

Navigating the Body

What is Kinesiology?

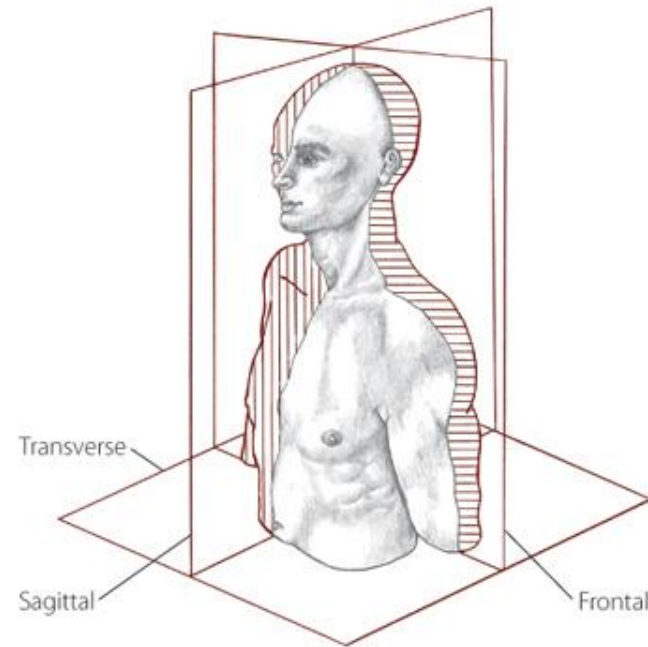
- **Kinesiology = study of movement**
 1. **Bones of the joints**
 2. **Movements at each joint**
 3. **The muscles that produce those movements**

