



Appendicular Skeleton

Introduction to Anatomy and Embryology

Lab 2

Clavicle, Scapula, Humerus

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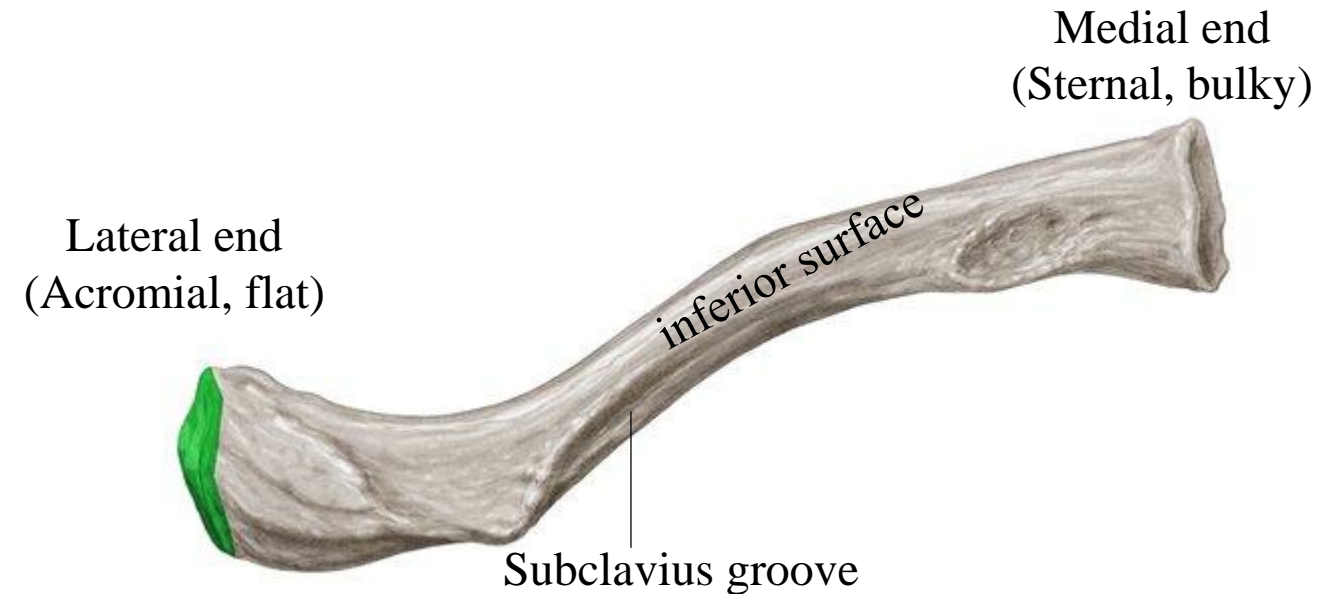
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Clavicle

Clavicle

- S-Shape
- Two ends:
 - Medial end (Sternal, bulky)
 - Lateral end (Acromial, flat)
- Shaft:
 - Medial 2/3 convex anteriorly
 - Lateral 1/3 convex posteriorly
- Two surfaces:
 - Superior surface (Smooth)
 - Inferior surface (Rough, contains in the middle Subclavius groove)
- Two borders:
 - Anterior border
 - Posterior border



Articulation of clavicle

1-Sternoclavicular joint

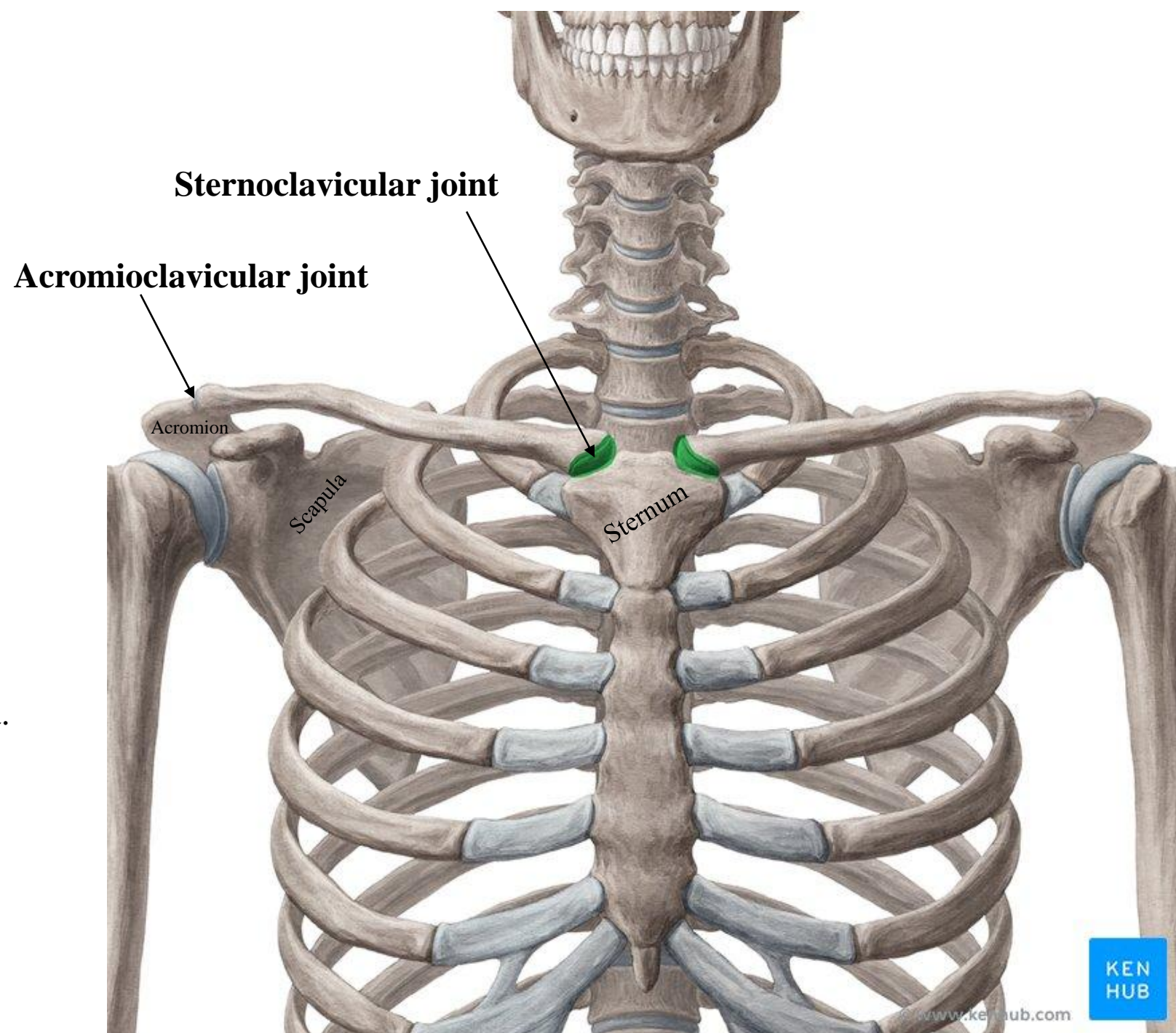
Is formed between the medial aspect of the clavicle and the manubrium of the sternum.

Type: Synovial double plane joint.

