


Anatomy of The Upper Limb



1-Shoulder, which includes

A-The pectoral

B-Scapular

C-Lateral supraclavicular regions.

The pectoral (shoulder) girdle is a bony ring, incomplete posteriorly, formed by ***the scapulae, clavicles and*** completed anteriorly by the manubrium of the sternum

2-Arm (brachium) is between the shoulder and the elbow and is centered around the humerus.

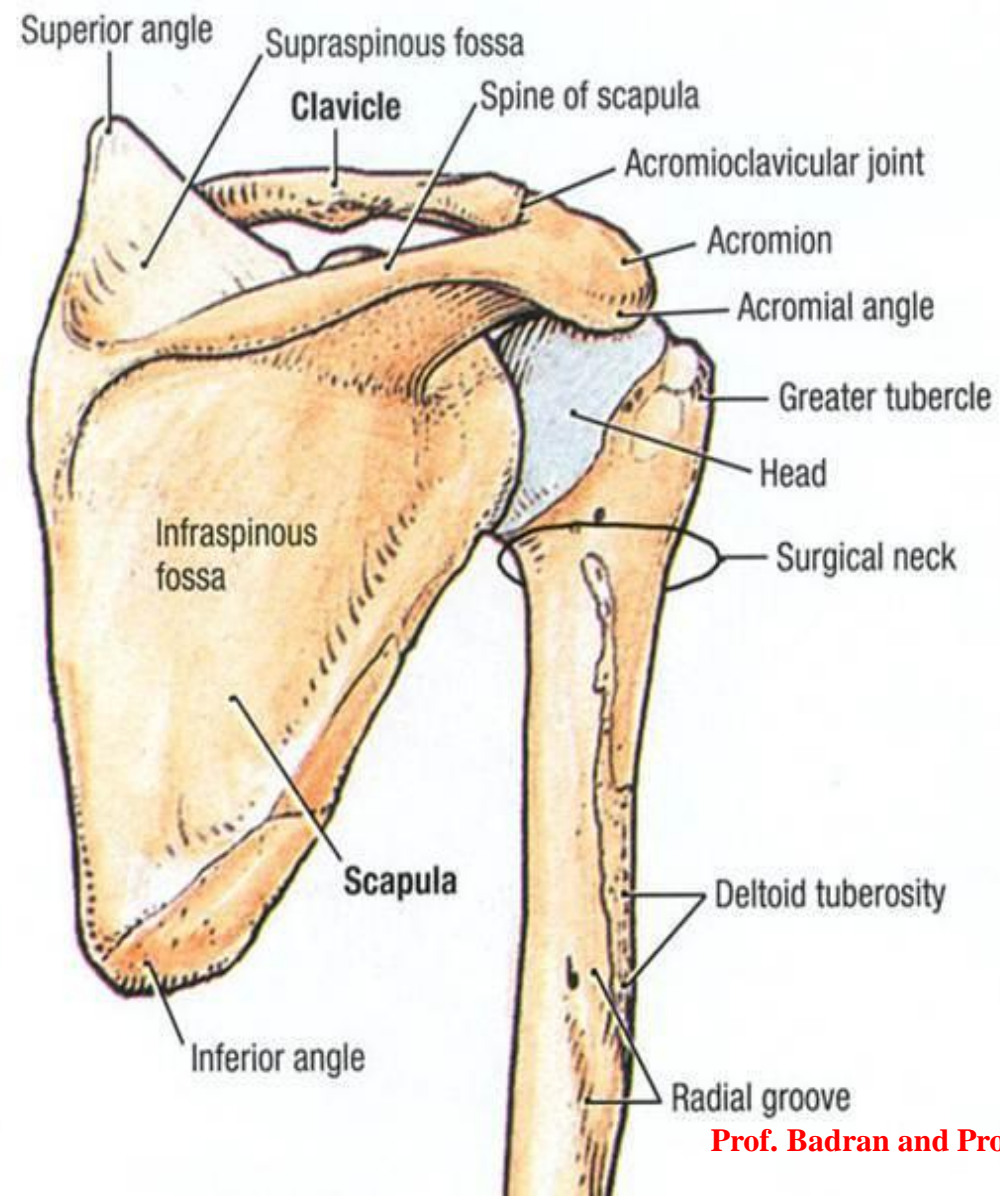
3-Forearm (antebrachium) is between the elbow and the wrist and contains the ulna and radius

4-Hand (manus) is distal to the forearm and contains the carpus, metacarpus, and phalanges.