Planes of Movement

Sagittal

Frontal

Transverse



(1.4) Planes of the body

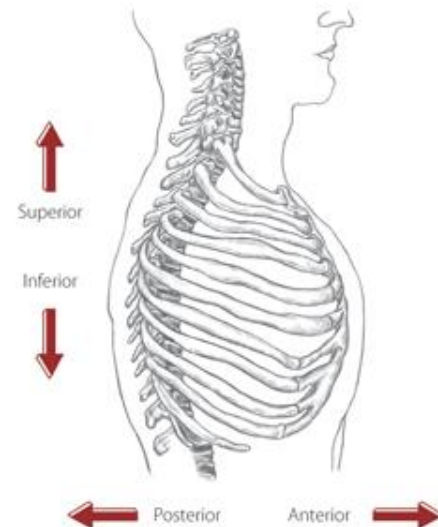
Directions and Positions

Superior

Inferior

Posterior

Anterior



(1.5) Lateral view of rib cage and vertebrae

Directions and Positions

Proximal

Distal

Medial

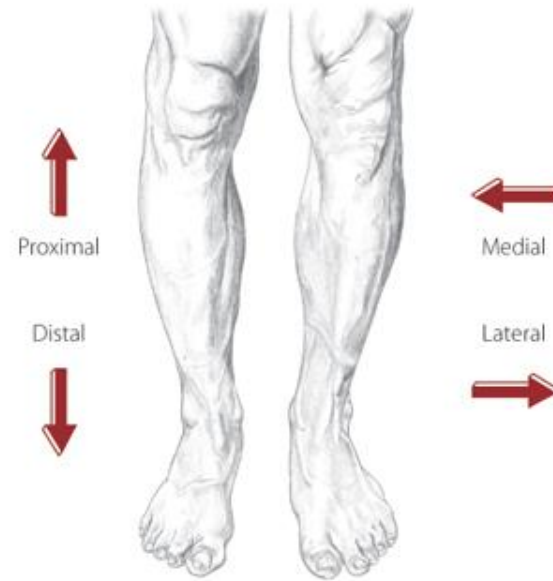
Lateral

Palmar

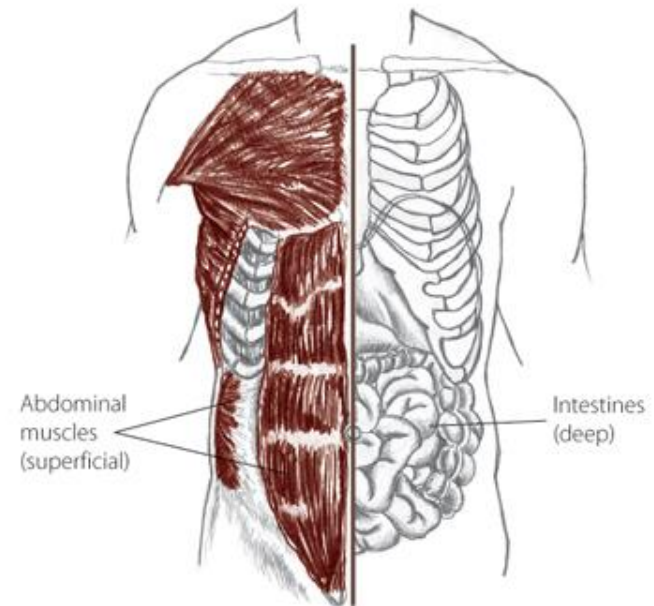
Dorsal

Superficial

Deep



(1.6) Anterior view of legs and feet



(1.7) Anterior view of abdomen

Movements of the Body

Spine and Thorax

(vertebral column)



Flexion



Extension



Rotation



Lateral flexion

Neck

(cervical spine)



Flexion



Extension



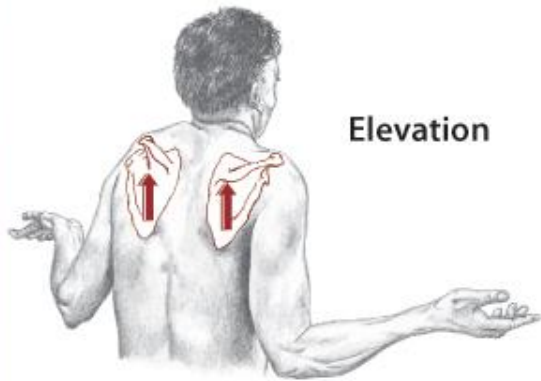
Rotation



Lateral flexion

Scapula

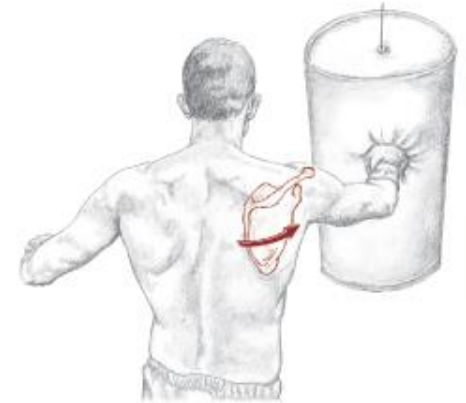
(scapulothoracic joint)



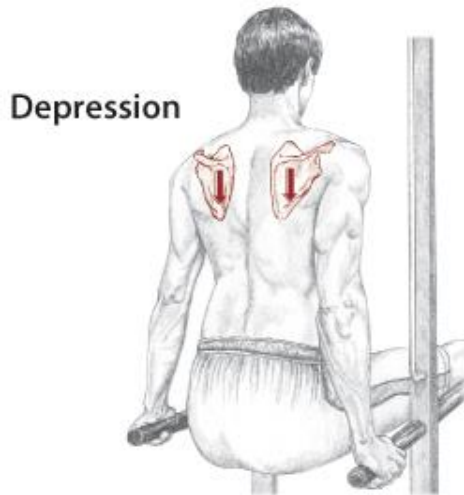
Elevation



Adduction
(retraction)

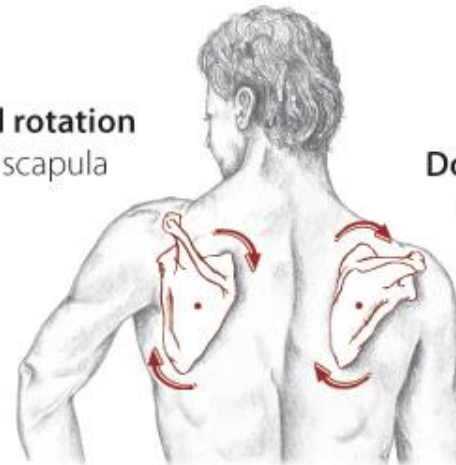


Abduction
(protraction)



Depression

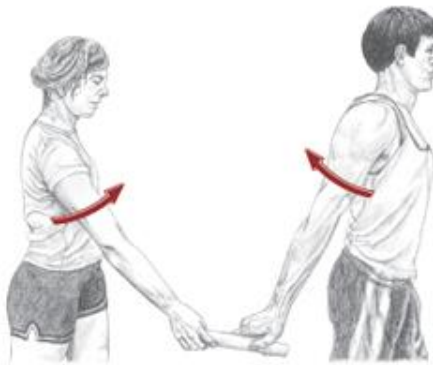
Upward rotation
of left scapula



Downward rotation
of right scapula

Shoulder

(*glenohumeral joint*)

