

Laboratory Exercise 4: Articulations and Body Movements

Introduction

We will not cover this topic in lecture, so in this lab you'll identify features of a number of select articulations, and also study the basic aspects of joint anatomy, classification, and function.

To prepare yourself use the following tools:

- Required preparation
 - Chapter 8 in Human Anatomy, Martini
 - Below is an outline of material from Chapter 8 that you are responsible for
- Optional preparation
 - Martini companion website, Advanced Review – labeling quiz is especially helpful for self-testing

Outline – specific objectives

1. Structural classification of joints – features and examples
 - A. fibrous joints
 - B. cartilaginous joints
 - C. synovial joints
2. Functional classification of joints – basis for classification, correlate with above structural classification
 - A. synarthroses
 - B. amphiarthroses
 - C. diarthroses
3. Fibrous joints – structural features, examples
 - A. sutures
 - B. syndesmoses
4. Cartilaginous joints – structural features, examples
 - A. symphyses
 - B. synchondroses

5. Synovial joints (see Chapter 8, text)
 - A. General structure
 - a. Articular cartilages
 - b. Joint cavity
 - c. Articular capsule
 - d. Synovial membrane
 - e. Synovial fluid
 - f. Strengthening ligaments
 - i. Intrinsic or capsular ligaments
 - ii. Extrinsic ligaments
 - Extracapsular ligaments
 - Intracapsular ligaments
 - B. Movements allowed by synovial joints
 - a. Gliding movements
 - b. Angular movements
 - i. flexion
 - ii. extension
 - iii. dorsiflexion and plantar flexion of foot
 - iv. abduction
 - v. adduction
 - vi. circumduction
 - c. Rotation
 - d. Supination and pronation
 - e. Inversion and eversion
 - f. Protraction and retraction
 - g. Elevation and depression
 - h. Opposition
 - C. Types of synovial joints – general description, examples
 - a. Plane joints
 - b. Hinge joints
 - c. Pivot joints
 - d. Condylloid joints
 - e. Saddle joints
 - f. Ball-in-socket joints