It is composed of **the wrist, palm, dorsum of hand, and digits** (fingers, including the opposable thumb)

Bones of the upper limbs

- 1- Clavicle
- 2- Scapula
- 3- Humerus
- 4- Ulna
- 5- Radius
- 6- Carpal bones
- 7- hand



**SHOULDER
GIRDLE:**
Is made of 1- clavicle
2- scapula



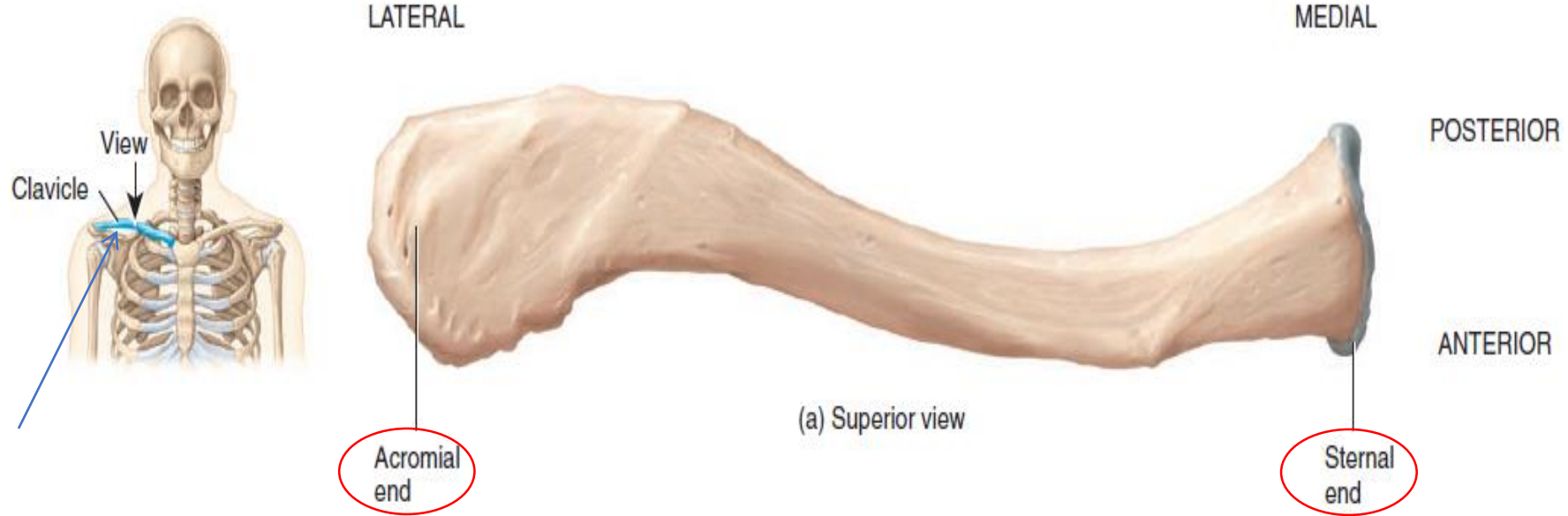
1-Clavicle

It has two ends:
A-Acromial (lateral)
B-Sternal (medial)

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Right clavicle.

The clavicle articulates medially with the manubrium of the sternum and laterally with the acromion of the scapula.