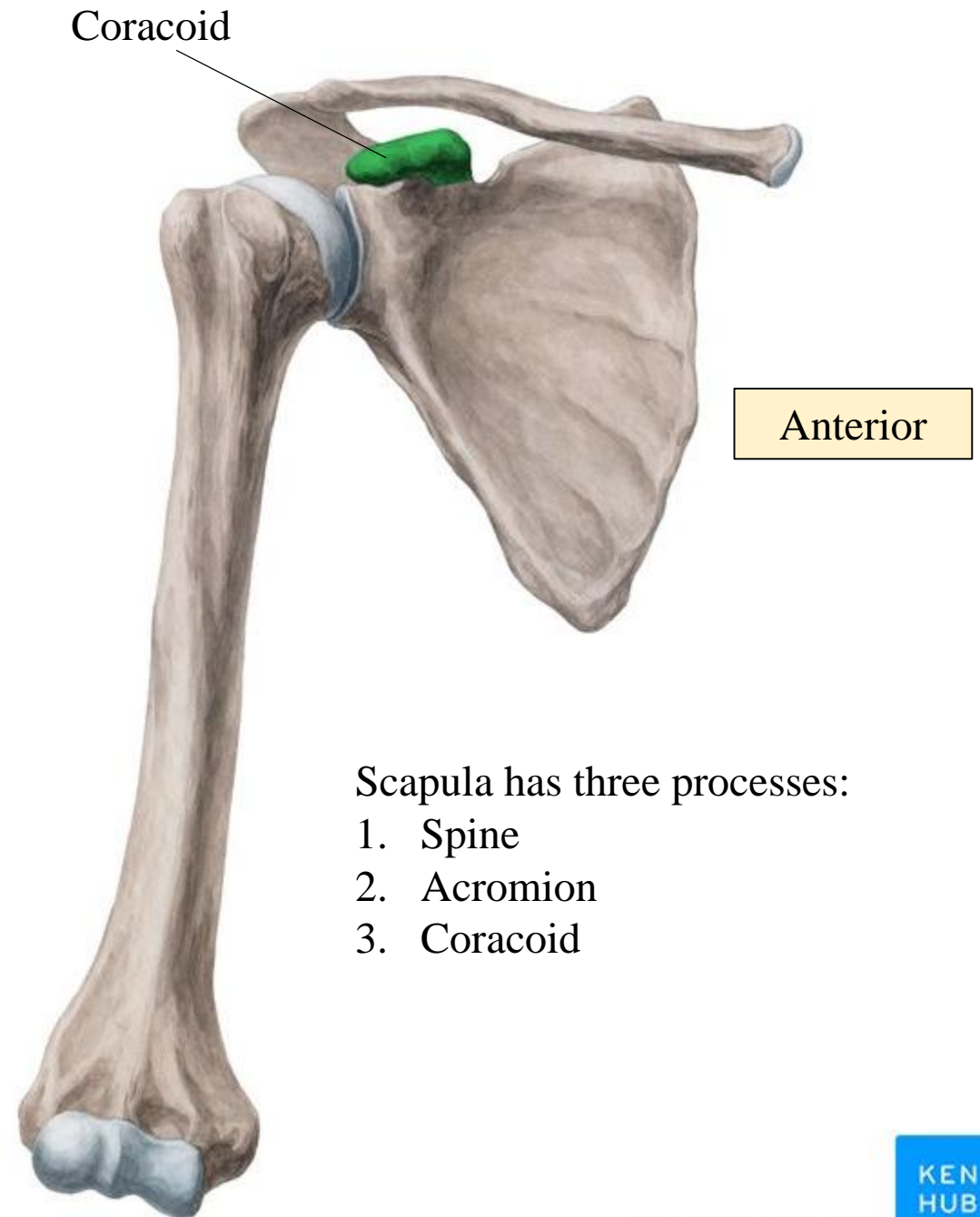
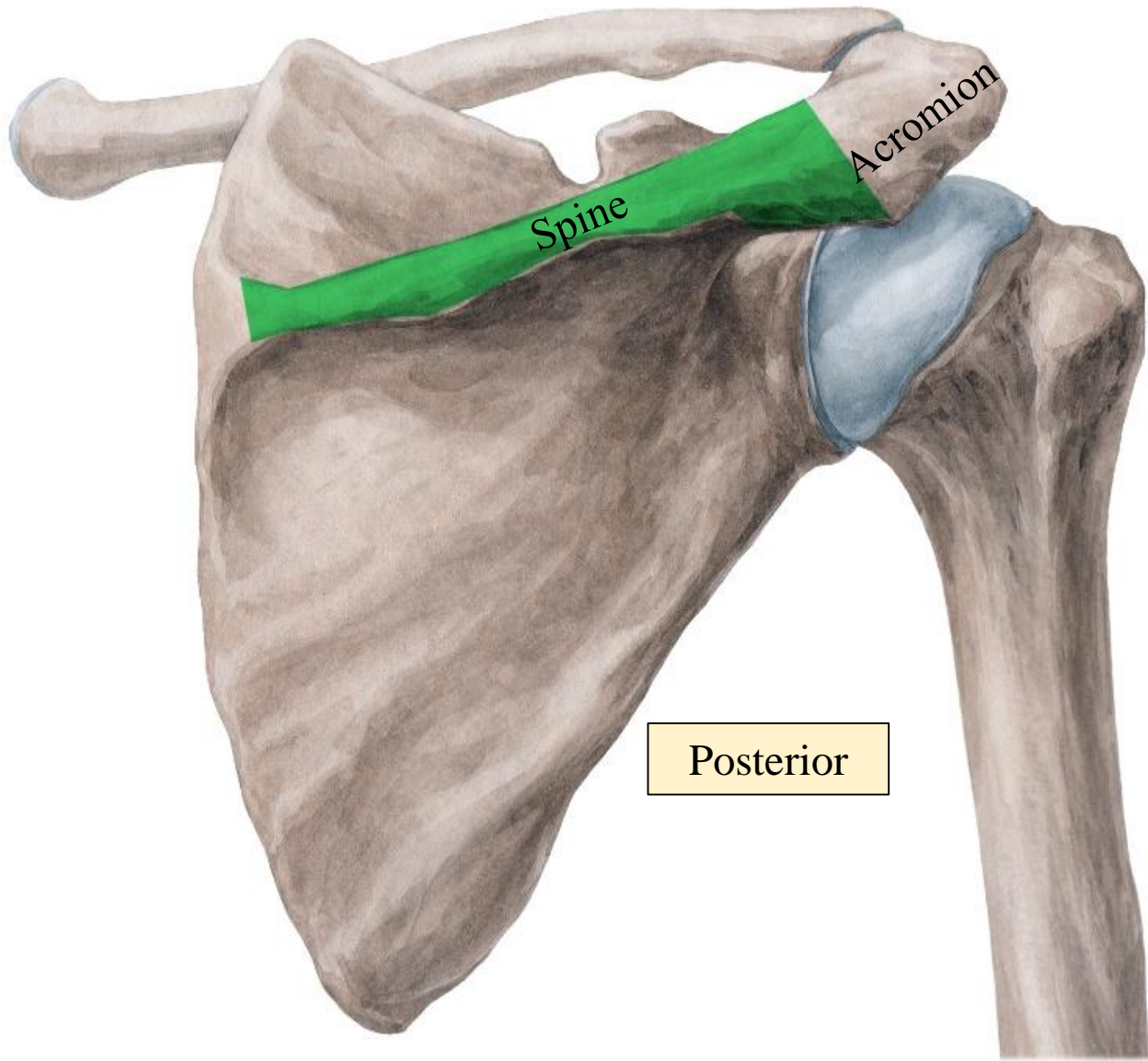
2- Acromioclavicular joint

