

UNIVERSITY OF WISCONSIN DEPARTMENT OF FAMILY MEDICINE  
**Integrated Musculoskeletal and Sports Medicine Curriculum  
for Family Medicine Residents**

Musculoskeletal problems are the most common primary reasons that patients seek care from physicians in the U.S. These problems are also the most common cause of pain and physical disability. Therefore, family physicians must be competent in the diagnosis and management of these problems.

## **GOALS**

Upon completion of the family medicine residency, the resident graduate will be able to:

1. Skillfully perform evidence-based history and physical examinations of the musculoskeletal system (shoulder, knee, foot/ankle, spine, hip, wrist/hand).
2. Evaluate and diagnose common musculoskeletal conditions due to injury (acute and overuse), trauma (common fractures), degenerative (arthritis), infectious, metabolic, inflammatory, and rheumatologic causes.
3. Evaluate and diagnose special conditions of the musculoskeletal system including: musculoskeletal conditions that are unique to childhood, congenital conditions (e.g., *Down syndrome*), work and accident-related problems (including Workman's Comp evaluations and disability exams).
4. Describe the pathophysiology and clinical presentation of chronic musculoskeletal pain syndromes (chronic neck and low back pain).
5. Develop an appropriate evidence-based treatment plan for common musculoskeletal conditions, including knowledge of the role and principles of rehabilitation for musculoskeletal conditions, and recognition of conditions requiring referral to a specialist/consultant.
6. Diagnose and treat common medical problems of athletes including concussions, asthma, menstrual disorders and disordered eating.
7. Perform common procedures of the musculoskeletal system including: a) injection of soft tissues and joints, b) arthrocentesis, c) closed reduction of common dislocations and fractures, d) splinting and casting, and e) local and regional anesthesia.
8. Perform pre-participation examinations on active persons of all ages and abilities.
9. Describe the roles and responsibilities of the family physician as team physician.

In addition to the above, osteopathic resident graduates will be able to:

10. Integrate osteopathic principles and practice into the management and treatment of sports medicine, rheumatologic and musculoskeletal problems.

## LEARNING OBJECTIVES

1. List the key components of the history necessary in the evaluation of acute and chronic musculoskeletal symptoms and injuries.
2. Demonstrate competency in performing evidence-based physical examinations of the knee, shoulder, spine, hip, ankle/foot, and wrist/hand to identify the presence of effusion, soft tissue damage, range of motion, joint stability, muscle strength, and neurovascular integrity.  
See DFM Musculoskeletal Curriculum website:  
<https://inside.fammed.wisc.edu/education/musculo/index.html>
3. Describe the risk factors, clinical signs and symptoms, initial evaluation and management plan, and indications for referral for the following high prevalence conditions:

### KNEE

- Patellofemoral pain syndrome
- Degenerative joint disease/Osteoarthritis
- Anterior cruciate ligament (ACL) tear
- Medial collateral ligament (MCL) sprain
- Meniscus tears
- Iliotibial band syndrome (ITBS)
- Osgood-Schlatter's disease

### SHOULDER

- Rotator cuff pathology (tear/strain/tendinopathy)
- Impingement syndrome
- Adhesive capsulitis
- Shoulder (AC joint) separation
- Subacromial bursitis
- Clavicle fracture

### ANKLE/FOOT

- Ankle sprains
- Plantar fasciitis
- Achilles tendinitis
- Calcaneal apophysitis
- Bunions
- Gout
- Metatarsal (stress) fractures

## SPINE

- Low back pain
- Neck pain/strain
- Thoracic strain
- Degenerative disc disease
- Spondylolysis/lithesis
- Scoliosis
- Costochondritis

## HIP

- Degenerative joint disease (DJD)
- Sacroiliac (SI) joint dysfunction
- Greater trochanteric bursitis
- Piriformis syndrome

## WRIST/HAND/ELBOW

- Distal radius fracture
- Wrist sprain
- Carpal tunnel syndrome
- Wrist ganglions
- Lateral epicondylosis
- Medial epicondylosis
- Radial head fracture
- Nursemaid's elbow
- Metacarpal and finger fractures

## RHEUMATOLOGIC CONDITIONS

- Rheumatoid arthritis
- Gout

4. Describe the risk factors, clinical signs and symptoms, initial evaluation and management plan, and indications for referral for the following low prevalence conditions:

## UPPER EXTREMITIES

- Anterior shoulder dislocation
- Biceps tendinopathy
- Sternoclavicular joint pain
- Nerve entrapments (ulnar nerve)
- DeQuervain's tenosynovitis
- Scaphoid/Navicular fracture

## LOWER EXTREMITIES

- Transient synovitis of the hips
- Slipped capital femoral epiphysis (SCFE)

Medial tibial stress syndrome (shin splints)  
Tibial stress fracture  
Pediatric gait and alignment abnormalities

#### RHEUMATOLOGIC CONDITIONS

Autoimmune/Connective tissue disorders  
Lupus  
Scleroderma  
Dermatomyositis  
Psoriatic arthritis  
Spondyloarthropathies

5. Radiology skills
  - a. State the criteria for ordering an xray to rule out a fracture or dislocation, select appropriate xray views, and evaluate the xray for signs of fracture or dislocation.
  - b. Describe radiographic views and findings in a conventional manner to other physicians in oral and written formats.
  - c. List conditions in which a bone scan, MRI, or CT are useful in the diagnosis and management of musculoskeletal conditions.
6. Demonstrate proficiency in soft tissue and joint injections (knee, subacromial bursa, carpal tunnel, wrist ganglions), and arthrocentesis (knee, ankle, great toe).
7. Discuss conditions requiring casts, and demonstrate the technique for applying them: short arm cast, thumb spica cast, long arm cast, short leg cast, ulnar/radial gutter splint, ankle stirrup splint, wrist cock-up splint, thumb spica splint, figure-of-eight, finger splints and cast boot.
8. Demonstrate the appropriate technique of local and regional anesthesia including:
  - a. Digital block
  - b. Hematoma block
9. Describe the technique for reduction of the following injuries:
  - a. Finger dislocation
  - b. Anterior shoulder dislocation
  - c. Radial head subluxation (nursemaid's elbow)
10. Define the components of the preparticipation history and physical exam, appropriate screening labs, studies and consultations for high-risk conditions, and recommendations for participation based on risk evaluation.

11. Team physician skills
  - a. Describe the appropriate procedures for on-the-field evaluation, emergency care, and transportation of injured athletes
  - b. Describe the determination of whether the injured athlete's sport participation should be discontinued, continued, or modified.
  - c. Describe concussion evaluation, treatment, and return-to-play recommendations