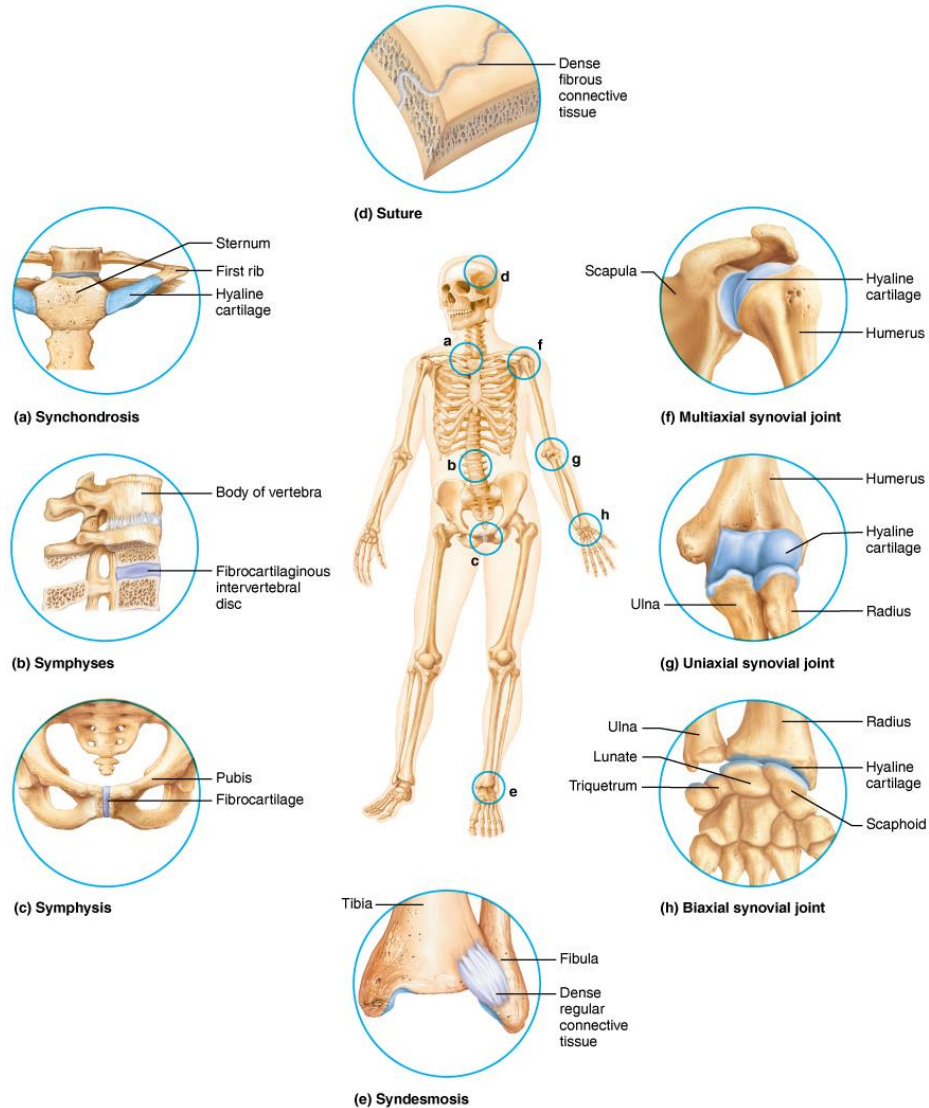


# Joints

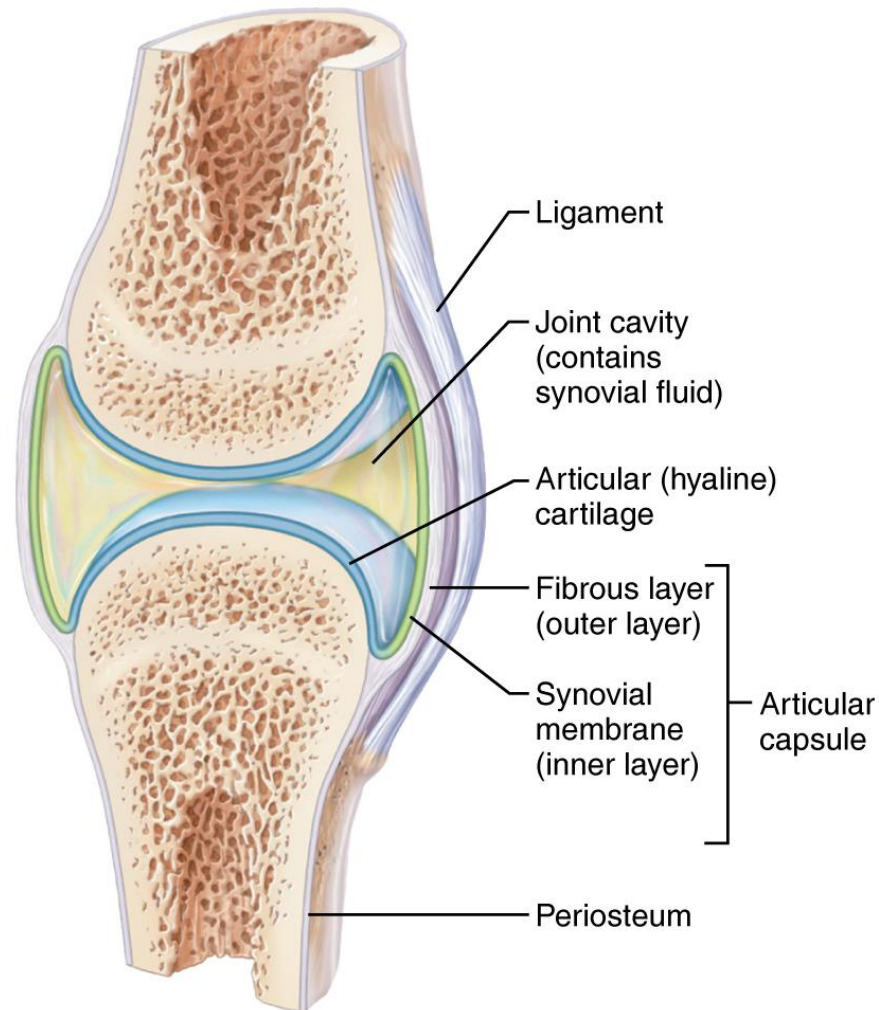
# Table 11.1 Summary of Joint Classifications

Table 11.1 Summary of Joint Classifications (Figure 11.1)				
Structural class	Structural characteristics	Structural types	Examples	Functional classification
Fibrous	Adjoining bones connected by dense fibrous connective tissue; no joint cavity	Suture (short fibers)	Squamous suture between the parietal and temporal bones	Synarthrosis (immovable)
		Syndesmosis (longer fibers)	Between the tibia and fibula	Amphiarthrosis (slightly movable and immovable)
		Gomphosis (periodontal ligament)	Tooth in a bony socket (Figure 38.12)	Synarthrosis (immovable)
Cartilaginous	Adjoining bones united by cartilage; no joint cavity	Synchondrosis (hyaline cartilage)	Between the costal cartilage of rib 1 and the sternum and the epiphyseal plate in growing long bones (Figure 8.5)	Synarthrosis (immovable)
		Symphysis (fibrocartilage)	Intervertebral discs between adjacent vertebrae and the anterior connection between the pubic bones	Amphiarthrosis (slightly movable)
Synovial	Adjoining bones covered in articular cartilage; separated by a joint cavity and enclosed in an articular capsule lined with a synovial membrane	Plane joint	Between the carpals of the wrist	Diarthrosis (freely movable)
		Hinge joint	Elbow joint	
		Pivot joint	Proximal radioulnar joint	
		Condylar joint	Between the metacarpals and the proximal phalanx	
		Saddle joint	Between the trapezium (carpal) and metatarsal I	
	Ball-and-socket joint	Shoulder joint		

