUM guidelines.

**Faculty:** Shawn Shanmuganathan - No relevant financial relationships to disclose.

### **Target Audience**

Physicians, Physician Assistants, Nurses, Midwives, Nurse Practitioners, Sonographers and Radiographers who are at the entry level of ultrasound scanning and interpretation and who are seeking hands-on scanning experience. Physician specialties can include but are not limited to OB/GYN specialists, family practice, internal medicine, emergency medicine or radiology. In addition, this course is beneficial for nurses, midwives, sonographers, physician assistants, nurse practitioners and radiology personnel. Other health professionals learning abdominal ultrasound or cross training, including: sonographers, physician assistants, etc.



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### **Abdominal Ultrasound Course Objectives:**

At the completion of this course, the learner will be able to:

- Utilize the principles of instrumentation to set up ultrasound equipment for obtaining diagnostic images according to AIUM guidelines.
- Recognize and identify the organ systems in the abdomen on an ultrasound image.
- Perform abdominal Doppler using Color and Pulsed Wave Doppler
- Understand and identify pathological variants.
- Follow the sequence of an abdominal ultrasound procedure from the beginning to its conclusion.
- Recognize and identify the thyroid, scrotum, and appendix

### **Abdominal Course Topics:**

- Ultrasound Physics and Instrumentation
- Upper Abdominal Organ Systems Anatomy and Vasculature
- Evaluation and Image Review of Normal vs. Abnormal Studies
- Scan Techniques and Protocols for Image Acquisition of:
  - Prevertebral Vessels
  - Liver and Biliary System
  - Pancreas, Spleen and Kidney
  - Thyroid, Scrotum and Appendix
  - Abdominal Doppler

### **OB/GYN Course Objectives:**

At the completion of this course, the learner will be able to:

- Utilize the principles of instrumentation to obtain diagnostic images
- Recognize normal and abnormal pelvic anatomy
- Identify the difference in techniques related to transabdominal and endovaginal pelvic scanning techniques
- Identify basic fetal anatomy and biophysical profile
- Identify basic fetal anomalies and their ultrasound appearance
- Apply appropriate measurement techniques in transabdominal and endovaginal scanning
- Identify ultrasound findings in evaluating ectopic pregnancy

### **OB/GYN Course Topics:**

- Introduction to ultrasound physics and instrumentation
- Pelvic anatomy transabdominal and endovaginal
- Fetal anatomy and biometry
- AIUM Scan protocols and patient preparation
- Placenta and fetal Doppler
- Fetal anomalies
- Case studies



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### **Course Schedule**

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

#### **Day One - Abdominal**

***8:00am -12:00pm***

- Physics and Instrumentation
- Abdominal Vessels
- Liver
- Doppler
- Gallbladder

***1:00pm-5:00pm***

- Hands-on Demonstration/Participation with live models for Abdominal scanning

#### **Day Two - Abdominal**

***8:00am -12:00pm***

- Pancreas
- Renal
- Doppler
- Spleen

***1:00pm-5:00pm***

- Hands-on Demonstration/Participation with live models for Abdominal scanning

#### **Day Three - Abdominal**

***8:00am -12:00pm***

- Thyroid
- Small Parts

***1:00pm-5:00pm***

- Hands-on Demonstration/Participation with live models for Abdominal scanning

#### **Day Four – OB/GYN**

***8:00am -12:00pm***

- Introduction
- Physics and Instrumentation
- Basic Pelvic Ultrasound
- Pelvic Orientation and Imaging for transabdominal and endovaginal
- Imaging Uterine and Ovarian pathology
- Sonohysterography Video
- GYN Case Studies

***1:00pm-5:00pm***

- Hands-on Demonstration/Participation with live models for Gynecological Scanning



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### **Day Five – OB/GYN**

***8:00am-12:00pm***

- Abnormal 1<sup>st</sup> Trimester Ultrasound
- Multiple Gestations
- OB 1 Case Studies
- Ectopic Pregnancy
- 2<sup>nd</sup>/3<sup>rd</sup> Trimester Biometry

***1:00pm-5:00pm***

- Hands-on Demonstration/Participation with live models for 1<sup>st</sup> Trimester Scanning

### **Day Six – OB/GYN**

***8:00am-12:00pm***

- Review 2/3 Biometry
- ON Normal and Abnormal Anatomy
- Placenta
- BPP, IUGR, Cord Doppler
- Fetal Echo
- Fetal Echo Video
- Balance/3D

***1:00pm-5:00pm***

- Hands-on Demonstration/Participation with live models for 2<sup>nd</sup> and 3<sup>rd</sup> Trimester Scanning



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### **Abdominal Skills Checklist**

