



# Introduction and Advanced Interventional & Regenerative Medicine Musculoskeletal Ultrasound with Interventional Cadaver Lab

January 23 – 27, 2023

Monday, January 23, 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 Jon Jacobson, MD, RMSK
10:15	Group Change	
10:25	Group A – Main Lecture Room	Group B – Scan Lab
	Ultrasound Eval of Shoulder Pathology 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 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 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, January 24, 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	
8:40	Break-Out Groups	
8:45	Group A – Main Lecture Room	Group B – Scan Lab
	Ultrasound Evaluation of W/H Pathology Jon Jacobson, MD, RMSK	Hands-On Scanning: Wrist & Hand
10:00	Group Change	
10:05	Group A – Scan Lab	Group B – Main Lecture Room
	Hands-On Scanning: Wrist & Hand	Ultrasound Evaluation of W/H Pathology Jon Jacobson, MD, RMSK
11:20	Ultrasound Evaluation of the Ankle & Foot	Paul Lento, MD, RMSK, CAQSM
12:00	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 Paul Lento, MD, RMSK, CAQSM	Hands-On Scanning: Ankle/Foot
3:40	Group Change	
3:45	Group A – Scan Lab	Group B – Main Lecture Room
	Hands-On Scanning: Ankle/Foot	US Evaluation of Ankle & Foot Pathology & Live Demo 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	Join us for our Welcome Reception and Vendor Event	

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 Kevin O'Donnell, DO
10:15	Group Change	
10:30	Group A – Main Lecture Room	Group B – Scan Lab
	Knee Pathology & Live Demo Kevin O'Donnell, DO	Hands-On Scanning: Knee & Hip
11:45	Lunch – Provided for all Cadaver Lab Participants	
12:15	All Participants Gown for Cadaver Lab	
12:30	Interventional Cadaver Lab: Upper & Lower Extremity Injection Techniques	
4:45	Adjourn	

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 and Advanced Interventional & Regenerative Medicine Musculoskeletal Ultrasound with Interventional Cadaver Lab

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Thursday, January 26, 2023		
7:45	Welcome and Continental Breakfast	
8:00	Interactive Polling Session	
8:10	Tendinopathy and Ultrasound Guided Tenotomy	Jon Jacobson, MD, RMSK
8:55	Break	
9:00	Advanced Musculoskeletal Ultrasound- Guided Procedures in Rehabilitative Medicine	Timothy J. Mazzola, MD, CAQSM, RMSK
10:15	Prolotherapy: General Principles/Practical Applications	David Wang, DO
11:00	10-Minute Stretch Break	
11:10	PRP: General Principles & Practical Applications	Timothy J. Mazzola, MD, CAQSM, RMSK
11:50	Adjourn for Lunch	
12:00	<b>Optional Lunch Lecture – Lunch Provided</b> Bone Marrow & Lipoaspirate: General Principles & Practical Applications	Tariq Awan, DO, RMSK
12:50	All Participants Gown for Cadaver Lab	
1:00	Hands-On Scanning: Interventional Cadaver Lab UE & LE Injection Techniques & Bone Marrow/Lipoaspirate*	
5:00	Adjourn	

**\*Bone Marrow & Lipoaspirate rotations REQUIRE advanced registration.** Please indicate on your information sheet if you wish to participate in these rotations during the interventional cadaver lab.



# Introduction and Advanced Interventional & Regenerative Medicine Musculoskeletal Ultrasound with Interventional Cadaver Lab

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Friday, January 27, 2023		
7:30	Continental Breakfast	
7:45	Introduction to Spine Ultrasound: SI Joints & Facets US Anatomy and Scan Techniques	David Wang, DO
8:30	Advanced Peripheral Nerve Applications: Diagnosis & Treatment Options	Jeffrey Strakowski, MD
9:20	Break Out Groups	
9:25	Group A – Scan Lab	Group B – Main Lecture Room
	Hands-On Scanning: Live Models Peripheral Nerve	MSK US for Post-Op Applications Timothy J. Mazzola, MD, CAQSM, RMSK
10:25	Break & Switch Groups	
10:30	Group A – Main Lecture Room	Group B – Scan Lab
	MSK US for Post-Op Applications Timothy J. Mazzola, MD, CAQSM, RMSK	Hands-On Scanning: Live Models Peripheral Nerve
11:30	Part 1: Regen Med Interventions: Knee OA, rotator cuff tears, epicondylitis, jumpers knee & Achilles tendon injuries Part 2: Billing & Coding	Tariq Awan, DO, RMSK
12:20	Interactive Post Polling Session with Discussion	
12:30	Lunch	
12:45	<b>Optional Lunch Lecture – Lunch Provided</b> Advanced & Regenerative Medicine Case Studies	Timothy J. Mazzola, MD, CAQSM, RMSK, David Wang, DO & Jeffrey Strakowski, MD
1:30	Group A – Main Lecture Room	Group B – Scan Lab
	Regenerative Medicine Procedures Live Patient Demos Performed by: Tariq Awan, DO, RMSK	Hands-On Scanning Live Models: Spine or Choice of Joint
2:30	Break & Switch Groups	
2:35	Group A – Scan Lab	Group B – Main Lecture Room
	Hands-On Scanning Live Models: Spine or Choice of Joint	Regenerative Medicine Procedures Live Patient Demos Performed by: Tariq Awan, DO, RMSK & John Broussard, DO, CAQSM
3:35	Choose Your Track	
3:40	Main Lecture Room	Scan Lab
	Regenerative Medicine Procedures Live Patient Demos Performed by: John Broussard, DO, CAQSM	SI Instability Demonstration Timothy J. Mazzola, MD, CAQSM, RMSK
4:30	Adjourn	