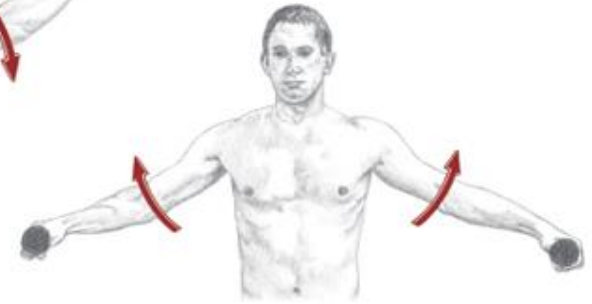


Flexion

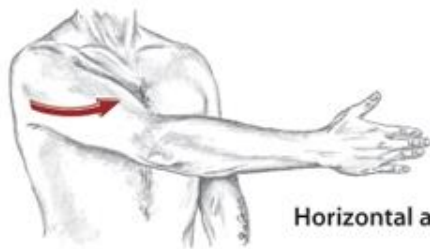
Extension



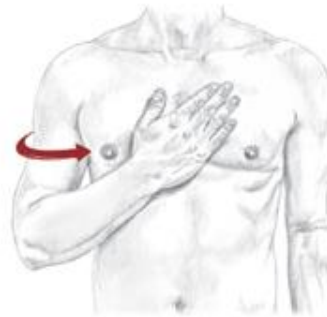
Adduction



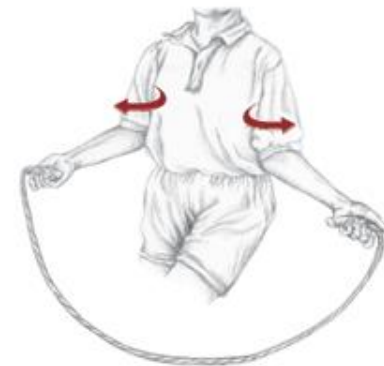
Abduction



Horizontal adduction



Medial rotation
(internal rotation)



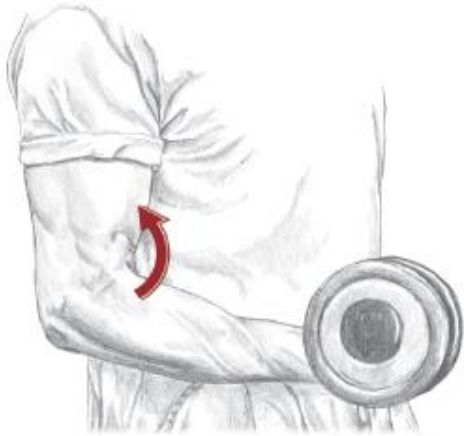
Lateral rotation
(external rotation)



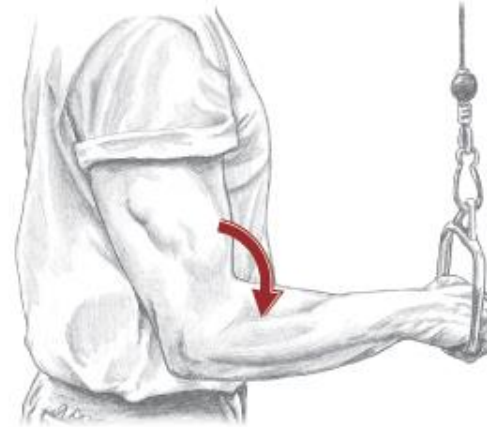
Horizontal abduction

Elbow and Forearm

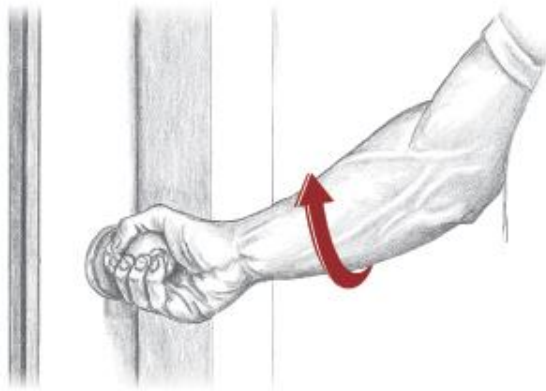
(humeroulnar and humeroradial joints – elbow, proximal and distal radioulnar joints – forearm)



