

Trail Guide
to the Body's

JOINT ANATOMY

for Athletic Training

NEW!

Margo Greicar



DISCOVER



Books of
Discovery

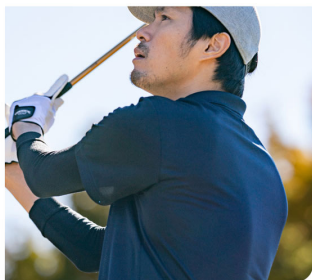
*Includes over 190 detailed joint anatomy
illustrations and 41 movement videos*

JOINT ANATOMY for Athletic Training

Deepen students' knowledge and understanding of joint anatomy for the assessment of injuries.

Created for athletic training (AT) students, *Joint Anatomy for Athletic Training* is a clinical companion to *Trail Guide to the Body*. The eTextbook follows, chapter by chapter, the body regions detailed in *Trail Guide to the Body* and dives deep into the structure of joints and their related components—ligaments, tendons, bursae, and surrounding soft tissue.

Joint Anatomy for Athletic Training offers succinct, easy-to-absorb descriptions of the joints that ATs most commonly treat, deepening students' knowledge and understanding of joint anatomy for the assessment of injuries. It features:



4

Spine

To accompany *Trail Guide to the Body*, Chapter 4, Spine & Thorax

A pretty decent golfer, the 35-year-old man was strong with a bit of a belly. The morning his wife saw him crawling on all fours to get across the living room, in tremendous pain, was quite a shock. He could not stand up due to the severe shooting, burning pain in his back and down his right leg. After many painful minutes, he managed to crawl outside and into the back seat of the car. His wife drove him to the emergency room. The car ride was miserable, as was getting out of the car and into a wheelchair; the climb out of the chair and onto the examining table was even worse. Ultimately, he was diagnosed with a **herniated disc** between the L-4 and L-5 vertebrae.

What caused it? An erratic golf swing! Once the golfer was able to return to playing, he hired a coach to help him improve his swing and limit the chance of this injury happening again.

Based on your own observations and knowledge, think about the questions below. What can you guess at or hypothesize? You can test your answers as you read and when we revisit the questions at the end of the chapter.

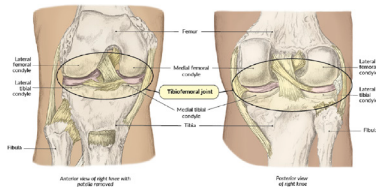
The Knee Complex

When most people think of the knee, they are probably thinking of the tibiofemoral joint. This articulation is one of three in the knee complex: the tibiofemoral joint, the patellofemoral joint, and the tibiofibular joint. While the tibiofibular joint is important and may be injured, most injuries in the knee complex occur within the other two articulations. So this section will focus on the tibiofemoral and patellofemoral joints, along with their supporting ligaments.

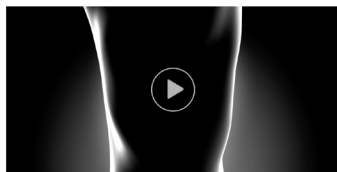
The Tibiofemoral Joint

Functional Anatomy

The bony anatomy of the tibiofemoral joint (the true knee joint) consists of the tibial condyles (concave structures) and the femoral condyles (convex structures) (7.2.7.3). What about the fibula? The fibula is a component of the knee complex but is not part of the tibiofemoral joint because it connects only to the tibia, not to the femur.



7.2 The tibiofemoral joint, or true knee joint



7.3 A 3D view of the tibiofemoral joint

▲ Over 190 new detailed joint anatomy illustrations and 41 new movement videos

◀ Clinically relevant scenarios and interactive examples

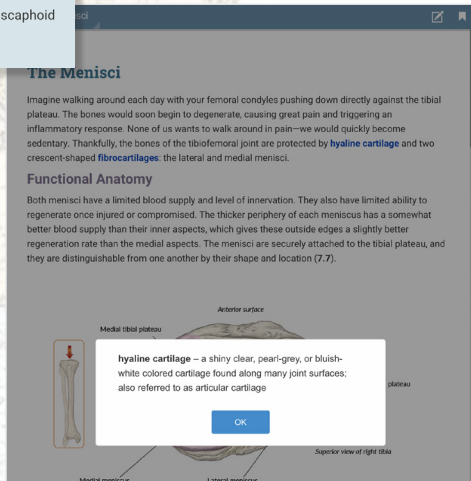
Questions

Before you proceed on your **quest** for knowledge of the joints of the elbow and wrist complexes, here are some questions to consider:

- What structure is being impacted when I hit my "funny bone" (which is not really very funny)?
- We often hear of baseball pitchers having Tommy John surgery to repair a torn ulnar collateral ligament (UCL). Which bundle of the UCL is most commonly repaired?
- Which bone is indirectly connected to the radiocarpal joint through a cartilaginous disc?
- What mechanism of injury is most likely to result in a scaphoid fracture?

