

# MSK Ultrasound Guided Injection Training Course with Bone Marrow Aspiration Workshop



**INSTRUCTOR: Michael Meng, DC, RMSK**  
Training location: Gulf Coast Biologics  
4331 Veronica S Shoemaker Boulevard  
Fort Myers, FL 33916

**March 14th & 15th**  
**2025**

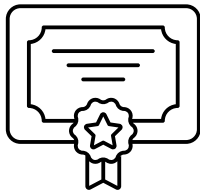
## COURSE OBJECTIVES

- Develop proficiency in musculoskeletal (MSK) ultrasound imaging techniques for precise visualization of anatomical structures relevant to regenerative medicine injections.
- Discuss the principles and mechanisms of action behind various regenerative injection therapies, including platelet-rich plasma (PRP) and progenitor stem cell therapy.
- Review the art of needle placement and trajectory adjustments under ultrasound guidance to optimize accuracy and efficacy of injections.
- Practice injection techniques for common anatomical regions and pathologies, such as tendons, ligaments, joints, nerves, and soft tissue structures.
- Discuss strategies for patient positioning and probe manipulation to optimize ultrasound imaging and needle visualization during injections.
- Explore injection protocols and treatment algorithms tailored to specific musculoskeletal conditions, including tendonitis, osteoarthritis, ligament injuries, and more.
- Analyze and interpret ultrasound findings to guide clinical decision-making and treatment planning in regenerative medicine injections.
- Incorporate evidence-based practices and emerging technologies into injection therapies for improved patient outcomes and safety.
- Participate in hands-on workshops and live demonstrations to refine injection techniques under the guidance of experienced practitioners.
- Foster interdisciplinary collaboration and communication skills to facilitate comprehensive patient care and multidisciplinary treatment approaches.
- Review the latest technology in advanced autologous biologics, including clinical platelet-rich plasma, bone marrow aspirate and concentrate.

# MSK Ultrasound Guided Injection Training Course with Bone Marrow Aspiration Workshop

## COURSE OBJECTIVES CONTINUED

- Outline differences in autologous biological preparation validation results, emphasizing platelet dosing and bioformulations.
- Identify sonoanatomy of shoulder, hip, and knee in live models.
- Identify sonoanatomy of the PSIS for bone marrow aspiration in cadaver models.
- Assess the differences and potential of bone marrow aspiration methods as orthobiological injectates.



Upon completion of the course, receive continuing education credits and a certificate of proficiency, acknowledging your expertise in musculoskeletal ultrasound-guided injection techniques.

### ACCREDITATION STATEMENT

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Current Concepts Institute and Gulf Coast Biologics Training and Education Center. The Current Concepts Institute is accredited by the ACCME to provide continuing medical education for physicians.



### CREDIT DESIGNATION STATEMENT

The Current Concepts Institute designates this activity for a maximum of 13.25 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.



# MSK Ultrasound Guided Injection Training Course with Bone Marrow Aspiration Workshop

## TRAINING AGENDA

### Friday Schedule

Time	Location	Topic
7:30 - 8:00	Auditorium	BREAKFAST
8:00 - 8:05	Auditorium	WELCOME: Sina Farzaneh PhD
8:05 - 8:40	Auditorium	ORTHOBIOLOGICS LECTURE: Sina Farzaneh PhD: Appreciation of Cellular Co-Operativity in Platelet Rich Plasma Action
8:40 - 9:15	Auditorium	INTRO TO KNEE LECTURE: Irizarry-Román MD: Review anatomy, sonoanatomy, conditions, and common pathologies treated with biologics. Ultrasound guided injection techniques
9:15 - 10:00	Auditorium	INTRO TO SHOULDER LECTURE: Michael Meng: Review anatomy, sonoanatomy, conditions, and common pathologies treated with biologics. Ultrasound guided injection techniques
10:00 - 10:15	Auditorium	BREAK
10:15 - 12:00	Boca Grande & Captiva	WORKSHOPS: Practice Ultrasound Scanning on live models and simulated injection guidance. KNEE: Irizarry-Román in Boca Grande SHOULDER: Meng in Captiva
12:00 - 1:00	Auditorium	LUNCH
1:00 - 3:00	Boca Grande & Captiva	WORKSHOPS: Practice Ultrasound Scanning on live models and simulated injection guidance. KNEE: Irizarry-Román in Boca Grande SHOULDER: Meng in Captiva
3:00 - 4:00	Manasota Key	Live PRP Injection: Knee
4:00 - 4:30	Auditorium	DAY 1 WRAP-UP