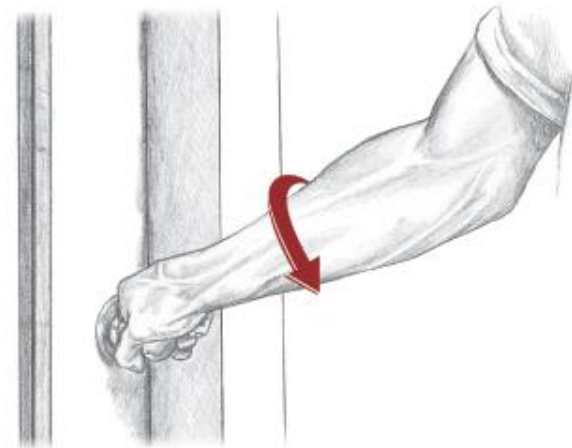
Flexion of the elbow



Extension of the elbow



Supination of the forearm



Pronation of the forearm

Wrist

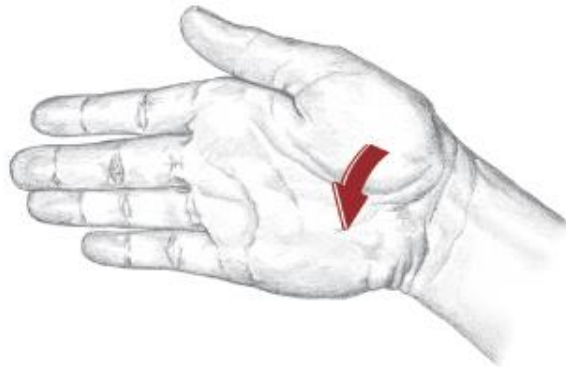
(radiocarpal joint)



Flexion



Extension



Adduction
(ulnar deviation)



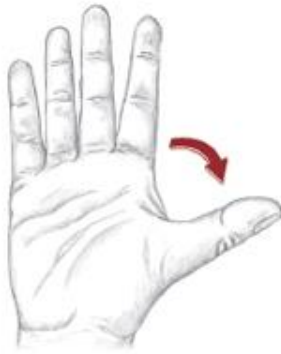
Abduction
(radial deviation)

Thumb

(first carpometacarpal and metacarpophalangeal joints)



Flexion



Extension



Opposition



Adduction



Abduction

Fingers

(metacarpophalangeal, proximal and distal interphalangeal joints)



Flexion



Extension



Adduction



Abduction

Hip

(coxal joint)



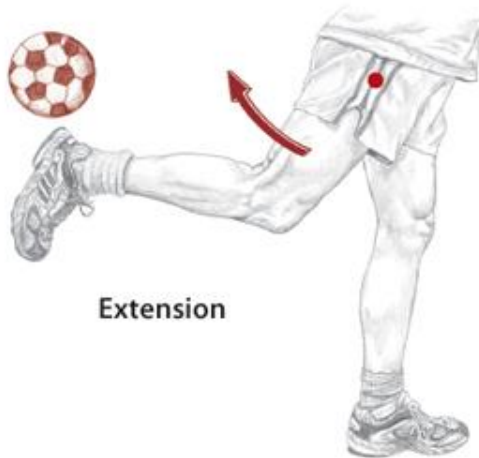
Flexion



Abduction



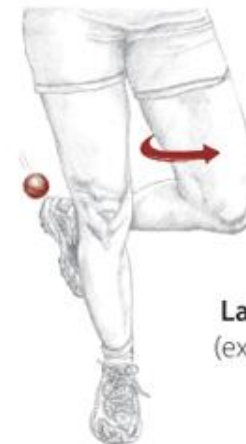
Medial rotation
(internal rotation)



Extension



Adduction



Lateral rotation
(external rotation)

Knee

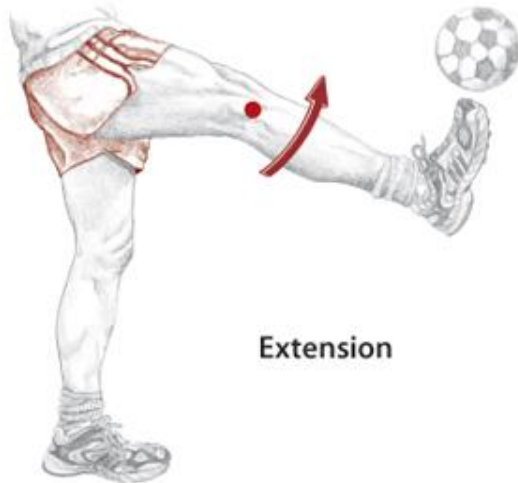
(tibiofemoral joint)