Hyperlinked definitions and key concepts available in a single click ►

◀ **Chapter-opening questions that act as a bridge between what students already know and what they are about to learn**

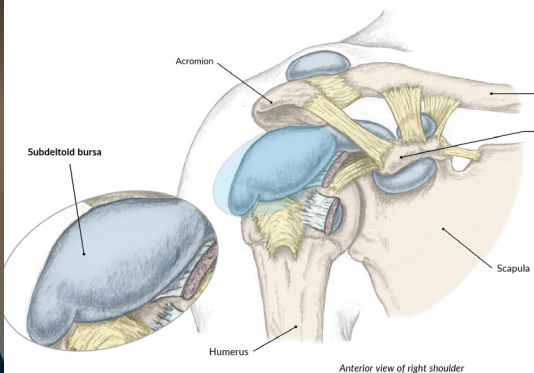
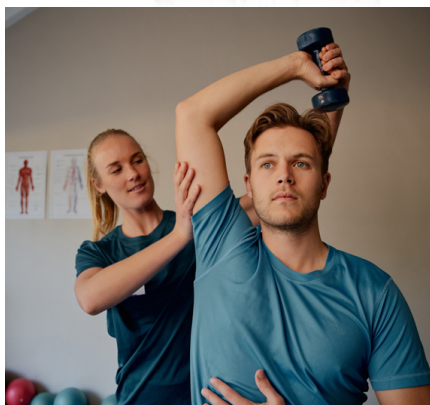


“Connecting the Dots” encourages students to reflect on clinical examples of the concepts they have just read about ►

Connecting the Dots

What are some daily activities that would be impacted if your radius was injured and you could not supinate or pronate?

- Turning a doorknob
- Tightening a screw
- Unlocking your front door with a key



Linking It All Together

Just as the human body is linked together by the kinetic chain, let us link what we learned in Chapter 2. A good way to do that is to revisit the questions from the beginning of the chapter to inspire discussion with your peers and instructor. We can also link to current evidence to further explore the questions.

To link to generalized discussion points online, go to booksofdiscovery.com, "For Students."

1. Both in middle-aged to older patients and in younger patients who participate in overhead activities, rotator cuff injuries are common. Based upon the functional anatomy of the shoulder, which rotator cuff tendon is the most likely to be injured?

- The supraspinatus. Often, partial tears begin in the supraspinatus.

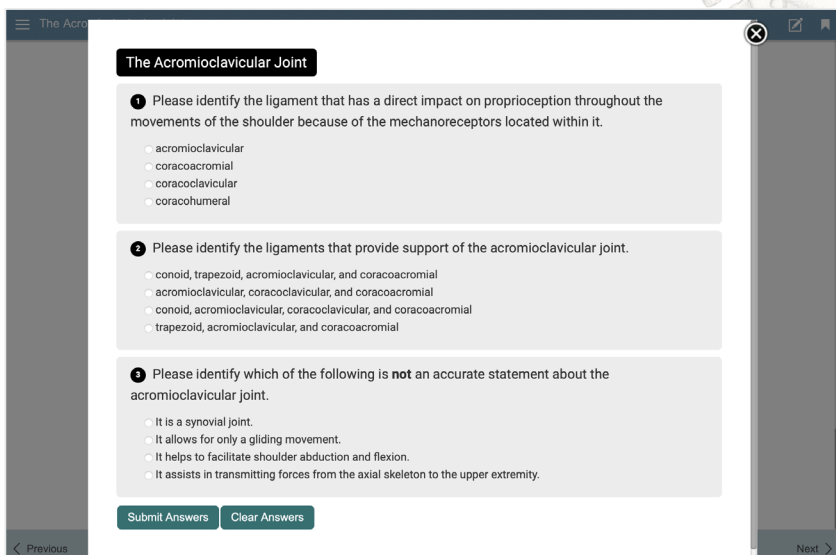
David C. Tapscott and Matthew Varacallo, "Supraspinatus Tendonitis," StatPearls, updated August 4, 2023, <https://www.ncbi.nlm.nih.gov/books/NBK551702/>.

2. The shoulder complex has many bursae within it and each plays an important role for its proper function. What is the general role of a bursa in the human body?

▲ **Linking It All Together at the end of each chapter revisits chapter-opening questions to inspire deeper classroom discussion**



▼ **Anchoring BrainBuilder Quizzes for students to test what they've learned or what material needs revisiting**

A screenshot of a BrainBuilder quiz interface. The title bar at the top says "The Acromioclavicular Joint". The quiz contains three questions, each with multiple-choice options. Question 1 asks for the ligament with a direct impact on proprioception. Question 2 asks for the ligaments providing support. Question 3 asks which statement is not accurate. At the bottom, there are "Submit Answers" and "Clear Answers" buttons. Navigation arrows for "Previous" and "Next" are also visible.

The Acromioclavicular Joint

1 Please identify the ligament that has a direct impact on proprioception throughout the movements of the shoulder because of the mechanoreceptors located within it.

- acromioclavicular
- coracoacromial
- coracoclavicular
- coracohumeral

2 Please identify the ligaments that provide support of the acromioclavicular joint.

- conoid, trapezoid, acromioclavicular, and coracoacromial
- acromioclavicular, coracoclavicular, and coracoacromial
- conoid, acromioclavicular, coracoclavicular, and coracoacromial
- trapezoid, acromioclavicular, and coracoacromial

3 Please identify which of the following is **not** an accurate statement about the acromioclavicular joint.

- It is a synovial joint.
- It allows for only a gliding movement.
- It helps to facilitate shoulder abduction and flexion.
- It assists in transmitting forces from the axial skeleton to the upper extremity.

Submit Answers Clear Answers

< Previous Next >

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