# MSK Ultrasound Guided Injection Training Course with Bone Marrow Aspiration Workshop

## TRAINING AGENDA

### Saturday Schedule

Time	Location	Topic
7:30 - 8:00	Auditorium	BREAKFAST
8:00 - 8:05	Auditorium	WELCOME: Sina Farzaneh
8:05 - 8:40	Auditorium	ORTHOBIOLOGICS LECTURE: Irizarry-Román: Biologic Dosing Considerations
8:40 - 9:15	Auditorium	INTRO TO HIP LECTURE: Michael Meng: Review anatomy, sonoanatomy, conditions, and common pathologies treated with biologics. Ultrasound guided injection techniques.
9:15 - 10:00	Auditorium	INTRO TO BONE MARROW: Irizarry-Román: Review anatomy, sonoanatomy, conditions, and common pathologies treated with bone marrow.
10:00 - 10:15	Auditorium	BREAK
10:15 - 12:00	Boca Grande & Captiva	WORKSHOPS HIP - ULTRASOUND PRACTICE: Meng in Boca Grande BONE MARROW ASPIRATION: Irizarry-Román in Captiva
12:00 - 1:00	Auditorium	LUNCH
1:00 - 2:15	Boca Grande & Captiva	WORKSHOPS HIP - ULTRASOUND PRACTICE: Meng in Boca Grande BONE MARROW ASPIRATION: Irizarry-Román in Captiva
2:15 - 3:00	Boca Grande	BIOLOGIC PREPARATION: Irizarry-Román, Profiruk, and Colombo
3:00 - 3:15	Auditorium	Question & Answer Session
3:15 - 3:45	Auditorium	BREAK
3:45 - 4:00	Auditorium	Closing Remarks



# MSK Ultrasound Guided Injection Training Course with Bone Marrow Aspiration Workshop

## TRAINER HIGHLIGHTS

### Meet Your Instructor

Michael Meng DC, RMSK, ARNP, FNP-BC, FIAAM



Michael Meng came into Musculoskeletal Ultrasound shortly upon graduation from Chiropractic School, in 2003. Michael has contributed to multiple ultrasound textbooks with subjects ranging from diagnostics, pathologies, and interventions. Overall, he has been involved in the teaching of MSK ultrasound for 15 years and has more than 10 years of experience in regenerative medicine.

### Sina Farzaneh, PhD

Appreciation of Cellular Co-Operativity in Platelet Rich Plasma Action



Scientific Director Sina Farzaneh, PhD, holds a doctorate in tissue engineering and brings extensive expertise in medical sciences.

### Moises Irizarry-Román, MD Biologic Dosing Considerations



With a passion for sports medicine, Dr. Irizarry-Román, has a long history of being the go-to practitioner for all levels of athletes. He works as a team sports physician for the Dixie Rodeo, and the Puerto Rico Islanders professional soccer team.

