Lab 5: Bones and Joints of the Upper Limb

*Identify the bones of the upper limb and their unique bony landmarks/characteristics
*Be able to locate and distinguish between the joints of the upper limb. Learn the type of joint and movements permitted at each joint:

Bones	Joint	Movement
Sternoclavicular (SC)	Synovial: Plane Joint	3 degrees of movement: - elevation/depression - protraction/retraction - Axial rotation
Acromioclavicular (AC)	Synovial: Gliding or Plane joint	- Upward/Downward Rotation about an axis directed perpendicular to the scapular plane facing anteriorly and medially. - Internal/External Rotation about an approximately vertical axis. - Anterior/Posterior tipping or tilting about an axis directed laterally and anteriorly.
Glenohumeral (shoulder)	Synovial: ball and socket joint	- Abduction - flexion/extension - Internal & external rotation - Scapular plane abduction - Horizontal adduction
Humeroulnar	Synovial: Hinge joint	- Flexion - Extension - circumduction
Humeroradial	Hinge	
Proximal radioulnar	Pivot	-pronation/supination of the forearm
Distal radioulnar	Pivot	rotation of the lower end of the radius around an axis which

		passes through the center of the head of the ulna. When the radius rotates forward, pronation of the forearm and hand is the result; and when backward, supination.
Interosseous membrane	Syndesmosis	from pronation to supination
Radiocarpal (wrist)	Synovial: condyloid joint	-flexion/extension OR -radial/ulnar deviation **motion**
Intercarpal	Gliding	n/a
Midcarpal joint	Gliding	flexion, extension, abduction and adduction of the wrist
Carpometacarpal (CMC)	Synovial: saddle joint	The primary motions at the **CMC joint** are palmar abduction and adduction, which occur about the **joint's** medial-lateral axis, and flexion and extension, which occur about the **joint's** anterior-posterior axis.
Intermetacarpal (IM)	Condyloid	flexion, extension, abduction, adduction and circumduction at the **joint**.
Metacarpophalangeal (MP)	Condyloid	flexion, extension, adduction, abduction, and circumduction
Interphalangeal (IP: proximal and distal)	Hinge	Flexion and extension

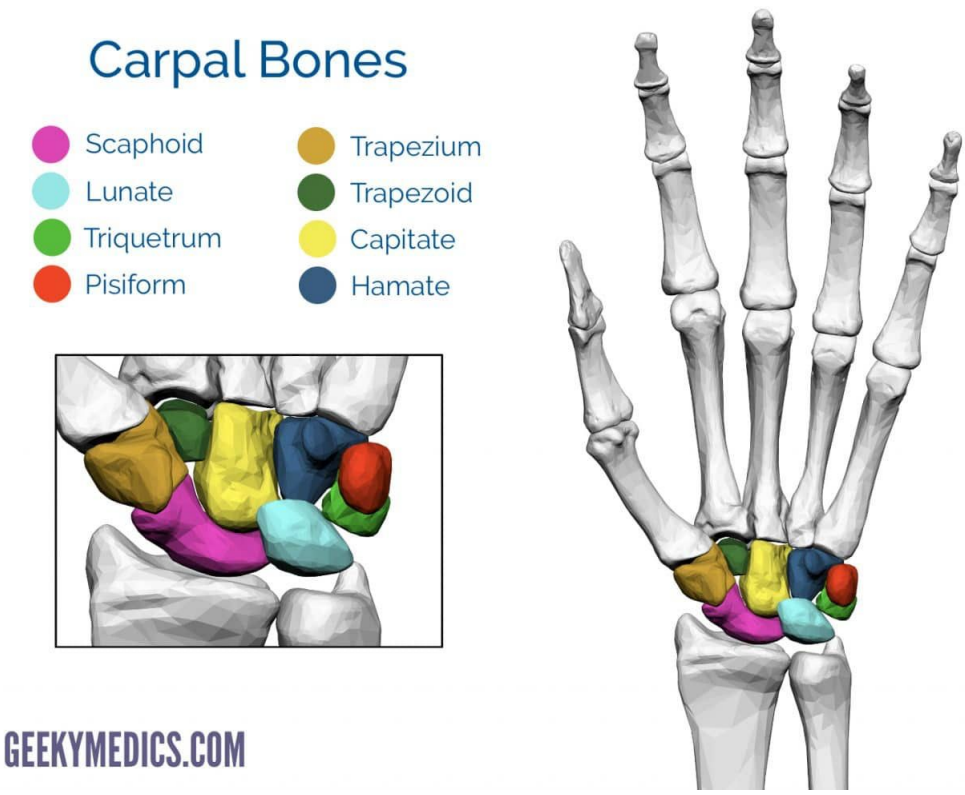
*Examine the location and function of the ligaments connecting the bones of the upper limb:

Ligaments	Location	Function
Coracoacromial		- Connects to the scapula's coracoid and acromion processes - Stabilizes the humeral head during overhead movements
Sternoclavicular		Anchors the medial end of the clavicle to the manubrium of the

		sternum
Acromioclavicular		The **acromioclavicular** joint provides the ability to raise the arm above the head.
Coracoclavicular (trapezoid & conoid)		Attach the inferior end of the clavicle to the coracoid process of the scapula
Transverse scapular		This superior **transverse scapular** ligament converts the **scapular** notch into a foramen. It is a thin and flat fasciculus, narrower at the middle than at the extremities, attached by one end to the base of the coracoid process, and by the other to the medial end of the **scapular** notch.
Coracohumeral		Tethers the humeral head to the coracoid process of the scapula, creating tension and stability when the arm is resting at the side
Glenohumeral		Helps hold the proximal humerus in the glenoid fossa of the scapula
Collateral ulnar		The **ulnar collateral** ligament (UCL) of the elbow is critical for valgus stability of the elbow and is the primary elbow stabilizer
Collateral radial		The **radial collateral** ligament's **role** is to limit ulnar deviation at the wrist.
Annular of radius		The **annular** ligament stabilizes the **radial** head as it rotates (supination/pronation forearm motion) and articulates with the **radial** notch of the proximal ulna.

Flexor retinaculum		The **flexor retinaculum** forms a retinacular bridge over the carpal tunnel extending from ulnar to radial direction. Its main **function** is to protect the contained without a significant mechanical action in supporting the transverse carpal arch.
Extensor retinaculum	back of the forearm & in ankle	holds the tendons of the extensor muscles in place

*Learn the locations of all the carpal bones relative to each other (SLTPTTCH; scaphoid, lunate, triquetrum, pisiform, trapezium, trapezoid, capitate, hamate)



https://physio-pedia.com/Joint_Classification#