



# Introduction to Musculoskeletal Ultrasound

August 14 – 16, 2023

| Monday, August 14, 2023 |   |   |
|-------------------------|---|---|
| 7:25                    | Welcome and Continental Breakfast                                     |   |
| 7:35                    | Interactive Polling Session   |   |
| 7:40                    | Shoulder Anatomy & Scanning Techniques                                | Steven Soliman, DO, RMSK  |
| 8:25                    | Break   |   |
| 8:35                    | Live Demo: US Evaluation of the Shoulder                              | Steven Soliman, DO, RMSK  |
| 8:55                    | Break-Out Groups  |   |
| 9:00                    | Group A – Scan Lab  | Group B – Main Lecture Room   |
|                         | Hands-On Scanning: Shoulder   | Ultrasound Evaluation of Shoulder Pathology<br>Jon Jacobson, MD, RMSK |
| 10:15                   | Group Change  |   |
| 10:25                   | Group A – Main Lecture Room   | Group B – Scan Lab  |
|                         | Ultrasound Evaluation of Shoulder Pathology<br>Jon Jacobson, MD, RMSK | Hands-On Scanning: Shoulder   |
| 11:40                   | All Groups Return to Main Lecture Room                                |   |
| 11:45                   | Elbow Anatomy & Scan Techniques                                       | Paul Lento, MD, RMSK, CAQSM   |
| 12:20                   | Lunch   |   |
| 1:20                    | Live Demo: US Evaluation of the Elbow                                 | Paul Lento, MD, RMSK, CAQSM   |
| 1:50                    | Ultrasound Evaluation of Elbow Pathology                              | Jon Jacobson, MD, RMSK  |
| 2:30                    | Break-Out Groups  |   |
| 2:40                    | Group A – Main Lecture Room   | Group B – Scan Lab  |
|                         | Ultrasound Guided Injection Techniques<br>Jon Jacobson, MD, RMSK      | Hands-On Scanning: Elbow  |
| 3:45                    | Group Change  |   |
| 3:55                    | Group A – Scan Lab  | Group B – Main Lecture Room   |
|                         | Hands-On Scanning: Elbow  | Ultrasound Guided Injection Techniques<br>Jon Jacobson, MD, RMSK      |
| 5:00                    | Adjourn   |   |

Includes Pre-Course Online Video: “MSK Ultrasound Imaging Fundamentals” by Lori Green, BA, RDMS, RDCS, RVT. Login to your account at GCUS.com and navigate to “My Activities” to complete **prior** to this course.



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| Tuesday, August 15, 2023 |  |  |
|--------------------------|--|--|
| 7:25                     | Continental Breakfast  |  |
| 7:40                     | Wrist & Hand Anatomy, Scan Techniques  | Ralf Thiele, MD, RhMSUS  |
| 8:15                     | Live Demo: US Evaluation of the Wrist & Hand                                       | Ralf Thiele, MD, RhMSUS  |
| 8:40                     | Break-Out Groups   |  |
| 8:45                     | Group A – Scan Lab   | Group B – Main Lecture Room  |
|                          | Hands-On Scanning: Wrist & Hand  | Ultrasound Evaluation of W/H Pathology<br>Jon Jacobson, MD, RMSK                   |
| 10:00                    | Group Change   |  |
| 10:05                    | Group A – Main Lecture Room  | Group B – Scan Lab   |
|                          | Ultrasound Evaluation of W/H Pathology<br>Jon Jacobson, MD, RMSK                   | Hands-On Scanning: Wrist & Hand  |
| 11:20                    | Ultrasound Evaluation of the Ankle & Foot  | Paul Lento, MD, RMSK, CAQSM  |
| 12:00                    | Adjourn for Lunch  |  |
| 12:15                    | <b>Optional Lunch Lecture:</b> Use of US in Rheumatology Applications              | Ralf Thiele, MD, RhMSUS  |
| 1:10                     | Break-Out Groups   |  |
| 1:15                     | Group A – Main Lecture Room  | Group B – Scan Lab   |
|                          | US Evaluation of Ankle & Foot Pathology & Live Demo<br>Paul Lento, MD, RMSK, CAQSM | Hands-On Scanning: Ankle/Foot  |
| 2:30                     | Group Change   |  |
|                          | Group A – Scan Lab   | Group B – Main Lecture Room  |
|                          | Hands-On Scanning: Ankle/Foot  | US Evaluation of Ankle & Foot Pathology & Live Demo<br>Paul Lento, MD, RMSK, CAQSM |
| 3:45                     | Ultrasound Evaluation of the Hip & Live Demo                                       | Jon Jacobson, MD, RMSK   |
| 5:00                     | Adjourn  |  |
| 5:00 – 6:30              | <b>Join us for our Welcome Reception &amp; Vendor Event</b>                        |  |