## Gulf Coast Biologics Team



**Ewa Profiruk**  
Clinical Support Specialist



**Leslie Aja, RDMS, RVT, RMSKS**  
Clinical Ultrasound Educator



**Heidi Columbo**  
Clinical Nurse Educator

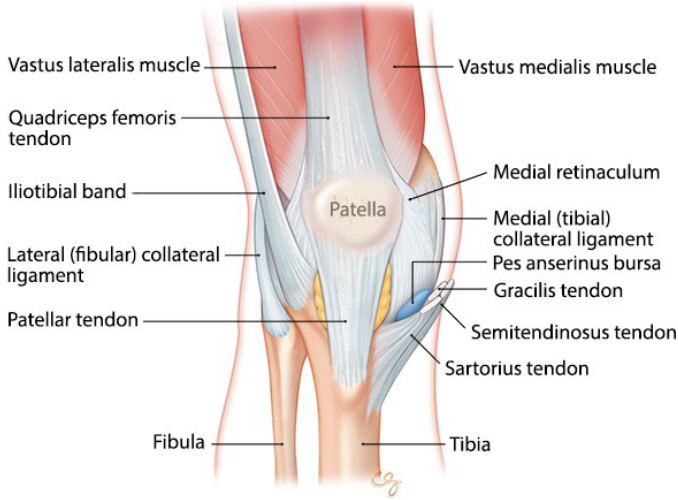


MSK Ultrasound Guided Injections  
Email: [support@gulfcoastbiologics.com](mailto:support@gulfcoastbiologics.com)

Gulf Coast Biologics | [gulfcoastbiologics.com](http://gulfcoastbiologics.com)  
Phone: 239-478-2284

