

# Ankle Injury Assessment and Diagnosis

LEVEL  
2.9

MODULE  
J2

## Objective

Develop and demonstrate the skills necessary to evaluate ankle injuries.

NATA Athletic Training Educational Competencies embedded in this module: AC-C6, DI-C6, DI-C7, DI-C10, DI-C12, DI-C13, DI-C15, DI-C16, DI-C17, DI-P1, DI-P2, DI-P4, DI-P5, DI-P6, DI-P7, DI-P8, DI-P10, DI-CP1

## Anatomy and Conditions for This Module

### A. Bones and Prominent Bony Features

- Calcaneus
- Talus
- Cuboid
- Navicular
- Cuneiforms
- Tibia
- Fibula

### B. Articulations

- Ankle mortice
- Distal tibiofibular
- Subtalar
- Transverse tarsal

### C. Ligaments

- Anterior talofibular
- Calcaneofibular
- Posterior talofibular
- Distal anterior tibiofibular
- Distal posterior tibiofibular
- Deltoid
- Peroneal retinaculum

### D. Muscles

- Anterior tibialis
- Flexor hallucis longus
- Flexor digitorum longus
- Posterior tibialis
- Extensor hallucis longus
- Extensor digitorum longus
- Peroneus longus
- Peroneus brevis

- Peroneus tertius
- Gastrocnemius
- Soleus

### E. Other Structures

- Anterior tibial artery
- Deep peroneal nerve
- Superficial peroneal nerve
- Posterior tibial

### F. Special Tests

- Anterior drawer test
- Talar tilt test (inversion and eversion)
- Kleiger's (external rotation) test
- Tap or percussion test

### G. Injuries and Conditions

- First-degree ankle sprain
- Second-degree ankle sprain
- Third-degree ankle sprain
- Sprain and dislocation
- Anterior tibialis strain
- Peroneal strain
- Fracture
- Stress fracture
- Avulsion fracture

## Competencies

*Note:* All procedures must be performed.

### Anatomical Review and Assessment of Structural Integrity

1. Name and palpate each bone and bony structure in list A. Tell what differences you would expect to feel if the bone were fractured.
2. Palpate or draw the joint line for each articulation in list B. Then perform active and passive joint ROM tests using both qualitative and quantitative techniques (e.g., tape measure, goniometer, and inclinometer). Record the results of these tests using accepted forms and procedures.
3. Using surface anatomy, palpate or draw the origins and course of each ligament in list C.
4. Using surface anatomy, palpate the origin, insertion, and course of each muscle in list D. Also, tell the major function of each muscle.

- Using surface anatomy, palpate each structure in list E.

### ***Injury Assessment***

- Obtain the medical history of an athlete with a suspected ankle injury.
- Demonstrate proper administration and interpretation of the special tests in list F.
- Demonstrate how you would observe and identify the clinical signs and symptoms associated with the injuries and conditions in list G.
- Explain and demonstrate the mechanisms by which each injury in list G occurs. Name the three sports in which each injury is most likely to occur and explain any differences among the injury occurrences and mechanisms in those sports.
- Demonstrate appropriate sensory, circulatory, and neurological tests for the injuries in list G.
- Palpate and assess the integrity of the bones and soft tissues associated with each injury in list G.
- Perform special tests to assess the integrity of the joints involved in each injury in list G and explain how you would interpret these tests.
- Demonstrate the use of manual muscle testing and other tests as appropriate to assess the flexibility and strength of the muscles associated with each injury in list G.
- Demonstrate functional and activity-specific tests to determine the integrity of each structure involved in each injury in list G.

### **Proficiency Demonstration**

- Develop appropriate subject knowledge through coursework (C), verbal conversation (V), quizzes (Q), worksheets (W), or other approved activities (O).
- Practice and reinforce the skills in clinical skills and laboratory courses.
- Refine your skills by observing peer teachers and clinical instructors as they perform the skills (preferably on patients), discussing the competencies with peer teachers and clinical instructors, practicing alone and with others, and then demonstrating proficiency to a peer teacher.
- Demonstrate your proficiency to an ACI.

### **APPROVED BY**

*(date and signature, and mode for didactic)*

#### **1. Bones**

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

#### **2. Articulations**

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

#### **3. Ligaments**

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

#### **4. Muscles**

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

#### **5. Other structures**

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

#### **6. History**

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

#### **7. Special tests**

*Anterior drawer test*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

*Talar tilt test (inversion and eversion)*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

*Kleiger's (external rotation) test*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

*Tap or percussion test*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

**8-14.** Complete competencies 8 through 14 for the injuries or conditions in list G:

*First-degree ankle sprain*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

*Second-degree ankle sprain*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

*Third-degree ankle sprain*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

*Sprain and dislocation*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

*Anterior tibialis strain*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

*Peroneal strain*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

*Fracture*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

*Stress fracture*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

*Avulsion fracture*

Didactic \_\_\_\_\_

Lab \_\_\_\_\_

Peer \_\_\_\_\_

ACI \_\_\_\_\_

**COMMENTS**

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