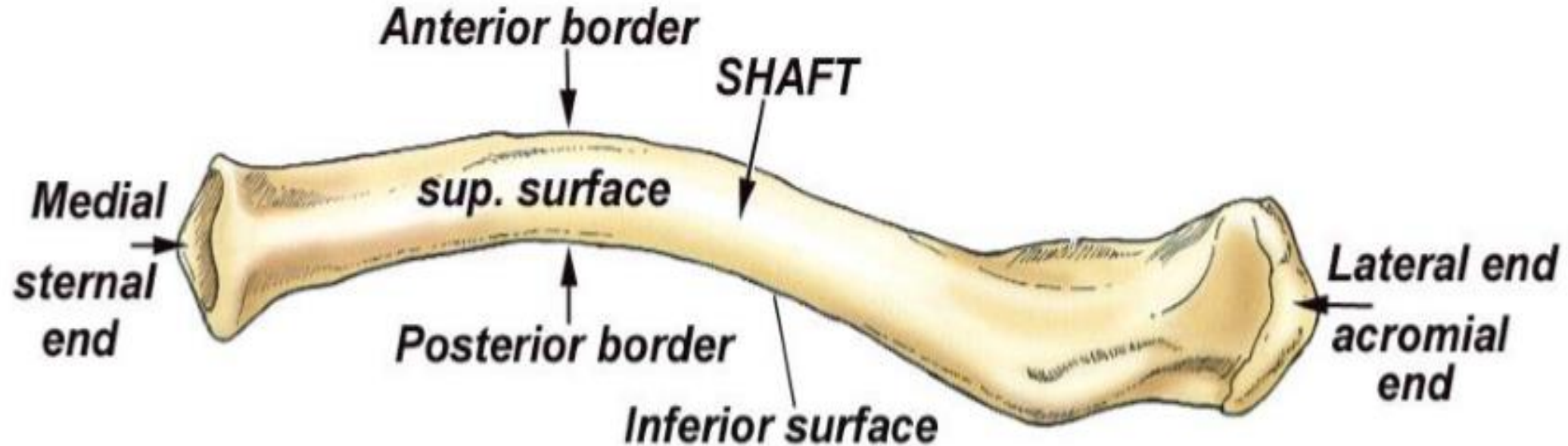


Clavicle

- The clavicle is the only bony attachment between the *trunk and the upper limb*
- It is palpable along its entire length and has a gentle S-shaped contour, with the forward-facing convex part medial and the forward-facing concave part lateral.

- **It has**

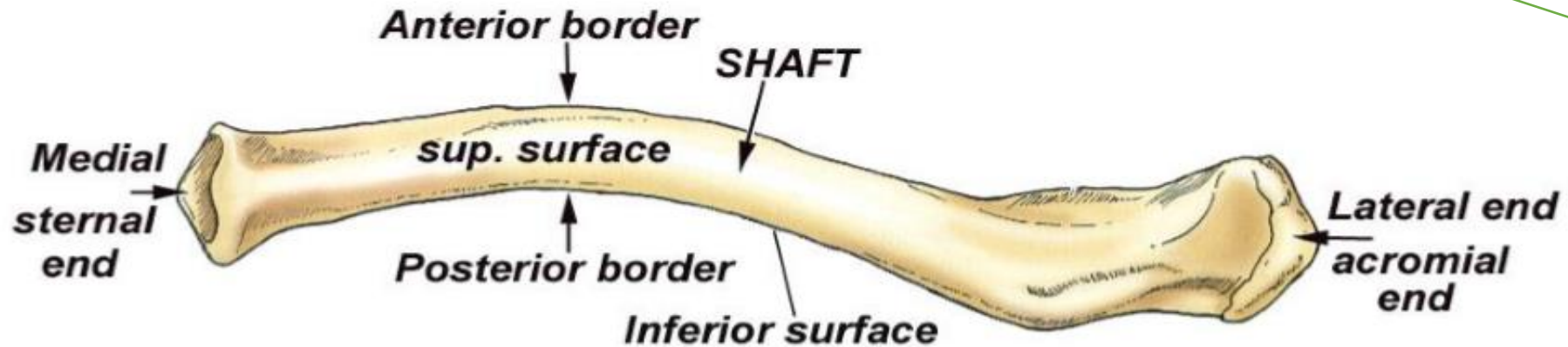
2 ends , 2 surfaces , 2 borders .