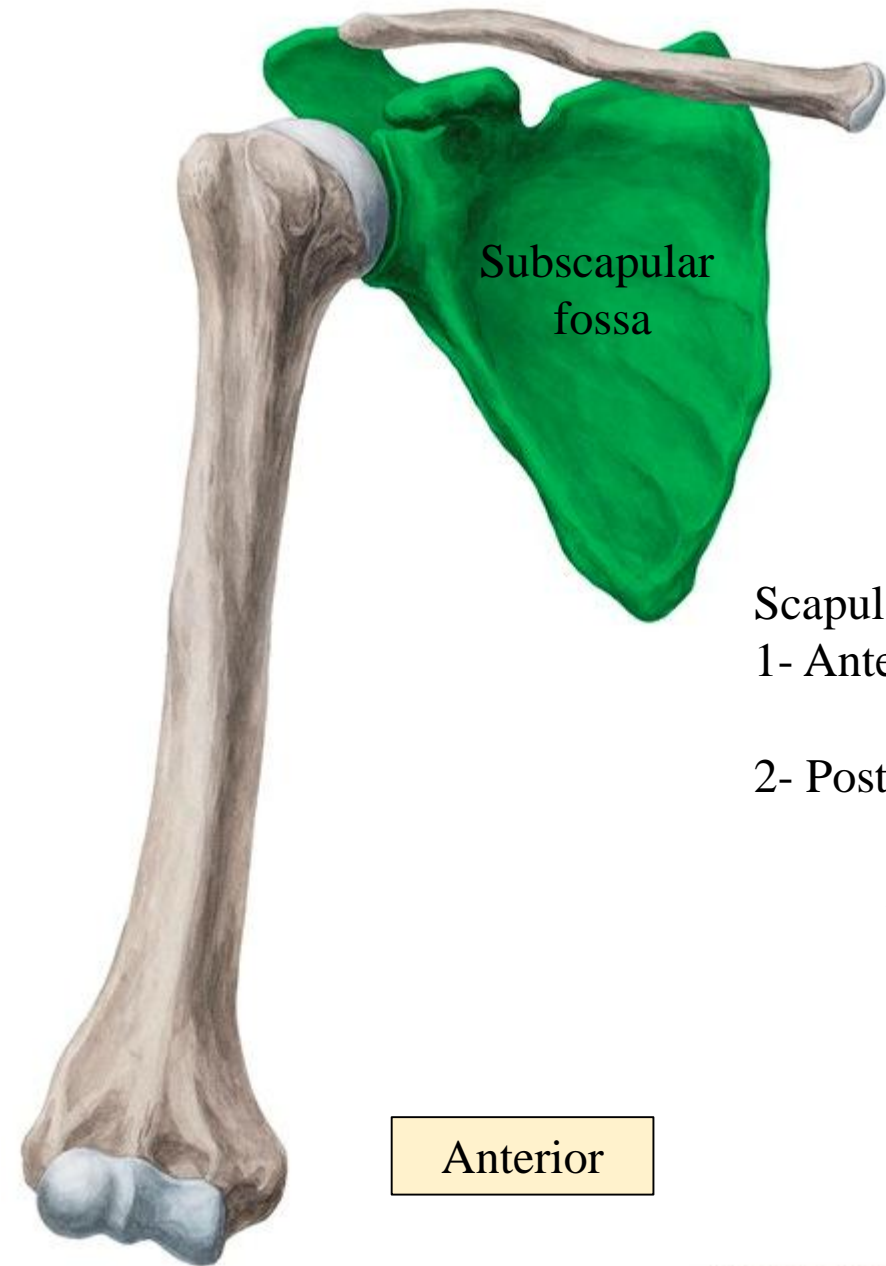
Is formed between the lateral aspect of clavicle and the acromion process of scapula.

Type: Synovial plane joint.



Scapula

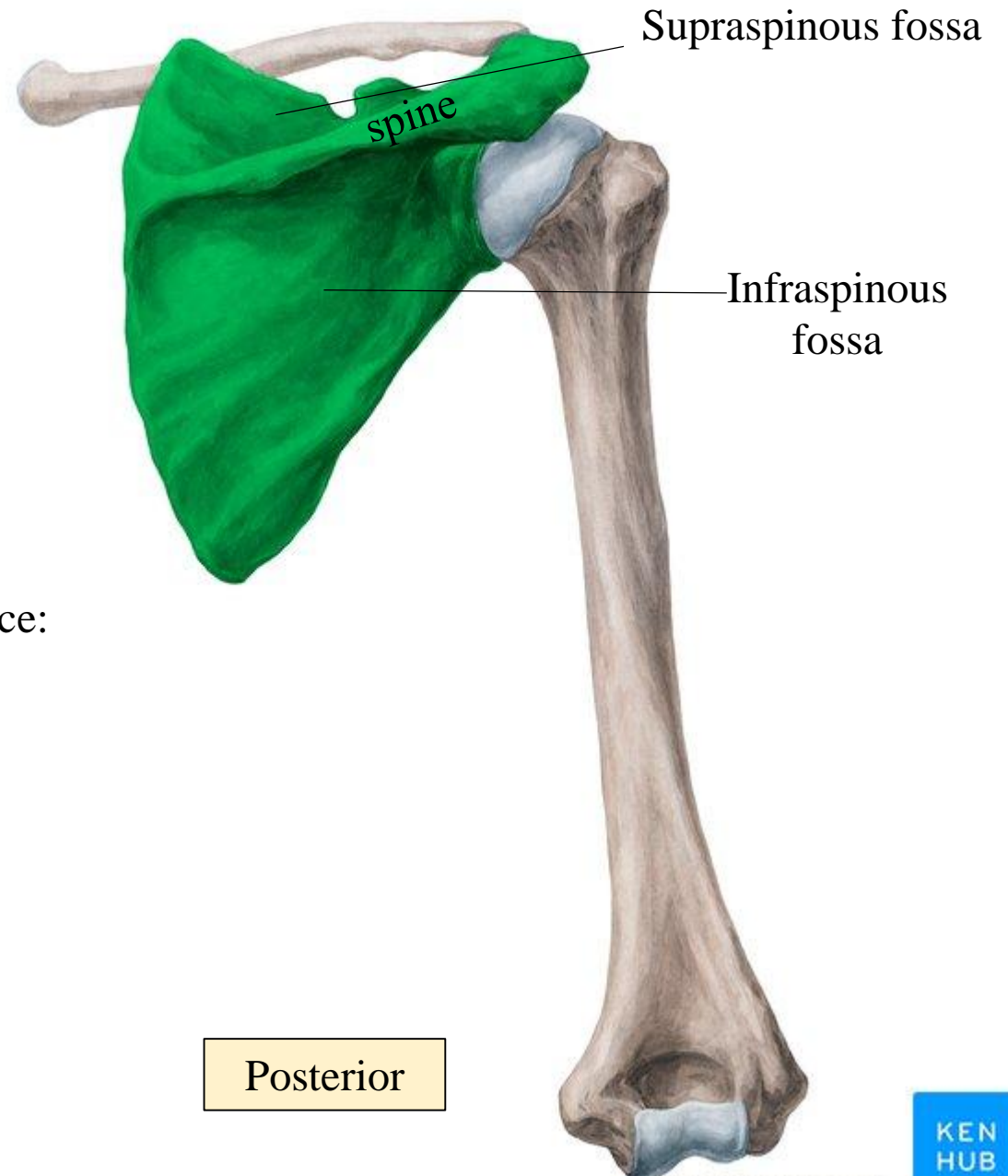




Subscapular
fossa

Anterior

Scapula has 2 surfaces:
1- Anterior (ventral or costal) surface:
 Subscapular fossa
2- Posterior (dorsal) surface:
 Supraspinous fossa
 Infraspinous fossa