**The participant demonstrates an understanding of the following controls to optimize the image:**

#### **Physics and Instrumentation**

- |                                       |  |
|---------------------------------------|--|
| <input type="checkbox"/> On/Off       | <input type="checkbox"/> Dynamic Range             |
| <input type="checkbox"/> Output/Power | <input type="checkbox"/> Presets                   |
| <input type="checkbox"/> Depth        | <input type="checkbox"/> Calipers                  |
| <input type="checkbox"/> Master Gain  | <input type="checkbox"/> Freeze/Cine               |
| <input type="checkbox"/> TGC/DGC      | <input type="checkbox"/> Color/Power/Pulse Doppler |
| <input type="checkbox"/> Focal Zones  | <input type="checkbox"/> Zoom                      |

**The participant identifies and is able to image the following anatomy with measurements where applicable:**

- |   |   |
|---|---|
| <input type="checkbox"/> Long and transverse of left lobe of liver  | <input type="checkbox"/> Long and transverse thyroid      |
| <input type="checkbox"/> Long and transverse of right lobe of liver | <input type="checkbox"/> Common bile duct                 |
| <input type="checkbox"/> Long and transverse right and left kidneys | <input type="checkbox"/> Portal vein                      |
| <input type="checkbox"/> Long and transverse urinary bladder        | <input type="checkbox"/> Aorta                            |
| <input type="checkbox"/> Long and transverse gallbladder            | <input type="checkbox"/> IVC                              |
| <input type="checkbox"/> Long and transverse pancreas               | <input type="checkbox"/> Thyroid                          |
| <input type="checkbox"/> Long and transverse spleen                 | <input type="checkbox"/> Doppler of abdominal vasculature |



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### OB/GYN Skills Checklist

**The participant demonstrates an understanding of navigating the instrumentation of the machine.**

#### Physics and Instrumentation

- |  |   |
|--|---|
| <input type="checkbox"/> Power Button            | <input type="checkbox"/> Gain Button            |
| <input type="checkbox"/> Preset Parameters       | <input type="checkbox"/> Time Gain Compensation |
| <input type="checkbox"/> Depth Button            | <input type="checkbox"/> M-mode                 |
| <input type="checkbox"/> Calipers                | <input type="checkbox"/> Pulse Doppler Settings |
| <input type="checkbox"/> Measurement calculation | <input type="checkbox"/> Color Doppler Settings |
| <input type="checkbox"/> Cine Loop               | <input type="checkbox"/> Color Power Doppler    |
| <input type="checkbox"/> Freeze Button           | <input type="checkbox"/> Care of the Transducer |
| <input type="checkbox"/> Zoom                    | <input type="checkbox"/> Quality Assurance      |

**The participant understands the proper techniques for cleaning and care of the transducers.**

**Be able to scan for GYN both transabdominal and transvaginal.**

- Cervix
- Uterus
- Endometrium
- Ovaries
- Fallopian Tubes
- Adnexa

**Be able to perform 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup>, trimester OB Scans**

- |  |   |
|--|---|
| <input type="checkbox"/> FHR                     | <input type="checkbox"/> Femur Length       |
| <input type="checkbox"/> Gestational Sac         | <input type="checkbox"/> Four Chamber Heart |
| <input type="checkbox"/> CRL                     | <input type="checkbox"/> Stomach            |
| <input type="checkbox"/> Cisterna Magna          | <input type="checkbox"/> Three Vessel Cord  |
| <input type="checkbox"/> Lateral Ventricle       | <input type="checkbox"/> Kidneys            |
| <input type="checkbox"/> Nuchal Fold             | <input type="checkbox"/> Bladder            |
| <input type="checkbox"/> BPD                     | <input type="checkbox"/> Cord Insertion     |
| <input type="checkbox"/> Head Circumference      | <input type="checkbox"/> Placenta           |
| <input type="checkbox"/> Abdominal Circumference | <input type="checkbox"/> AFI                |





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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 48 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 a provider accredited by the ACCME, Advanced Health Education Center, Ltd ensures balance, independence, objectivity, and scientific rigor in all of its sponsored educational activities.

In addition to the identified CME faculty member for an educational activity, all non-faculty, including committee members and administrative personnel involved in the planning, development or production of the sponsored activity and/or authorship or review of enduring materials do not have any relevant financial interest to disclose. Financial interest includes but is not limited to relationships with commercial companies, manufacturers, or corporations, whose products or services are related to the subject matter of the presentation within the prior 12 months.

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

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  - AHEC: President
  - No relevant financial interest to disclose
- Jence Cantu, 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) - Program Director
  - AHEC: Chief Operating Officer (COO)
  - No relevant financial interest to disclose
- Kelli Reddix, MBA, BAAS, LVN - Planning Committee
  - AHEC: Senior Vice President
  - No relevant financial interest to disclose
- Nanette Joiner
  - AHEC: Administrative Support
  - No relevant financial interest to disclose
- Debbie Robertson, BS, 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™ are reviewed and approved by members of the curriculum committee for content validity, and to ensure that no conflicts of interest exist prior to the advertisement and delivery of the educational activity.

**The faculty and staff at AHEC welcome you!**