Flexion



Lateral rotation
of flexed knee
(right knee)



Extension



Medial rotation
of flexed knee
(right knee)

Ankle, Foot and Toes

(talocrural, talotarsal, midtarsal, tarsometatarsal, metatarsophalangeal and interphalangeal joints)



Dorsiflexion of ankle

Inversion of foot



Flexion of toes
"curling the toes"



Plantar flexion of ankle

Eversion of foot

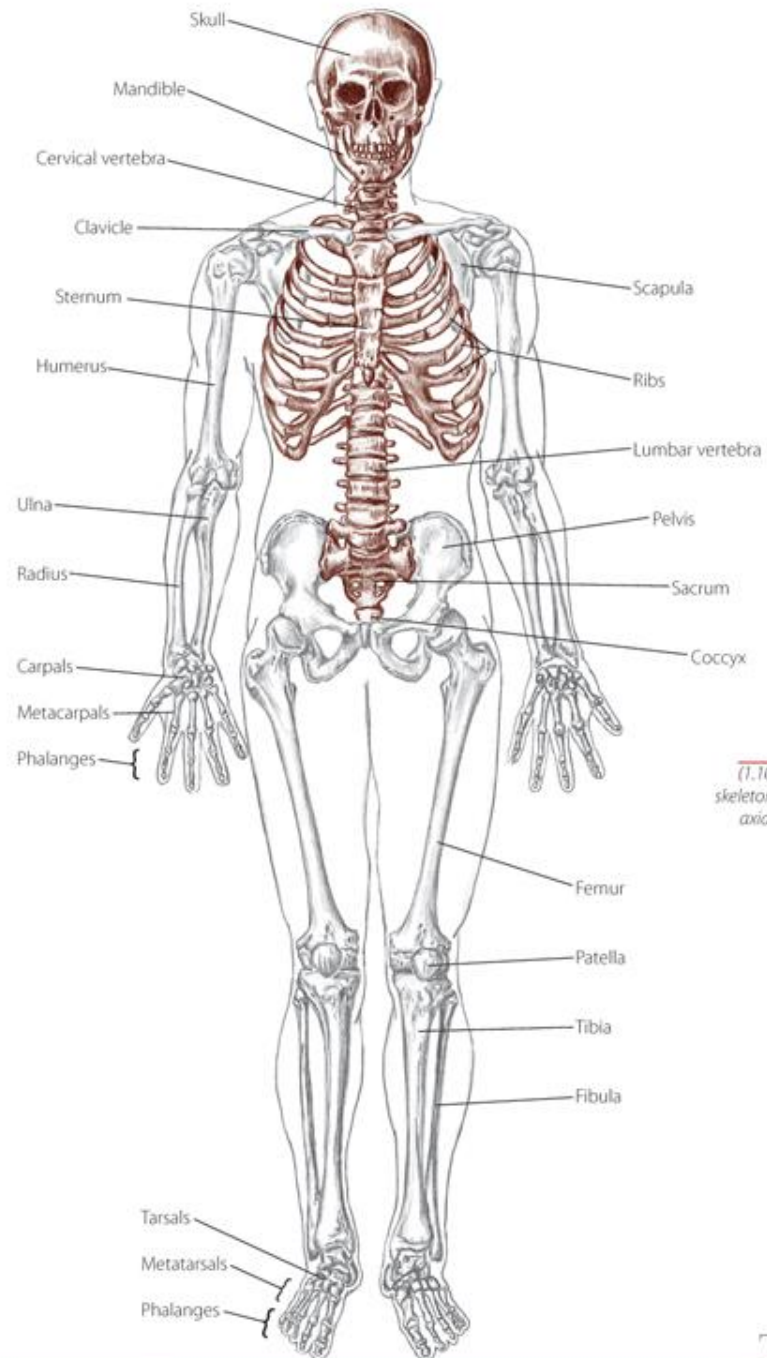


Extension of toes
"straighten the toes"

