

Study Notes and Questions for Week 3 Imaging the Body, Fall 05

Instead of trying to anticipate the amount of paper you each might need for notes, I've not left spaces on this page, just a list of the concepts/information I expect you to retain.

Corrections to the syllabus

The syllabus is incorrect on several reading assignments. In addition to Ch 11 in *CIA*, read also Ch 8. For the pectoral girdle, read *HA* p 174-177, not 186-193.

Add acromion to the list of boney structures that you need to know for the shoulder and arm.

The three major classes of joints

Synarthroses describe and give examples

Amphiarthroses describe and give examples of both types

Diarthroses describe and give examples

Six parts of a synovial joint. For each part, briefly describe what it (they) are and how they function within a joint.

Know the functions of synovial fluid, as well as the functions of the accessory structures.

Outline the strength vs. mobility tradeoff

Rotational motion of joints

Be able to describe linear, angular and rotational motion of joints and list joints that illustrate each type. Know the four types of angular motion and be able to recognize these motions.

- Don't need to know the special movements

Know the six structural categories for synovial joints

The additional readings on the various joints complement your work in the Trail Guide.

Use your list of required structures and muscles to identify items that you need to know.

These are due Monday, Oct 17th at the beginning of class. **Write your answers neatly and legibly on a separate piece of paper that you will turn in.** Be prepared to discuss your answers. You may need to access outside resources to completely answer these questions.

1. Classify the glenohumeral and the acromioclavicular joints by the various ways of categorizing joints. Major class, type of movement and structural classification.
2. What is a chondrocyte and where might one be found?
3. Why might a joint that has been held immobile in a cast for several weeks be weaker? Be specific.
4. We've all stubbed our toes and hit our "funny bones." How does the intensity of the pain relate to the amount of actual damage done? How might this be an adaptive advantage that has evolved over time?
5. Why do elderly people often decrease in height? Be specific.
6. Suppose you have weak knee joints. Your physical therapist puts you on a weight-training regime to strengthen your leg muscles, especially your rectus femoris, vastus medialis, vastus lateralis, and sartorius. How does this help your weak knee joints?
7. You injured your knee by a fall while playing soccer. Although the knee doesn't hurt to bend it, it swells up considerably. What is a probable explanation for your condition?
8. Electrical stimulation is often used to speed bone healing with particular complex fractures. Why might this work? (You're going to have to look outside this week's reading for this one).