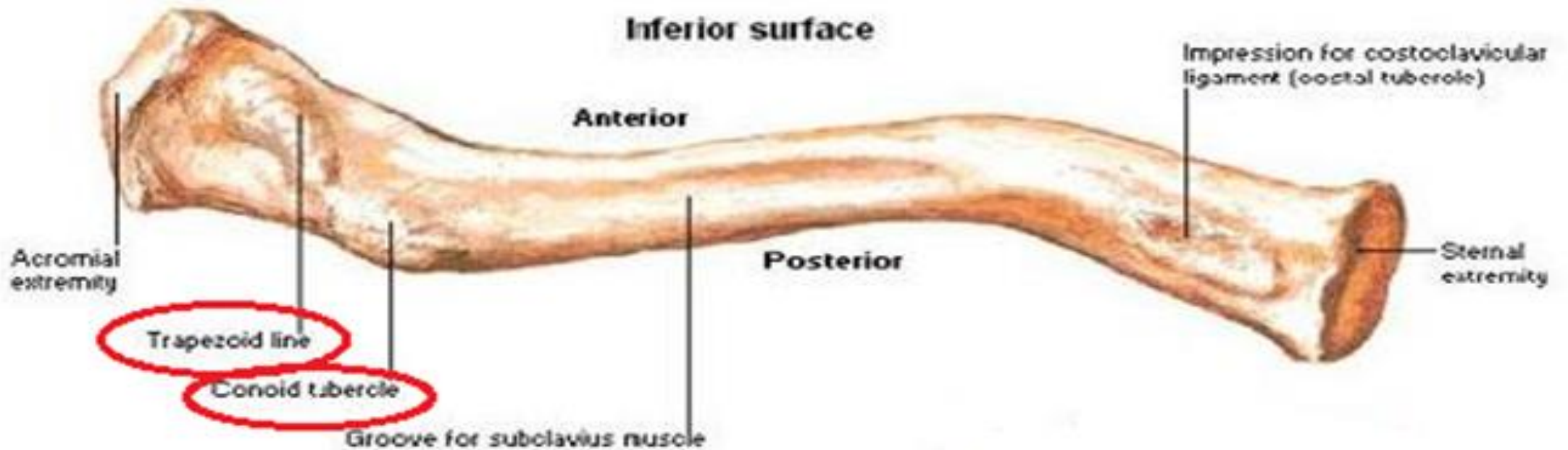
It has two ends

- ❖ The **sternal** (medial) end is more robust and somewhat quadrangular in shape
- ❖ The sternal end has a much larger facet for articulation mainly with the manubrium of the sternum, and to a lesser extent, with the first costal cartilage.

- ❖ It has two ends : The **acromial** (lateral) end of the clavicle is **flat**
- ❖ The acromial end of the clavicle has a small oval facet on its surface for articulation with a similar facet on the medial surface of the **acromion of the scapula**



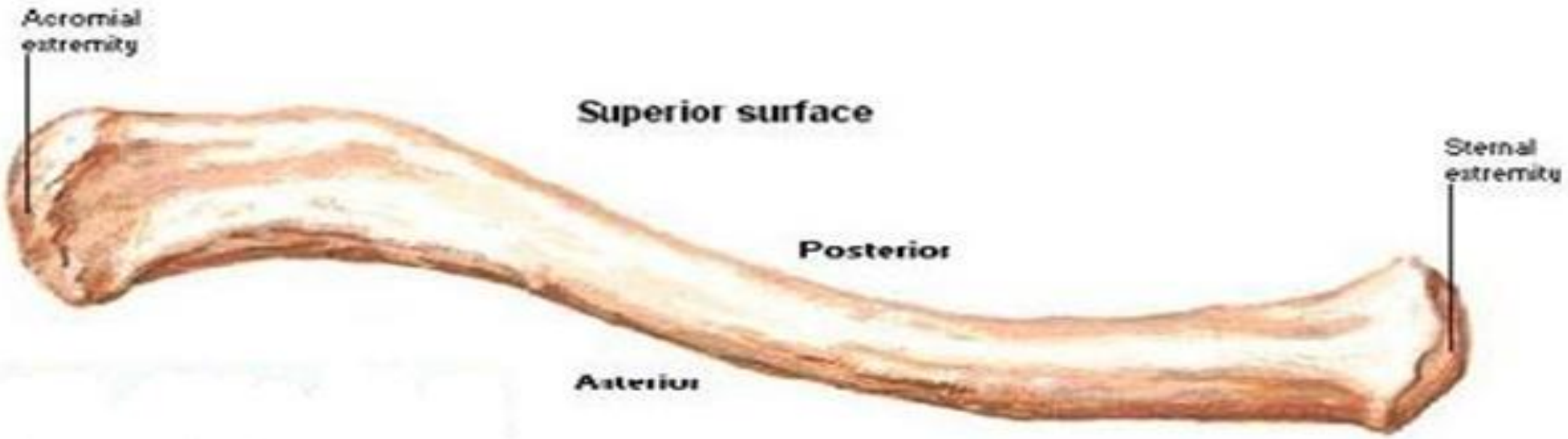
It has two surfaces:



The inferior surface **and** margins of the clavicle are **Roughened** by the attachment of muscles that connect the clavicle to the thorax, neck, and upper limb.