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



# Introduction and Advanced Interventional & Regenerative Medicine Musculoskeletal Ultrasound with Interventional Cadaver Lab

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## Introduction to Musculoskeletal Ultrasound with Interventional Cadaver Lab

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 live educational activity for a maximum of 24.0 *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 Gulfoast 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 24.0 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.

## Advanced Musculoskeletal Ultrasound: Interventional & Regenerative Medicine

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 live activity for a maximum of 16.0 *AMA PRA Category 1 Credit(s)*<sup>™</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Successful completion of this CME activity enables the participant to earn up to 16.0 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.



# Introduction and Advanced Interventional & Regenerative Medicine Musculoskeletal Ultrasound with Interventional Cadaver Lab

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## 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 the sonographic appearance of normal MSK anatomy and commonly seen pathology of the shoulder, knee, elbow, wrist/ hand, ankle and foot.
6. 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 and cadaveric specimens.
7. Interpret complex musculoskeletal ultrasound images and list treatment options and patient management strategies.
8. Outline the biology and evidence for use of various regenerative substances.
9. State when, why, and how to integrate regenerative medicine as a practical treatment option.
10. Prepare regenerative substances for performing ultrasound-guided procedures
11. Outline post procedural protocols for regenerative medicine procedures
12. Demonstrate the principles of injection techniques for the performance of upper and lower extremity MSK interventions on cadaver models.
13. State the role of ultrasound in nerve entrapment syndromes.
14. List protocols for ultrasound evaluation and treatment options of the spine.
15. Increase confidence to incorporate protocols, advanced scan techniques, and regenerative medicine applications to improve diagnostic/treatment accuracy.

## Cadaver Lab Track:

16. **Identify the sonographic anatomy during the performance of ultrasound guided MSK injections on cadaver models.**
17. **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

Gulfcost 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***

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

360 Orthopedics  
Sarasota, FL

***No relevant financial relationships to disclose***

**Timothy J. Mazzola, MD, CAQSM, RMSK**

**(GUI QI Task Force Subcommittee)**  
Breakthrough Regenerative Orthopedics  
Senior Clinical Instructor, CU Denver Medical School,  
Department of Family Medicine  
Boulder, CO

***No relevant financial relationships to disclose***

**David Wang, DO**

Regenerative Orthopedics and Sports Medicine  
Director of Training and Education  
Silver Spring, MD

***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***

**Steven Soliman, DO, RMSK**

Henry Ford Medical Group, Dept of Radiology  
Detroit, MI

***No relevant financial relationships to disclose***

**Tariq Awan, DO**

DMC Orthopaedic & Sports Medicine  
Troy, MI

***No relevant financial relationships to disclose***

**John Broussard, DO, CAQSM**

Alliance Regen & Rehab  
St. Petersburg, Florida

***No relevant financial relationships to disclose***

**Jeffrey Strakowski, MD**

**(GUI QI Task Force Subcommittee)**  
Clinical Professor, Department of PM & R  
The Ohio State University  
Associate Director of Medical Education, Department  
of PM & R  
Ohio Health Riverside Methodist Hospital  
Columbus, OH

***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***

***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***



# Introduction and Advanced Interventional & Regenerative Medicine Musculoskeletal Ultrasound with Interventional Cadaver Lab

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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, RT, 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, RT, RDMS, RDCS, RVT

Trisha Reo AAS, RDMS, RVT





## Introduction and Advanced Interventional & Regenerative Medicine Musculoskeletal Ultrasound with Interventional Cadaver Lab January 23 – 27, 2023

# Welcome!!

The entire staff at Gulfoast 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, RT, RDMS, RDCS, RVT

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