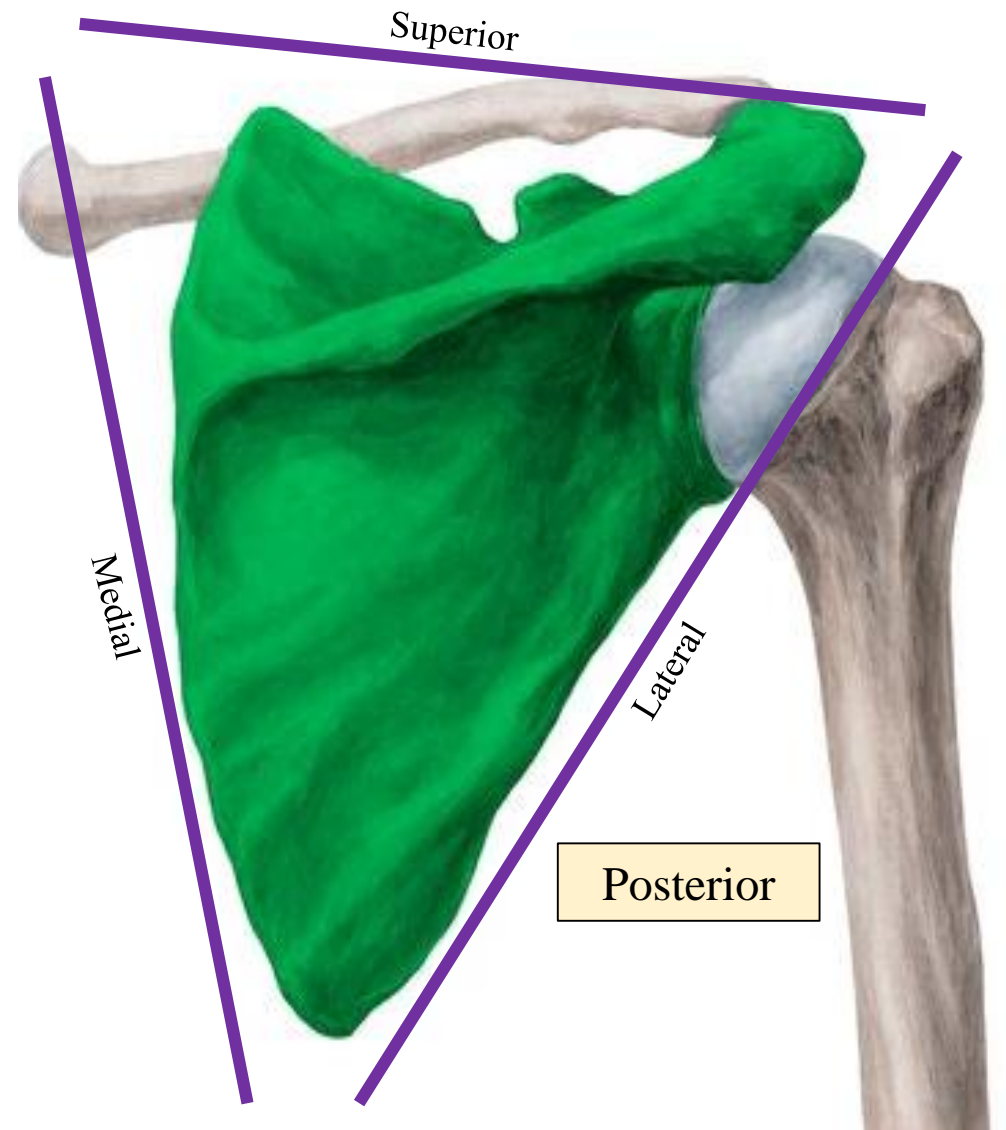
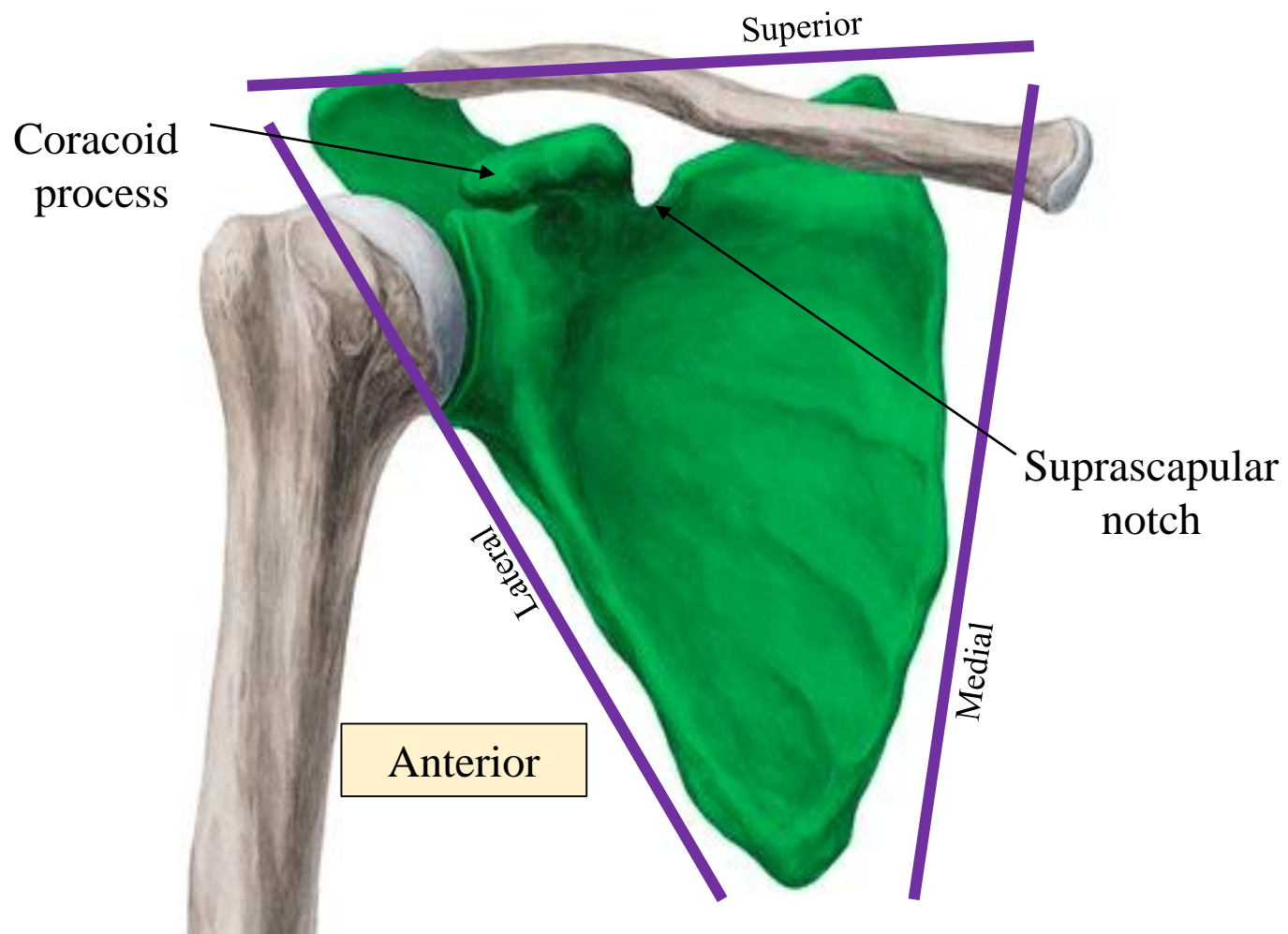


Supraspinous fossa

spine

Infraspinous
fossa

Posterior



Scapula has three borders:

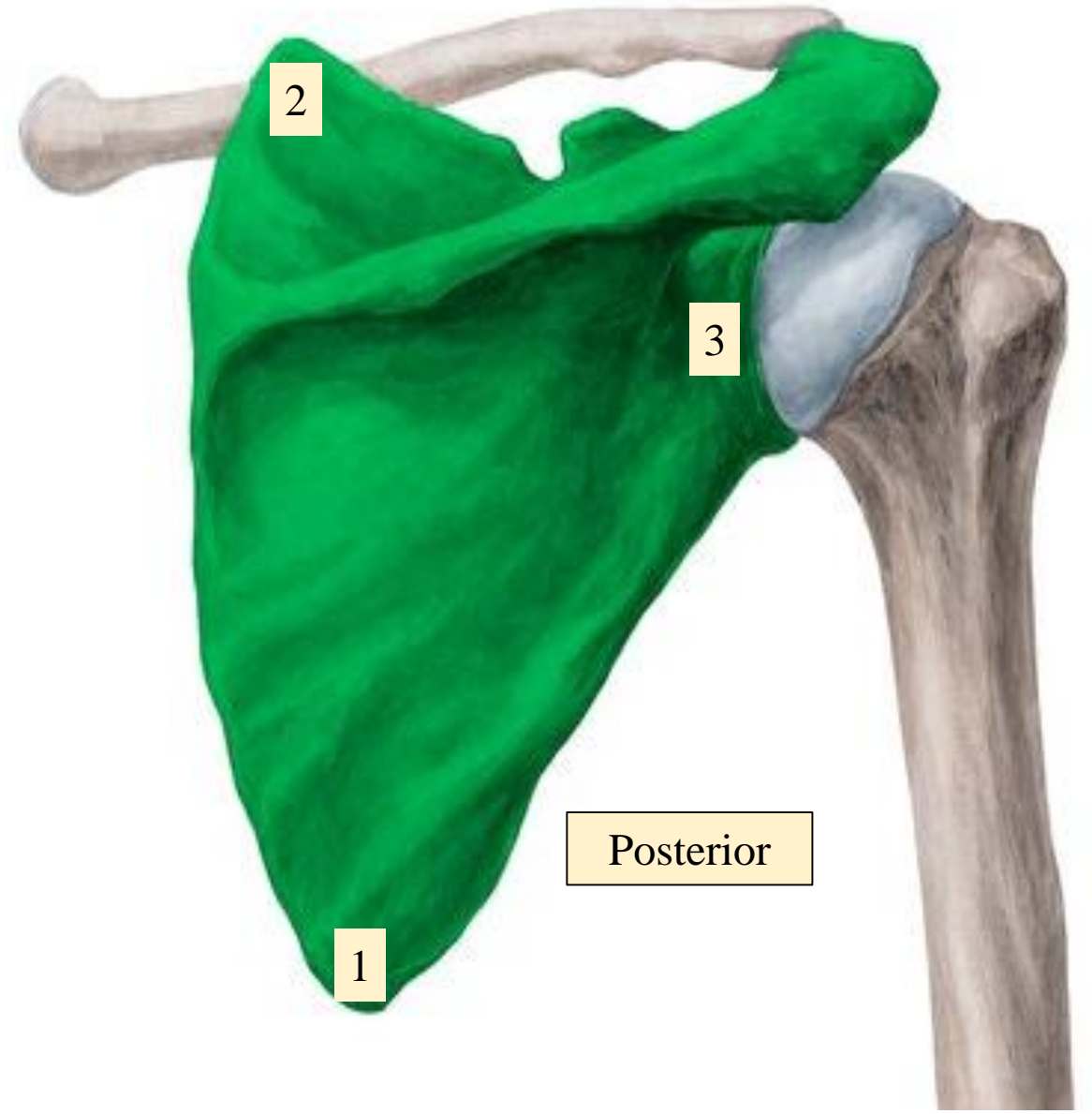
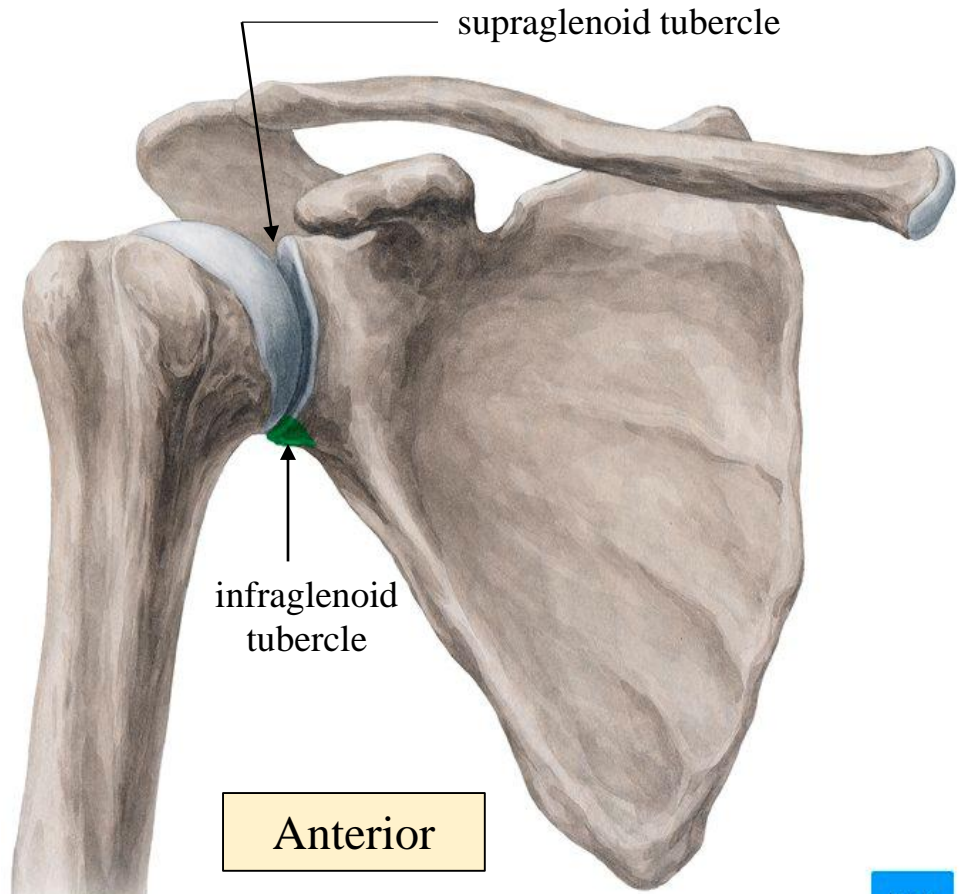
A. Medial (vertebral)

B. Lateral

C. Superior (which presents the supra-scapular notch and lateral to it is the coracoid process).

Scapula has three angles :

1. Inferior at 7th Thoracic spine
2. Superior at 2nd thoracic spine
3. Lateral (glenoid cavity)
Supraglenoid tubercle
Infraglenoid tubercle



Articulation of Scapula

1- Shoulder Joint (glenohumeral joint)

Is formed between the head of humerus and glenoid cavity of scapula

Type: Ball and socket synovial joint.

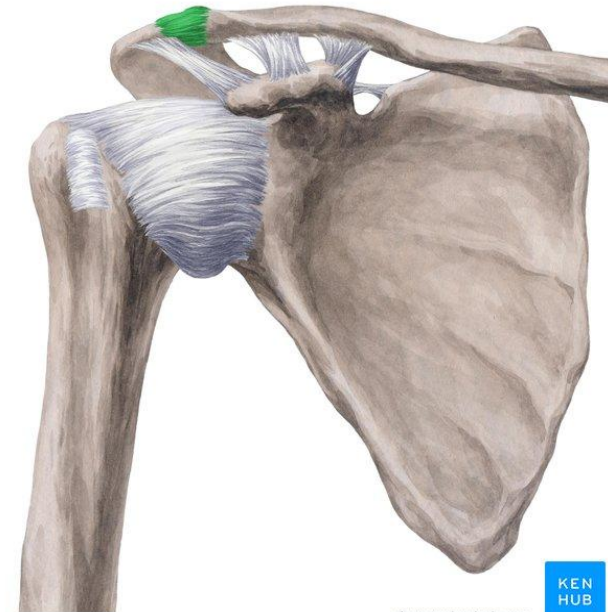
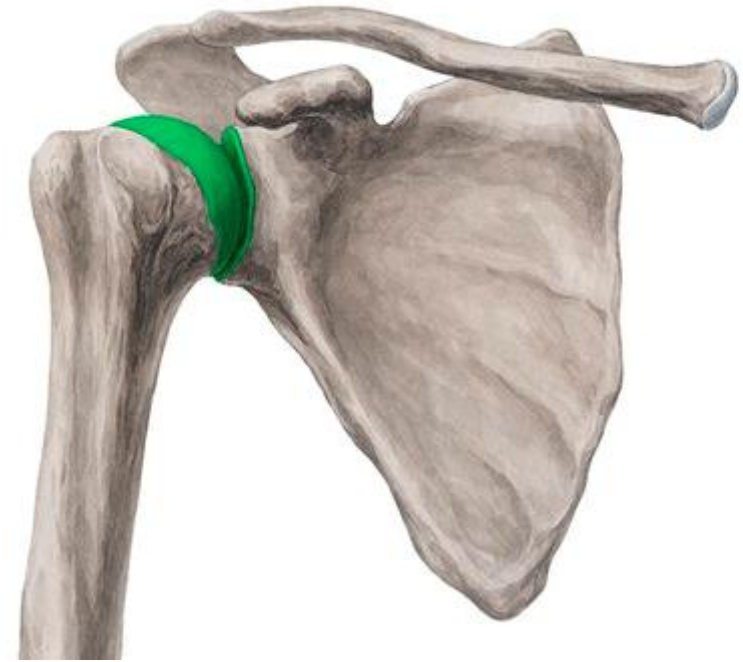
Movements of shoulder OR arm

1. Flexion and extension
2. Abduction and adduction
3. Medial and lateral rotation
4. Circumduction

2- Acromioclavicular Joint

Is formed between the lateral end of the clavicle and acromion of scapula

Type: Synovial plane joint.