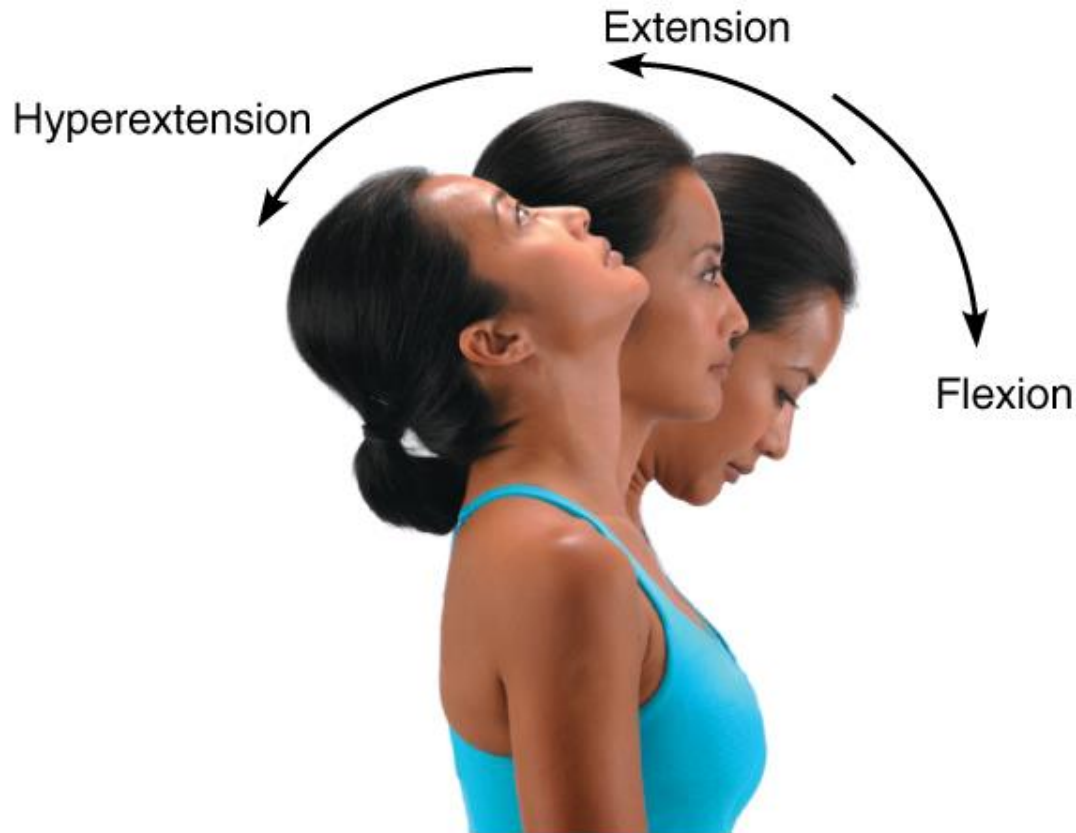
# Figure 11.1 Types of joints



# Figure 11.2 General structure of a synovial joint

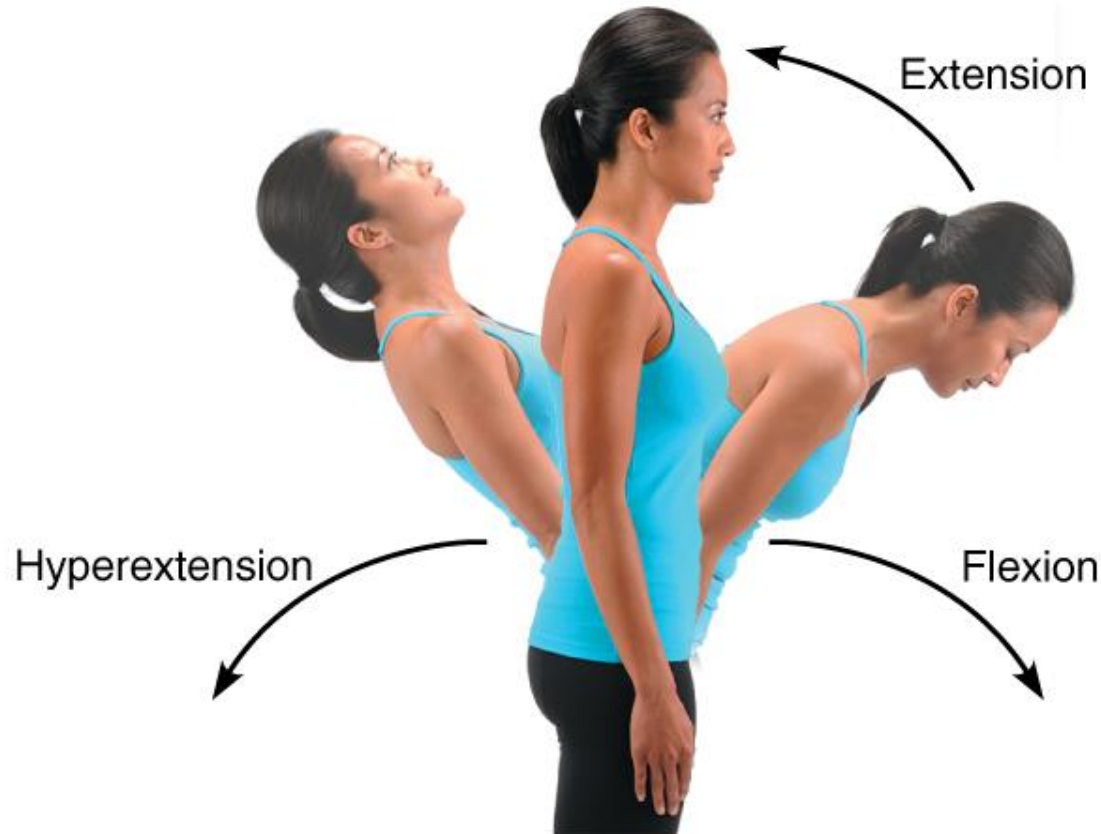