# Ultrasound Guided Injection Training

## KNEE INJECTION CHECKLIST



Suprapatellar Recess

---

---

---

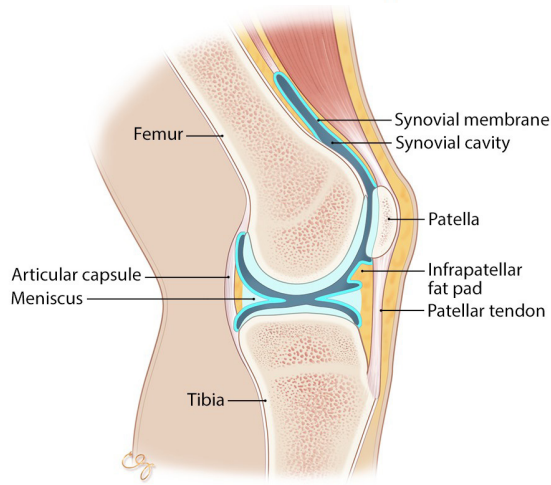
---

---

---

---

---



Medial Femoral Condyle-Tibial Plateau

---

---

---

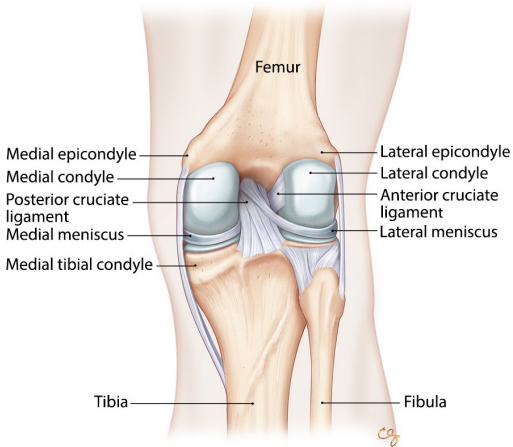
---

---

---

---

---



Lateral Femoral Condyle-Tibial Plateau

---

---

---

---

---

---

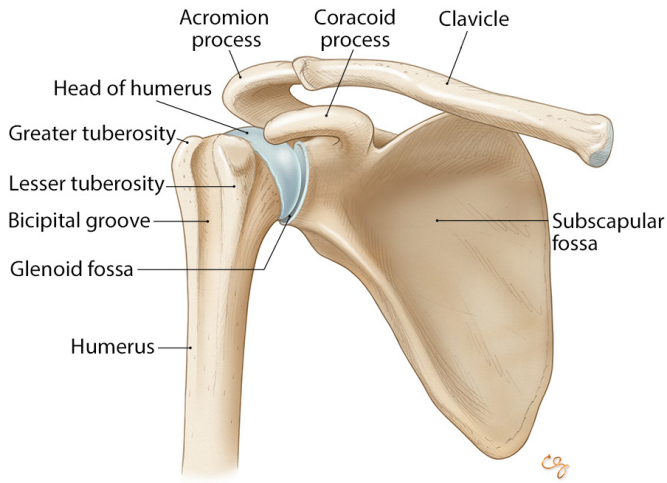
---

---



# Ultrasound Guided Injection Training

## SHOULDER INJECTION CHECKLIST



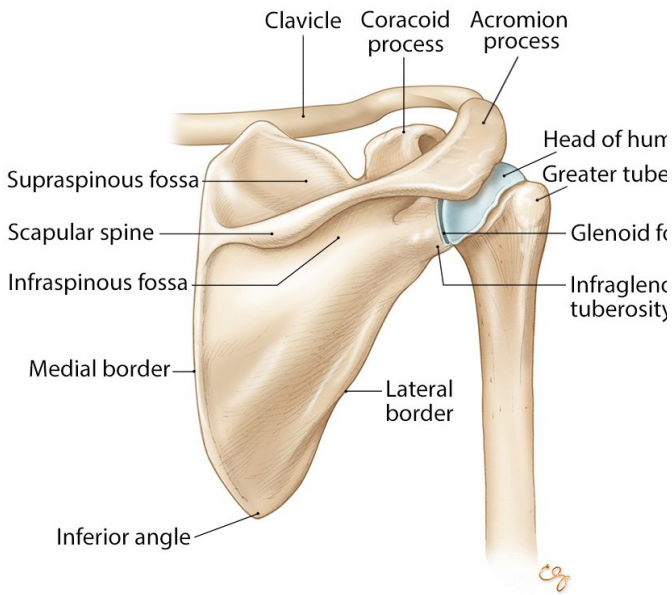
Glenohumeral Joint

---

---

---

---



Subacromial Injection

---

---

---

---

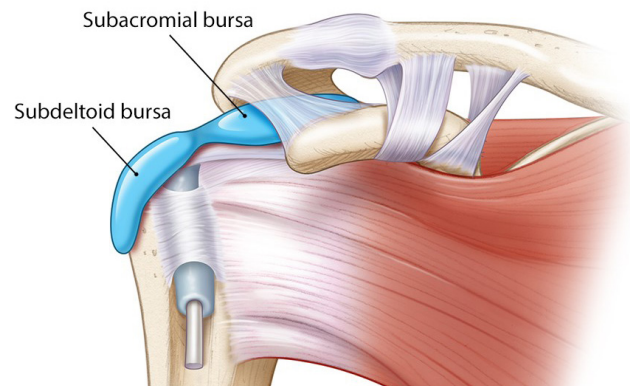
Supraspinatus

---

---

---

---



Long Head Biceps Tendon

---

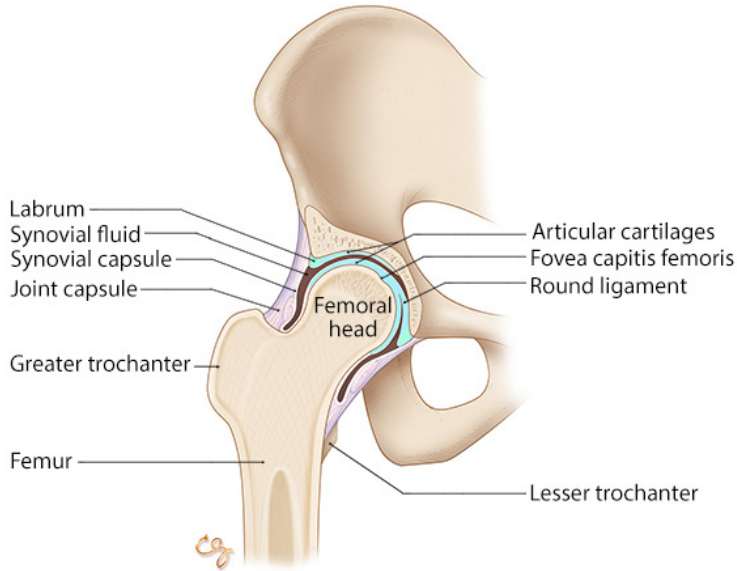
---

---

---

# Ultrasound Guided Injection Training

## HIP INJECTION CHECKLIST



Anterior Femoroacetabular Synovial Recess

---

---

---

---

---

---

---

---

Lateral Femoroacetabular Joint Synovial Recess

---

---

---

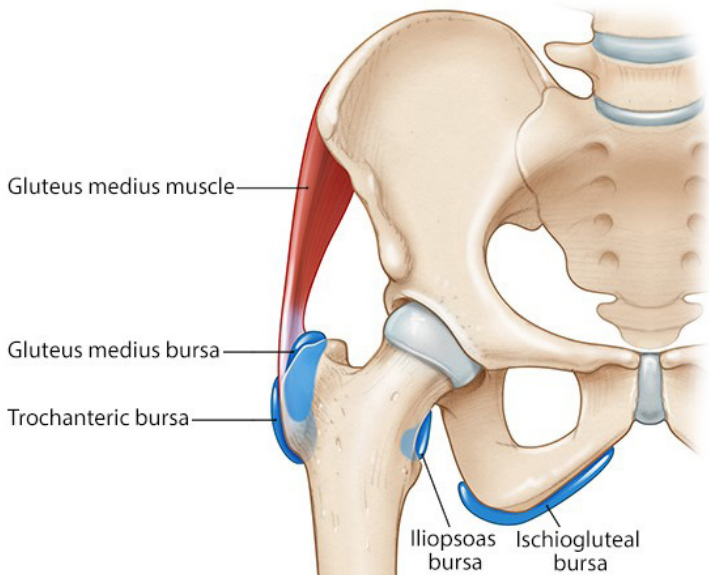
---

---

---

---

---



Greater Trochanteric Region

---

---

---

---

---

---

---

---



# Ultrasound Guided Injection Training

## CHECK YOUR KNOWLEDGE

1. The biceps tendon sheath communicates with the glenohumeral joint.  
True      False
2. The \_\_\_\_\_ is the most common target for intraarticular knee injection.
  - a. Infrapatellar recess
  - b. Popliteal fossa
  - c. Suprapatellar recess