| Wednesday, January 25, 2023 |   |   |
|-----------------------------|---|---|
| 7:30                        | Continental Breakfast   |   |
| 7:45                        | US Evaluation of the Knee: Normal Anatomy & Scanning Techniques | Kevin O'Donnell, DO                               |
| 8:25                        | Interactive Post-polling Session                                | All Faculty                                       |
| 8:45                        | Break & Split Groups  |   |
| 9:00                        | Group A – Scan Lab  | Group B – Main Lecture Room                       |
|                             | Hands-On Scanning: Knee & Hip                                   | Knee Pathology & Live Demo<br>Kevin O'Donnell, DO |
| 10:15                       | Group Change  |   |
| 10:30                       | Group A – Main Lecture Room                                     | Group B – Scan Lab                                |
|                             | Knee Pathology & Live Demo<br>Kevin O'Donnell, DO               | Hands-On Scanning: Knee & Hip                     |
| 11:45                       | Adjourn for Non-Cadaver Lab Participants*                       |   |

This is a tentative course itinerary. Lecture faculty/times/dates may be subject to change. Times listed are Eastern Time (ET). **\*Cadaver Lab Required advanced registration**



# Introduction to Musculoskeletal Ultrasound

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

The Gulfcoast Ultrasound Institute designates this live educational activity for a maximum of 20.0 *AMA PRA Category 1 Credits*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the educational activity.

The Gulfcoast Ultrasound Institute designates an additional 1.5 *AMA PRA Category 1 Credits*<sup>™</sup> for the enduring educational activity "MSK Ultrasound Imaging Fundamentals". Physicians should claim only credit commensurate with the extent of their participation in the educational activity.

Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 20.0 Medical Knowledge MOC points in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

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.

### **COURSE OBJECTIVES:**

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

1. Increase the participant's knowledge to better perform and/or interpret MSK ultrasound examinations.
2. List the indications, benefits, and limitations of MSK ultrasound for sports medicine injuries, physical medicine & rehabilitation, and rheumatology applications.
3. Demonstrate proper transducer manipulation and system optimization to produce diagnostic images.
4. Demonstrate scanning protocols for performing shoulder, elbow, wrist/hand, knee, ankle/foot & hip ultrasound examinations.
5. Identify normal anatomy during musculoskeletal ultrasound imaging.
6. Identify the sonographic appearance of commonly seen pathology of the shoulder, knee, elbow, wrist/hand, ankle and foot.
7. Demonstrate the use of MSK sonography for diagnosis and ultrasound-guided interventions and describe "in-plane" and "out of plane" injection/aspiration techniques using inanimate phantoms.
8. Increase confidence to incorporate protocols, techniques & interpretation criteria to improve diagnostic/treatment accuracy.

### **Optional Cadaver Lab Track:**

9. **Identify the sonographic anatomy during the performance of ultrasound guided MSK injections on cadaver models.**
10. **Demonstrate the principals of imaging techniques for the performance of upper and lower extremity MSK injections on cadaver models.**

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

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*A special thanks to the following ultrasound equipment manufacturers who provide various (in kind) equipment support to help make our programs possible (companies listed are as of the time of printing).*



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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 significant 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.