# Figure 11.5a Movements occurring at synovial joints of the body



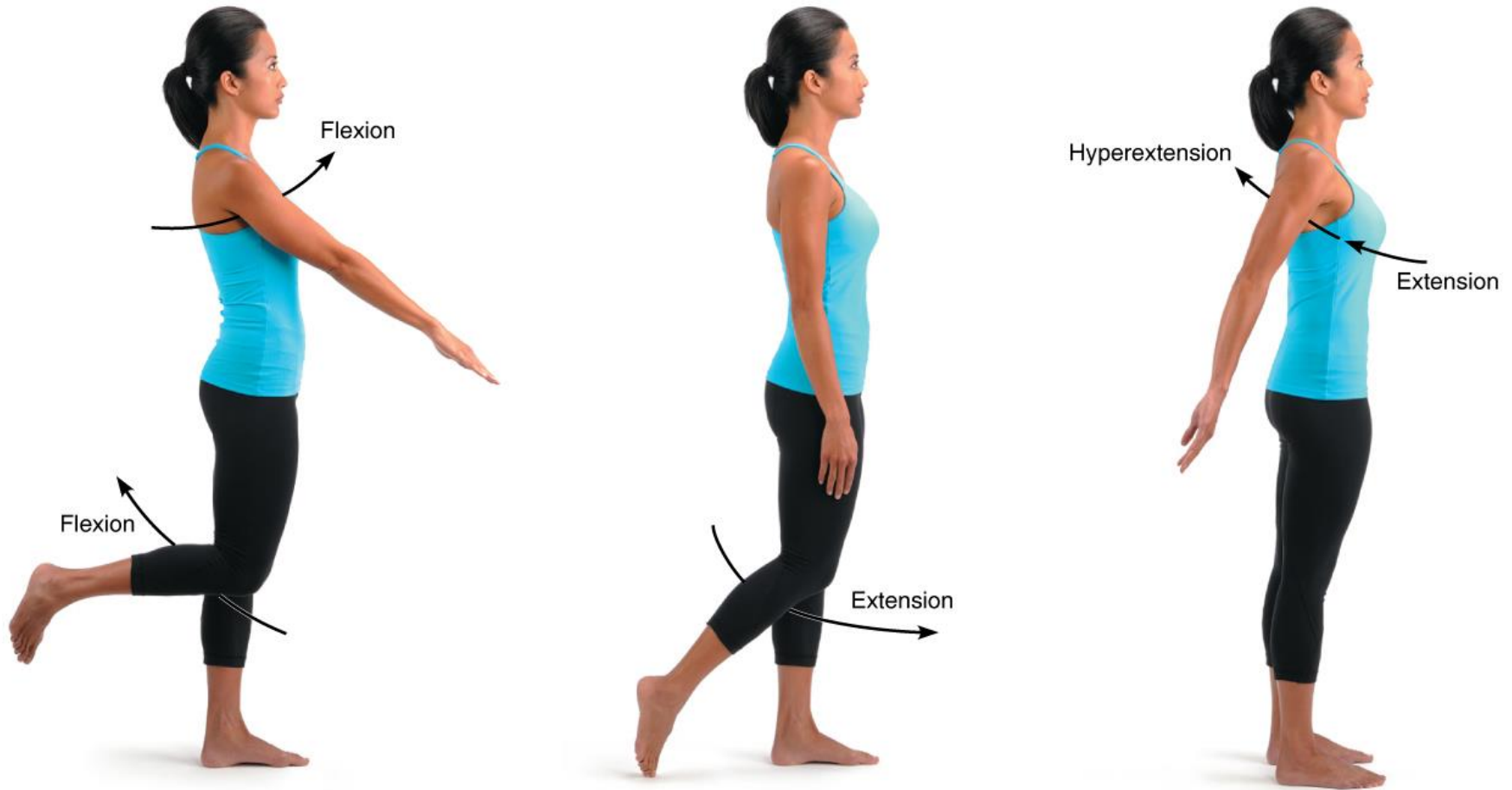
**(a) Flexion, extension, and hyperextension of the neck**