  - d. Prepatellar bursa
3. \_\_\_\_\_ is a common artifact that occurs in musculoskeletal imaging and can be corrected by adjusting the probe so that the structure is perpendicular to the ultrasound beam.
  - a. Posterior acoustic enhancement
  - b. Reverberation
  - c. Shadowing
  - d. Anisotropy
4. 90% of rotator cuff pathology occurs in the \_\_\_\_\_ tendon.
  - a. Subscapularis
  - b. Supraspinatus
  - c. Infraspinatus
  - d. Biceps
5. The MOST common site for hip joint injection for osteoarthritis is \_\_\_\_\_.
  - a. Anterior recess into the joint capsule at the femoral neck
  - b. Anterior recess into the labrum
  - c. Lateral recess into the greater trochanter
  - d. Lateral recess into the gluteal tendons

# Ultrasound Guided Injection Training

## CHECK YOUR KNOWLEDGE

6. Procedures in which the needle is parallel to the transducer beam and the length of the needle is visualized is termed out of plane.  
True                      False
7. The femoral trochlea hyaline cartilage is best visualized with the knee in  
a. Extension  
b. Internal rotation  
c. Flexion  
d. External rotation
8. What are the primary cellular components of leukocyte rich PRP?  
  
\_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_
9. The typical volume for an injection of PRP directly into the tendon is  
a. 5-8ml  
b. 1-3ml  
c. 2-6ml  
d. 4-6ml
10. What is an indication that you would choose to use neutrophil rich PRP for, and why?