### LECTURING FACULTY:

**Jon Jacobson, MD, RMSK**  
(GUI QI Task Force Subcommittee)

Musculoskeletal Radiologist  
Lenox Hill Radiology  
New York, NY

**No relevant financial relationships to disclose**

**Kevin O'Donnell, DO**

Sports and Regenerative Medicine Physician  
Breakthrough Regenerative Orthopedics  
Centennial, Colorado

**No relevant financial relationships to disclose**

**Paul Lento, MD, RMSK, CAQSM**

360 Orthopedics  
Sarasota, FL

**No relevant financial relationships to disclose**

**Ralf Thiele, MD, RhMSUS**

(GUI QI Task Force Subcommittee)

University of Rochester  
Department of Medicine  
Division of Allergy/Immunology and Rheumatology  
Rochester, NY

**No relevant financial relationships to disclose**

**Steven Soliman, DO, RMSK**

Clinical Associate Professor  
Musculoskeletal Radiologist  
University of Michigan  
Ann Arbor, MI

**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, Gulfcoast 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, RDMS, RDCS, RVT (Program Director-planner, Content Reviewer, QI Task Force)**

Gulfcoast Ultrasound Institute, Inc.  
St. Petersburg, FL

*No relevant financial relationships to disclose*

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

Gulfcoast Ultrasound Institute, Inc.  
St. Petersburg, FL

*No relevant financial relationships to disclose*

**HANDS-ON INSTRUCTORS:**

At the time of printing **all hands-on instructors for this program have signed disclosure forms and have no relevant financial relationships to disclose.** A verbal disclosure will be made during opening remarks. All scanning sessions are monitored by the program director and/or the program manager to ensure education objectives are met and no commercial bias occurs.

**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, RDMS, RDCS, RVT

Trisha Reo AAS, RDMS, RVT



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# ***Welcome!!***

The entire staff at Gulfcoast Ultrasound Institute would like to welcome you to our educational facility.

Our goal is to provide the highest quality continuing education possible in a relaxed and personal atmosphere. The content of each program has been carefully planned to provide you with the information needed to obtain a firm foundation to begin gaining the experience to perform and/or interpret ultrasound examinations in the specialty of your choice. The program will be structured with lectures in the morning and hands-on sessions during the afternoon to allow more individualized attention the program participants will be divided into groups for the hands-on workshops based on your experience level and type of equipment you work with.

*To help you get the most out of this program we would like to make the following recommendations:*

1. Attend the lectures and scheduled hands-on sessions.
2. When you are not involved in a scheduled afternoon session, take advantage of the SUPPLEMENTAL SCANNING WORKSHOP or check out a DVD from our library.
3. If you do not understand a particular concept ASK FOR HELP!
4. Study your course workbook during the evening.
5. Remember excellence is not achieved overnight. Becoming proficient in any ultrasound specialty requires the commitment to continually study, and perform multiple (at least 100) exams before an initial level of confidence is achieved. The AIUM guidelines suggest competency for interpretation requires a minimum of 500 exams per specialty.
6. Begin scanning immediately upon return to the ultrasound departments even if it's on a volunteer. We recommend scanning/interpretations under supervised conditions until an accepted level of proficiency has been obtained.

All of our instructors, guest speakers and office staff are here to serve you! If you have any questions of any kind, please do not hesitate to ask.



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## ***Gulfcoast Ultrasound Institute*** **EQUIPMENT RECOMMENDATIONS**

Since 1985, Gulfcoast Ultrasound Institute has taken great pride in our ability to provide quality continuing education programs while remaining unbiased regarding the recommendation of ultrasound equipment.

Our programs are supported by most of the major equipment manufactures by providing their systems for use during the hands-on sessions. These companies have learned their products will be used and demonstrated to the best of our abilities in an educational setting and that no selling or promotion is done on our premises.

We realize that some of the course participants may currently be in the process of evaluating equipment for purchase and would like the opinions of our staff to determine the “best” system for your department. Everyone has a “favorite” ultrasound system (usually because it is the one they have worked with the most and are comfortable with) however, Gulfcoast Ultrasound must take an unbiased position in regards to equipment recommendations.

If you are currently evaluating equipment for purchase we suggest you invite the equipment manufacturers to your facility for a private demonstration to determine image quality, ease of use, over-all capabilities etc. on an individual basis.

Thank you!

*Lori Green BA, RDMS, RDCS, RVT*

Lori Green, BA, RDMS, RDCS, RVT  
Program Director