# Figure 11.5b Movements occurring at synovial joints of the body



**(b) Flexion, extension, and hyperextension of the vertebral column**

# Figure 11.5c Movements occurring at synovial joints of the body



(c) Flexion and extension at the shoulder and knee, and hyperextension of the shoulder

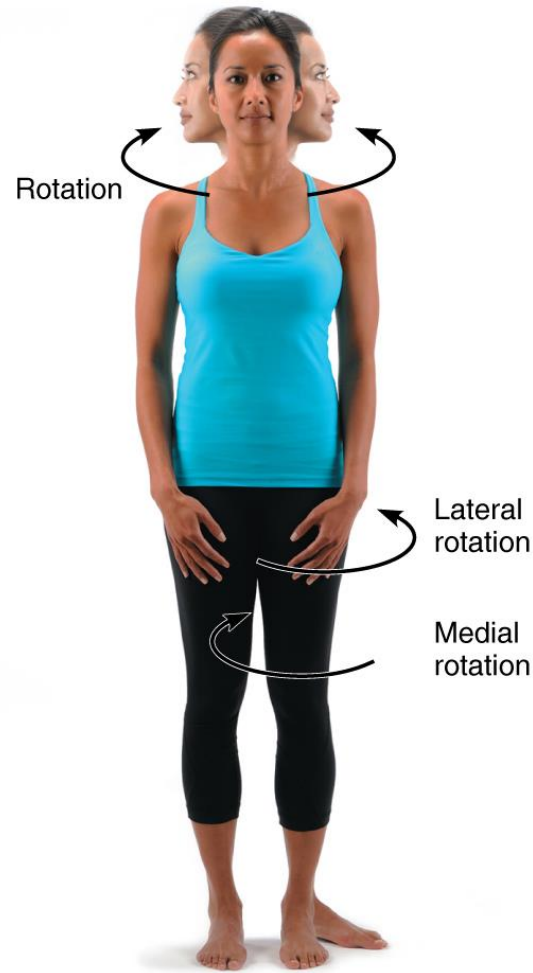
# Figure 11.5d Movements occurring at synovial joints of the body