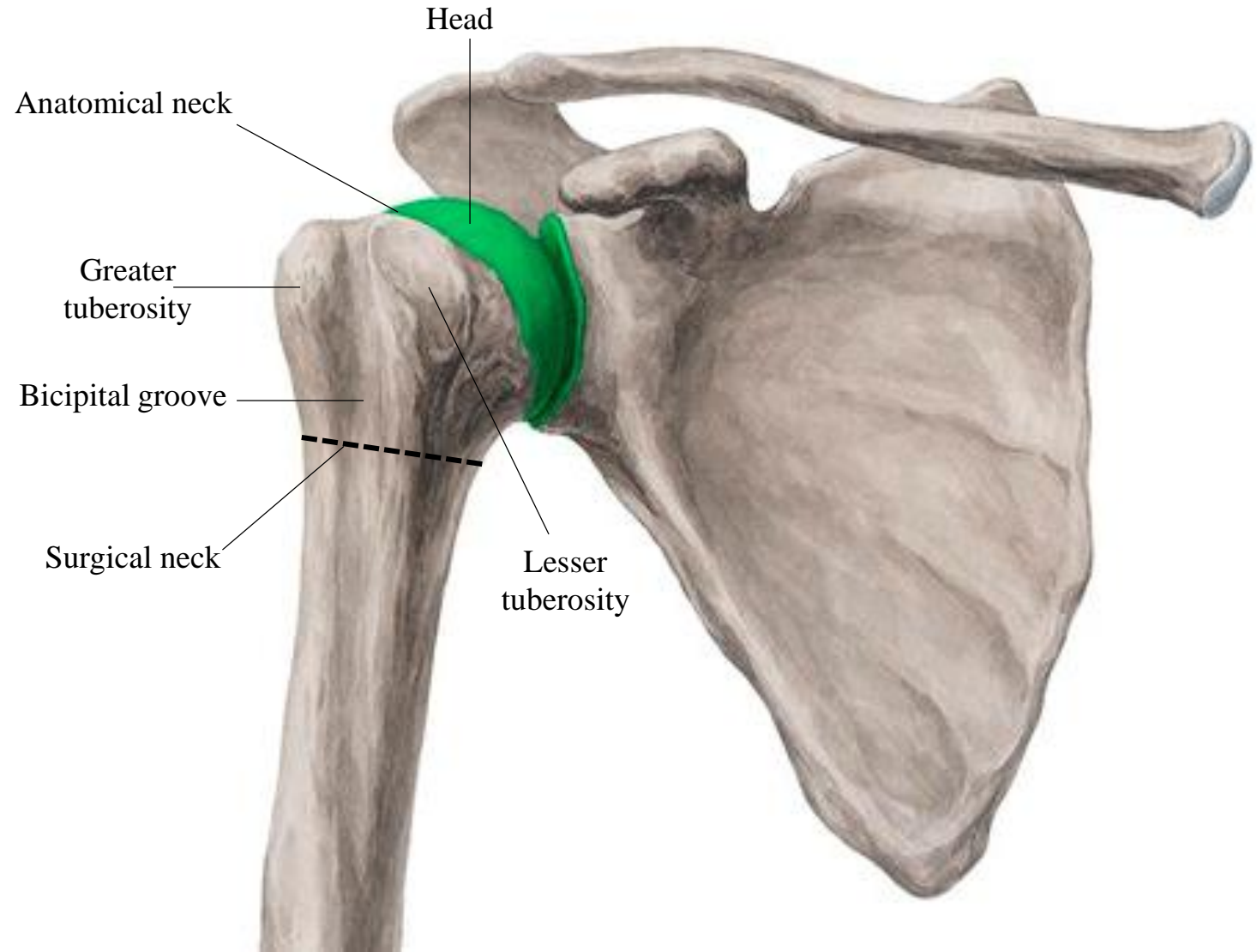


Humerus

Humerus is a long bone, has two ends and a shaft

The upper end of humerus consists of:

- ✓ Head
- ✓ Anatomical neck
- ✓ Greater tuberosity (tubercle)
- ✓ Lesser tuberosity (tubercle)
- ✓ Inter-tubercular (bicipital) groove (which is located in front of upper part of the shaft)
- ✓ Surgical neck



The bicipital groove has lateral lip, medial lip and floor

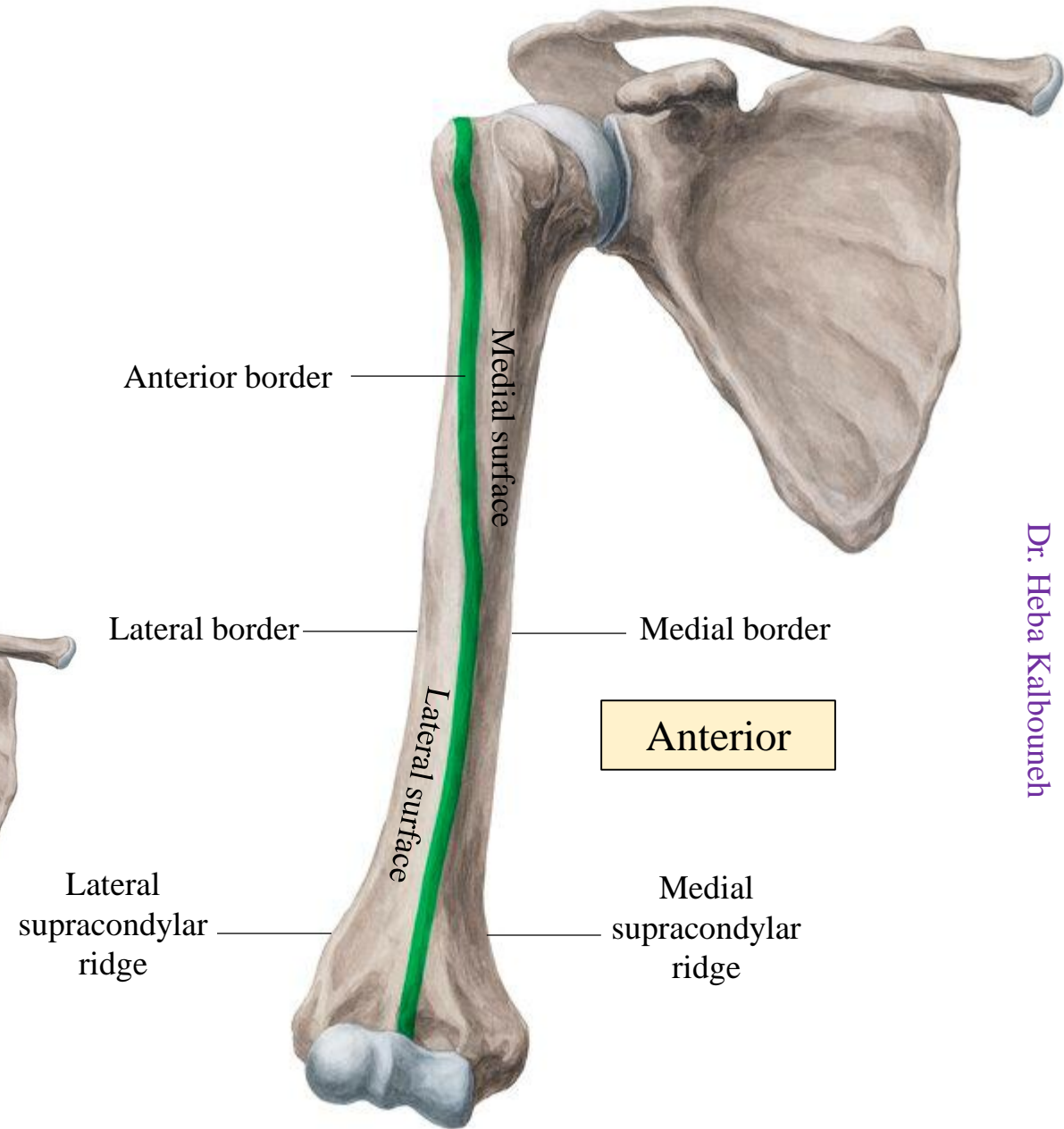
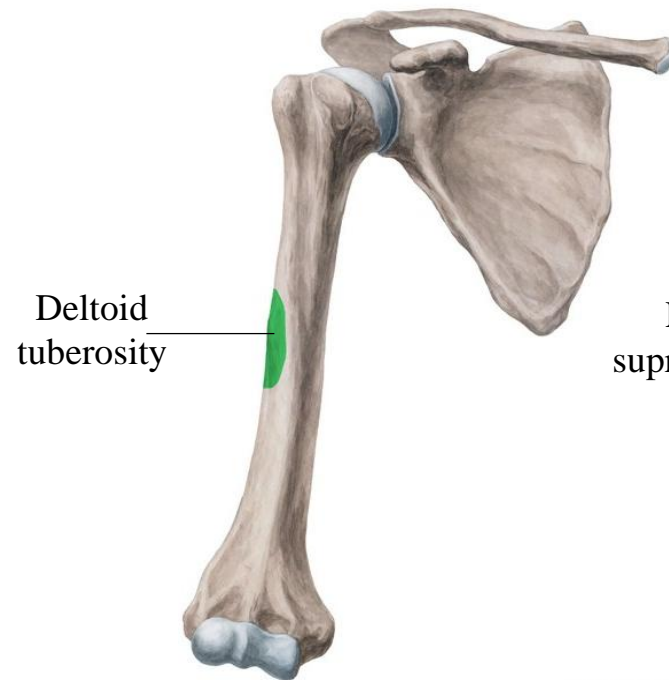
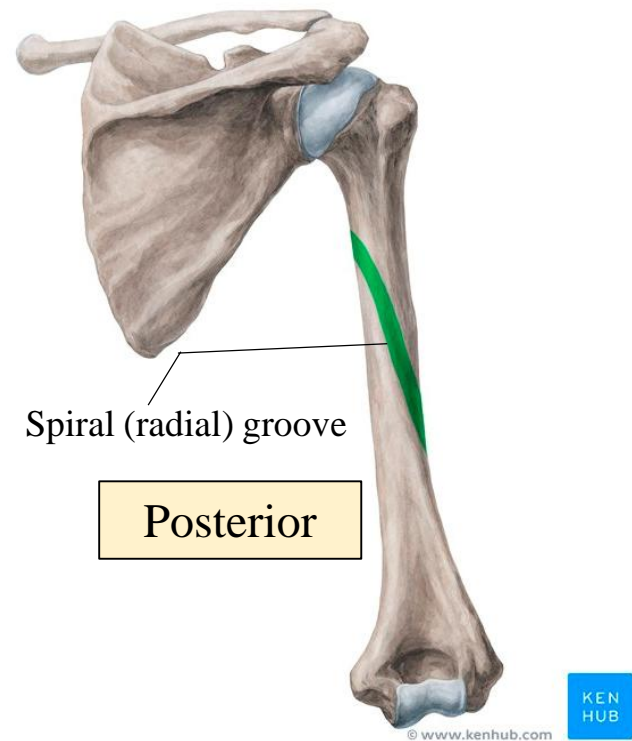
The shaft of humerus has:

Three borders:

1. Anterior border
2. Medial border forming medial supracondylar ridge
3. Lateral border forming lateral supracondylar ridge

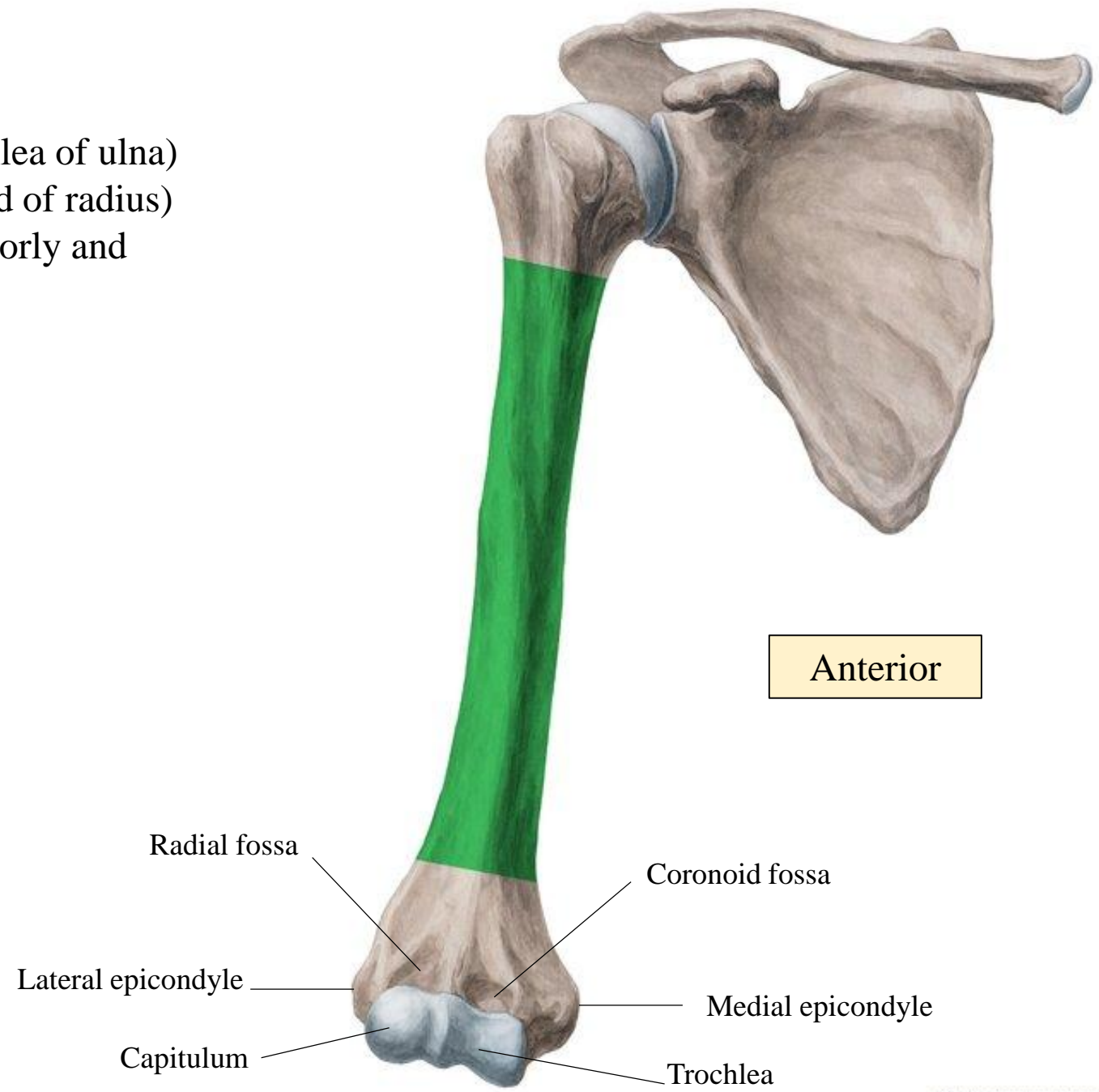
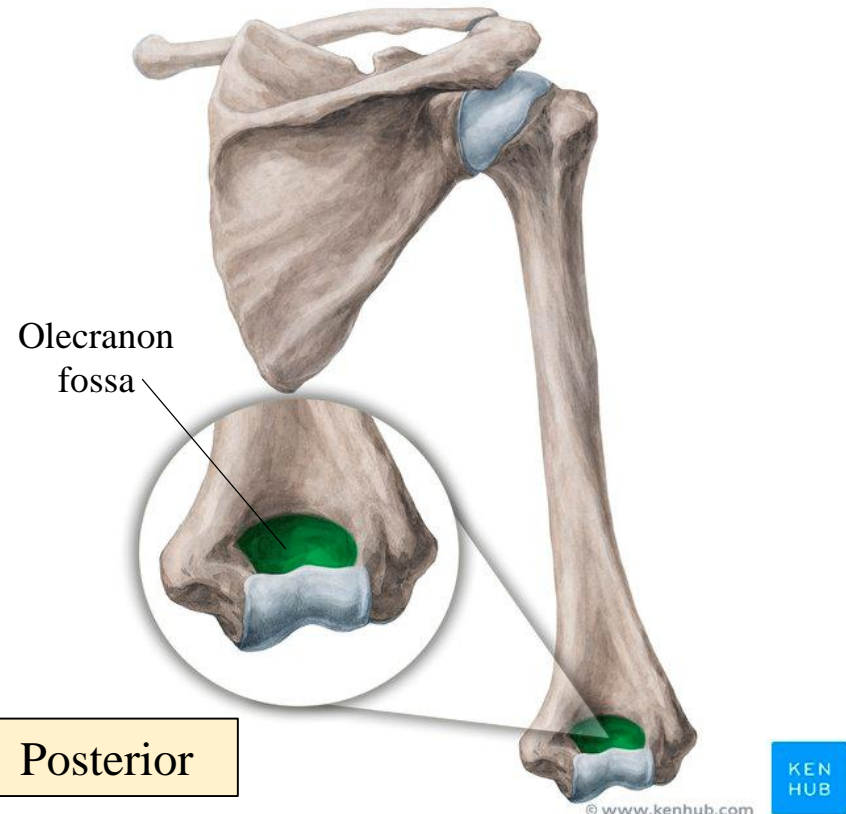
Three surfaces:

- 1- Medial surface
- 2- Lateral surface: shows the deltoid tuberosity
- 3- Posterior surface: shows spiral or radial groove