Systems of the Body

The Skeletal System

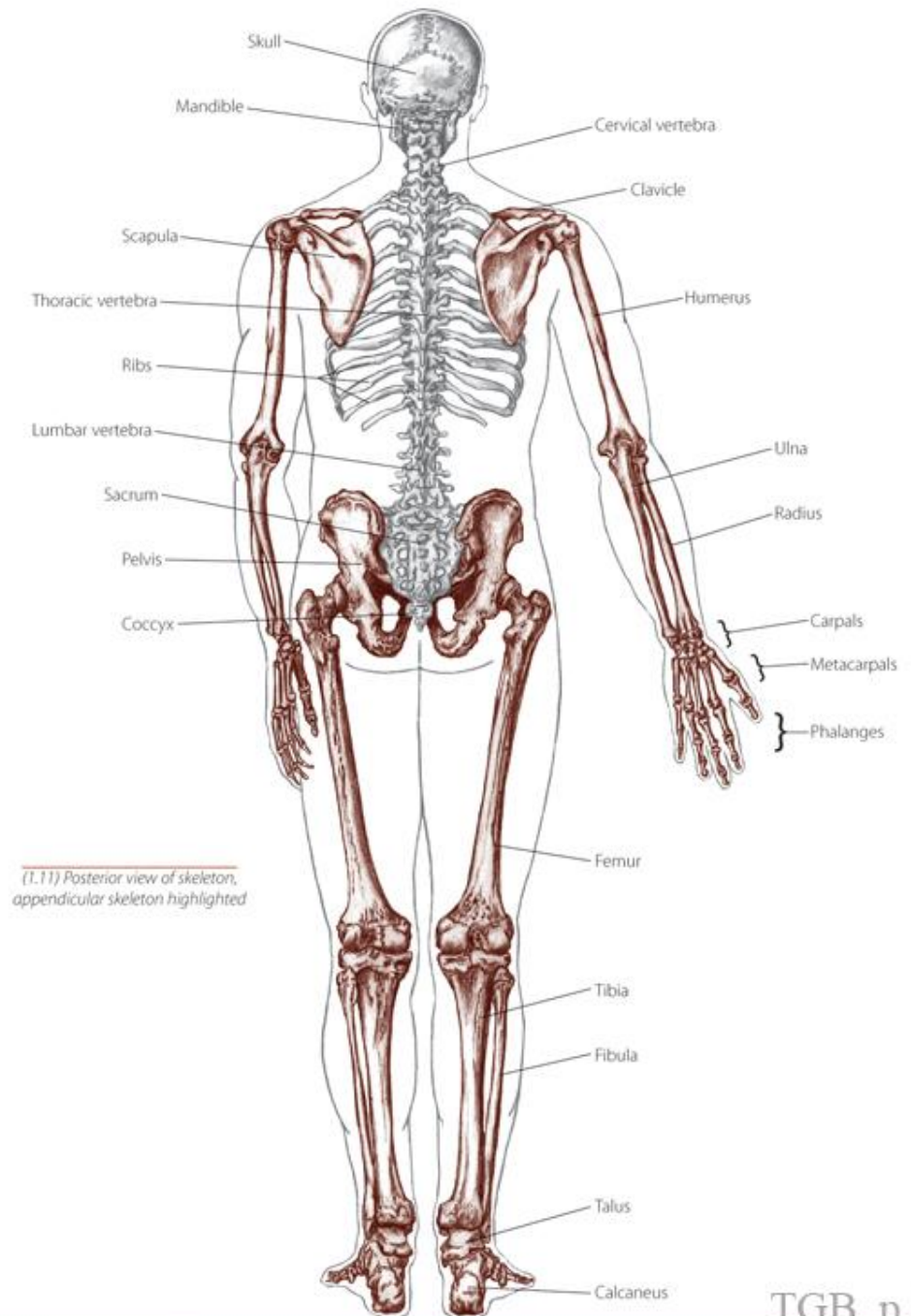
Text



(1.10) Anterior view of the skeleton in anatomical position, axial skeleton highlighted.

The Skeletal System

Text



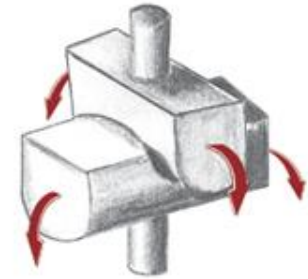
Types of Joints



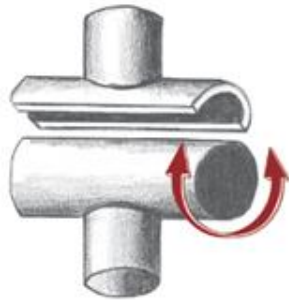
Ball-and-Socket Joint



Ellipsoid Joint



Saddle Joint



Hinge Joint



Gliding Joint



Pivot Joint