



# Sonography Principles & Instrumentation Registry Review – Virtual Conference September 1, 2021

Presented by: Bryan Dodd, M.Ed, RDMS, RVT, RT(R)

Wednesday, September 1, 2021	
9:00	Welcome and Introductions
9:05	Essentials of Diagnostic Ultrasound
9:35	Physical Principles
10:45	Break
10:55	Transducers
11:55	Lunch
12:30	Imaging Principles & Instrumentation - Part I <ul style="list-style-type: none"><li>• Real Time Imaging</li><li>• Pulse Echo Imaging</li><li>• Display Types</li></ul>
1:40	Imaging Principles & Instrumentation - Part II <ul style="list-style-type: none"><li>• Bioeffects</li><li>• Artifacts</li><li>• Quality Assurance</li><li>• New Technologies</li></ul>
3:00	Break
3:15	Doppler Instrumentation
4:30	Mock Exam & Interactive Review of Results
5:30	Adjourn

\*\* This is a tentative course itinerary. Lecture faculty, times and dates may be subject to change.



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The Gulfoast Ultrasound Institute is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The Gulfoast Ultrasound Institute designates this internet live educational activity for a maximum of 8.0 *AMA PRA Category 1 Credit™*. Physicians should claim only the credit commensurate with the extent of their participation in the educational activity.

This course also meets CME / CEU requirements for ARDMS. Note: While offering the CME credit hours noted above, activities are not intended to provide extensive training or certification for exam performance or interpretation.

## **NEEDS STATEMENT:**

The planning committee has determined a need for the following educational activity based on request from the medical community, expanded utilization of ultrasound, and lab accreditation requirements and scope of practice requirements for sonographers and technologists.

## **COURSE OBJECTIVES:**

At the completion of the program the participant should be able to:

1. Increase the participants' knowledge to better perform diagnostic ultrasound examinations.
2. State the elementary principles of ultrasound including definition of ultrasound, basic properties and units of measure.
3. Describe the fundamental principles of sound and the propagation of sound in soft-tissue.
4. Cite the different types of transducers, focusing, sound beam formation and the various types of resolution including: axial, lateral, contrast and temporal
5. Recognize components and terminology of ultrasound equipment and instrumentation.
6. List the advantages of Doppler, Color Flow and Color Power Imaging.
7. Differentiate imaging artifacts by their cause and characteristic appearance.
8. Apply statistical test correlation and test validation using CHI Square principles regarding sensitivity, specificity and overall test accuracy.
9. Outline safety, quality control, quality assurance and bioeffects concerns regarding operation and maintenance of ultrasound equipment.
10. Identify areas of weakness that require additional self-study to successful pass the ultrasound board examination offered by ARDMS, CCI or ARRT.

While offering CME credits this activity is not intended to provide extensive training or certification for performing or interpreting ultrasound examinations. We recommend working under supervised conditions until an accepted level of proficiency has been achieved.

No financial commercial support or educational grants were received for this activity and no "in-kind" commercial support is provided as no "hands-on" instruction is performed.



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## **Disclosure of Relevant Financial Relationships With Commercial Companies/Organizations**

Gulfoast Ultrasound Institute, Inc. endorses the standards and essentials of the Accreditation Council for Continuing Medical Education for activities and the speakers at these activities disclose relevant relationships with commercial companies.

Speakers having relevant relationships include receiving from a commercial company research grants, consultancies, honoraria and travel, or having a self-managed equity interest in a company.

### **FACULTY:**

**Bryan Dodd, M.Ed, RDMS, RVT, RT(R)**  
Ultrasound Consultant  
Phoenix, AZ  
*No relevant financial relationships to disclose*

*All presentations for this CME activity were reviewed and approved by member(s) of the GUI staff to determine content validity and ensure that no conflicts of interest exist prior to final course material compilation and printing.*



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## Disclosure of Individuals in Control of Content

*In addition to the faculty listed on the previous page the following individuals are recognized by GUI as being in control of content of this program:*

**James Mateer, MD, RDMS (Medical Director-planner & QI Task Force)**

Medical Director, Gulfoast Ultrasound Institute  
Milwaukee, WI

*No relevant financial relationships to disclose*

**Charlotte Derr, MD, RDMS, FACEP (Co-Medical Director-planner & QI Task Force)**

Assistant Professor of Emergency Medicine &  
Fellowship Director of Emergency Medicine  
Ultrasound Fellowship Program  
University of South Florida Medical School  
Tampa, FL

*No relevant financial relationships to disclose*

**Andreas Dewitz, MD, RDMS (Member of Advisory Board & QI Task Force Subcommittee)**

Associate Professor of Emergency Medicine  
Vice Chair of Ultrasound Education  
Boston Medical Center  
Boston, MA

*No relevant financial relationships to disclose*

**Lori Green, BA, RT, RDMS, RDCS, RVT (Program Director-planner, Content Reviewer, QI Task Force)**

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*No relevant financial relationships to disclose*

**Trisha Reo, AAS, RDMS, RVT (Program Coordinator-planner, Content Reviewer, QI Task Force)**

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**Content:**

***All content for this CME activity were reviewed and approved by member(s) of the GUI staff to determine content validity and ensure that no conflicts of interest exist prior to final course material compilation and printing.***

Reviewed & approved:

Lori Green BA, RT, RDMS, RDCS, RVT  
Trisha Reo AAS, RDMS, RVT

**HANDS-ON INSTRUCTORS:**

No hands-on instruction is performed for this course.