**(d) Abduction, adduction, and circumduction of the upper limb at the shoulder**

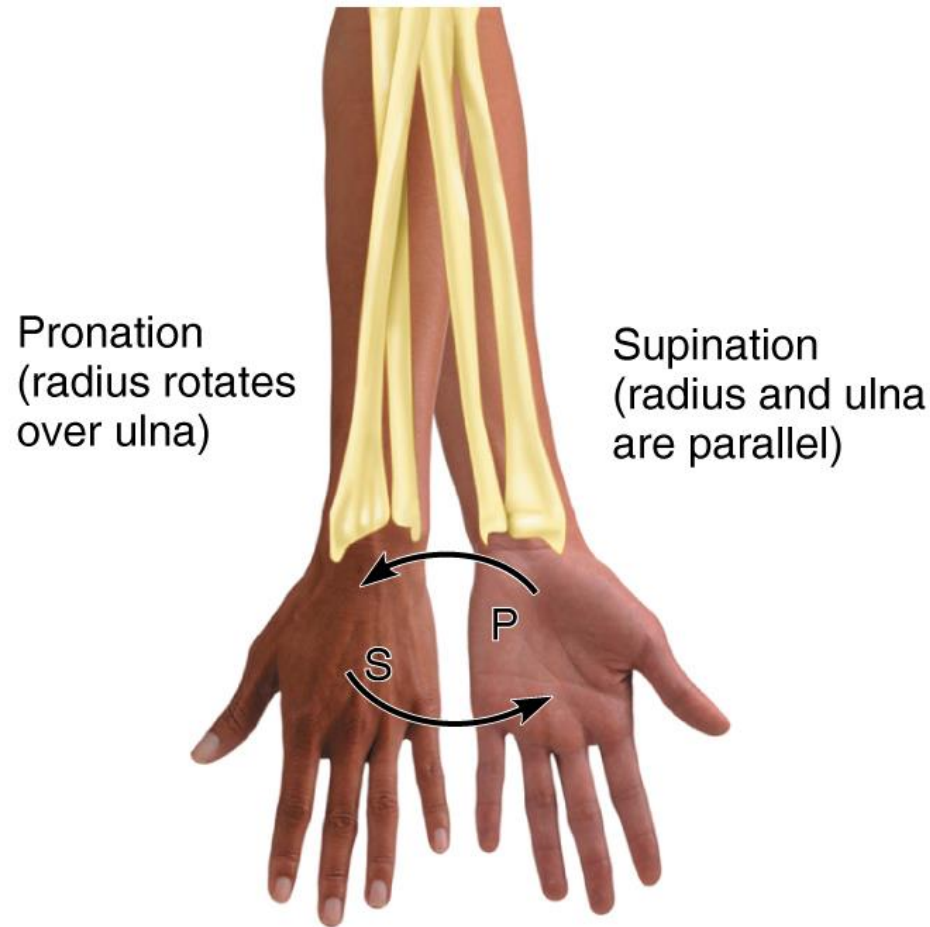


# Figure 11.5e Movements occurring at synovial joints of the body



(e) Rotation of the head and lower limb

# Figure 11.5f Movements occurring at synovial joints of the body



**(f) Pronation (P) and supination (S) of the forearm**

# Figure 11.5g Movements occurring at synovial joints of the body



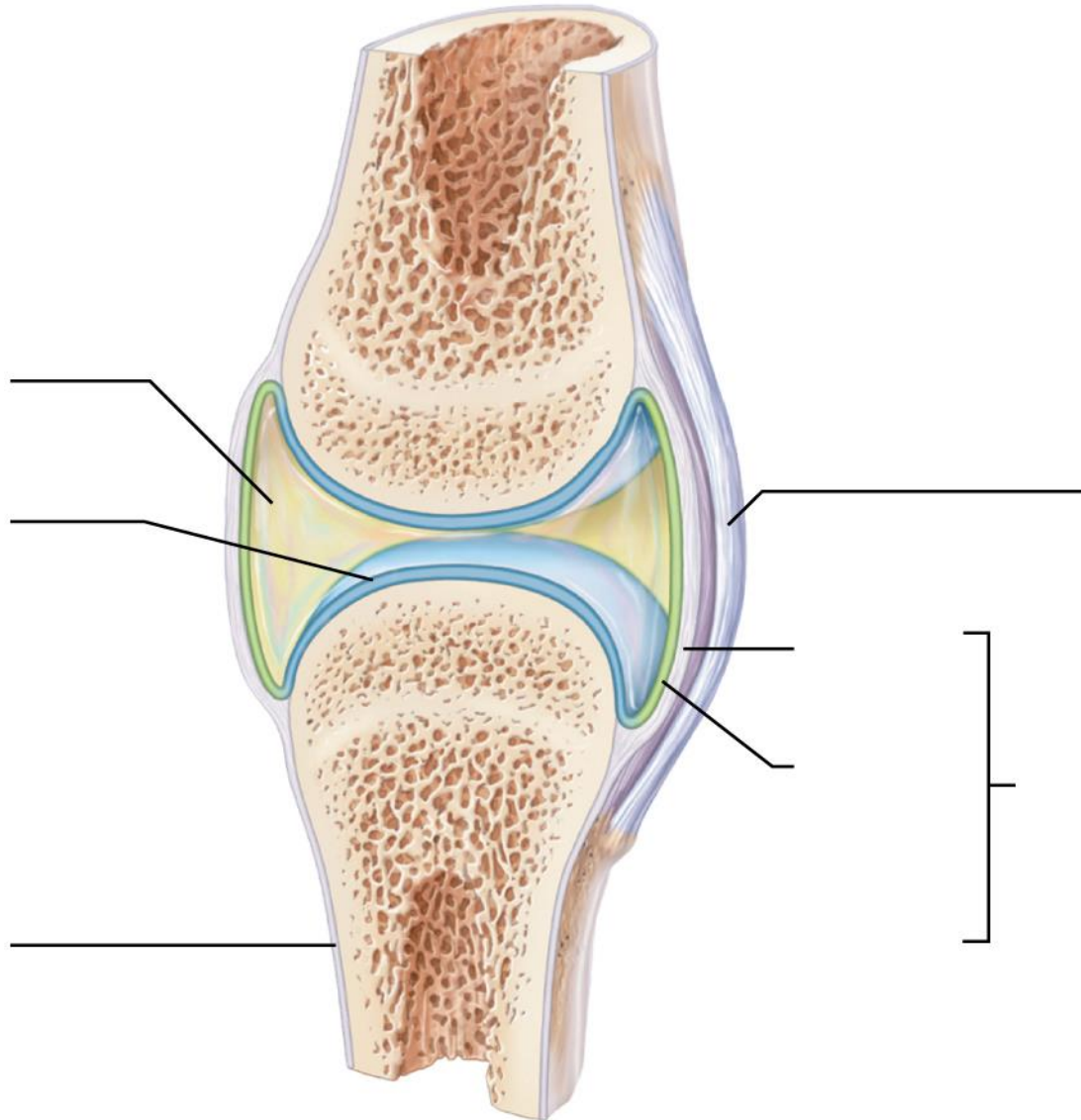
**(g) Dorsiflexion and plantar flexion of the foot**

# Figure 11.5h Movements occurring at synovial joints of the body

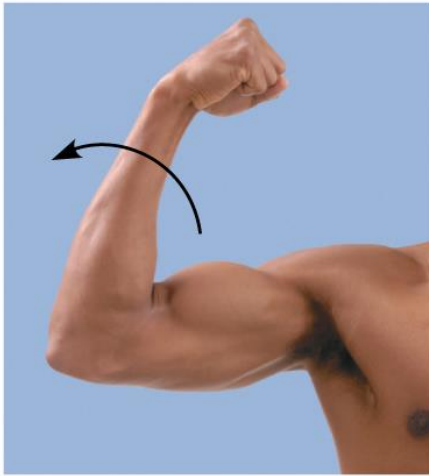


**(h) Inversion and eversion of the foot**

# Review Figure 11.01



# Review Figure 11.03



(a) \_\_\_\_\_ at the elbow



(b) \_\_\_\_\_ of the upper limb



(c) \_\_\_\_\_ at the knee



(d) \_\_\_\_\_ of the foot



(e) \_\_\_\_\_ of the foot



(f) \_\_\_\_\_ of the forearm