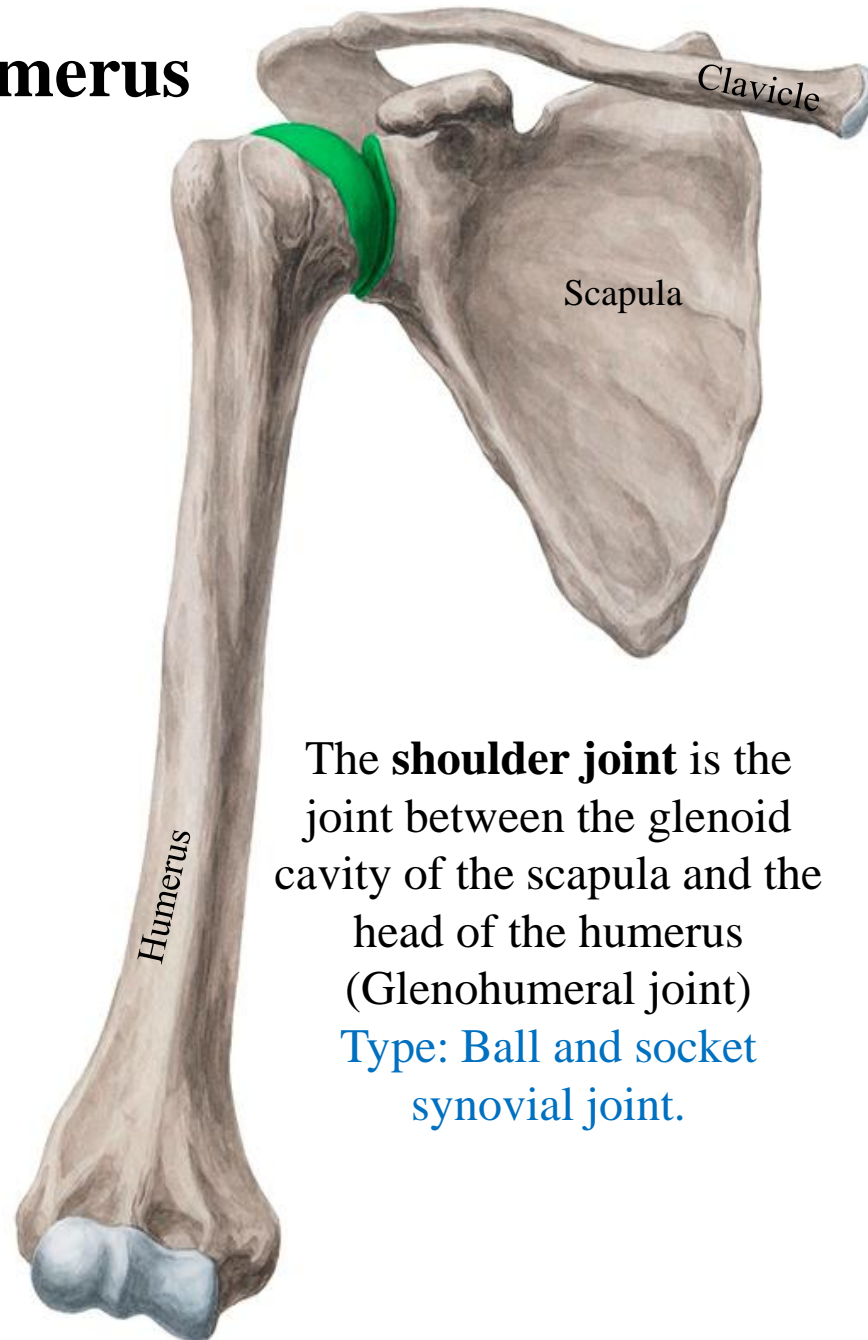


The lower end of humerus consists of:

- A. Two epicondyles (medial & lateral)
- B. Trochlea (medially for articulation with trochlea of ulna)
- C. Capitulum (laterally for articulation with head of radius)
- D. Three fossae (radial & coronoid fossae anteriorly and olecranon fossa posteriorly).



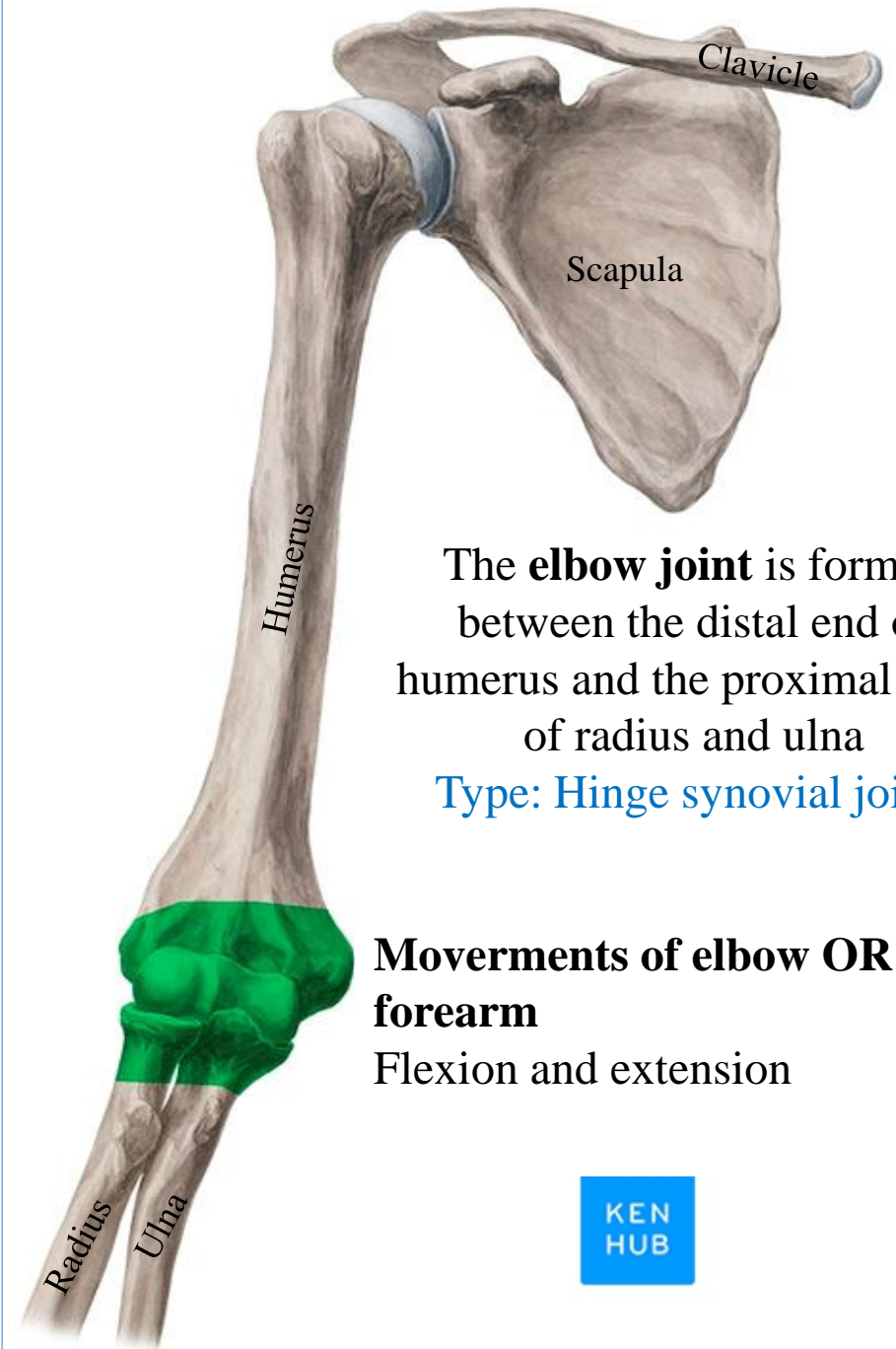
Articulation of Humerus



The **shoulder joint** is the joint between the glenoid cavity of the scapula and the head of the humerus (Glenohumeral joint)
Type: **Ball and socket synovial joint.**

Movements of shoulder OR arm

1. Flexion and extension
2. Abduction and adduction
3. Medial and lateral rotation
4. Circumduction



The **elbow joint** is formed between the distal end of humerus and the proximal ends of radius and ulna
Type: **Hinge synovial joint.**

Movements of elbow OR forearm

Flexion and extension