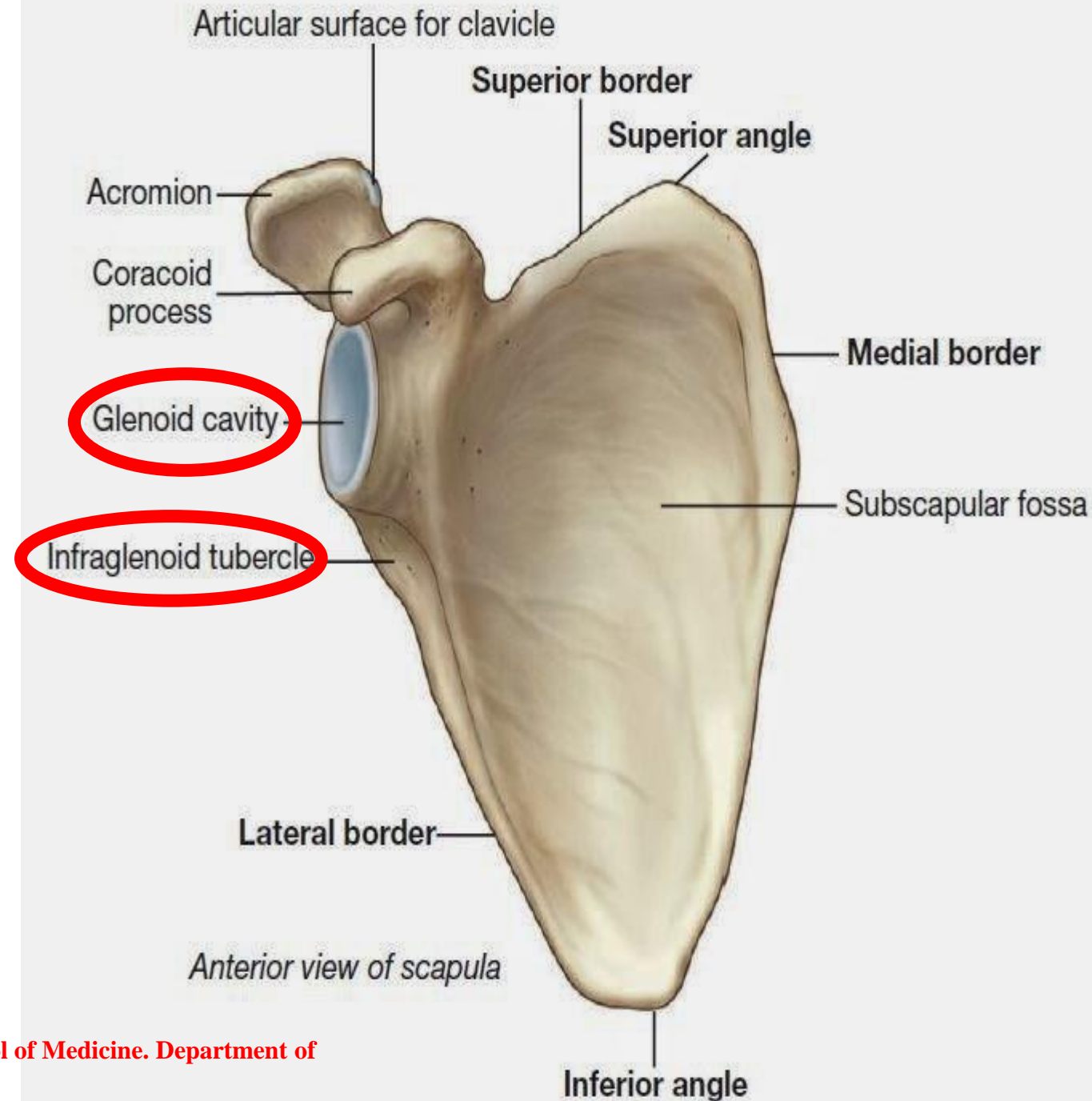
Rough surface

The superior surface is smoother than the inferior surface.



2-THE SCAPULA

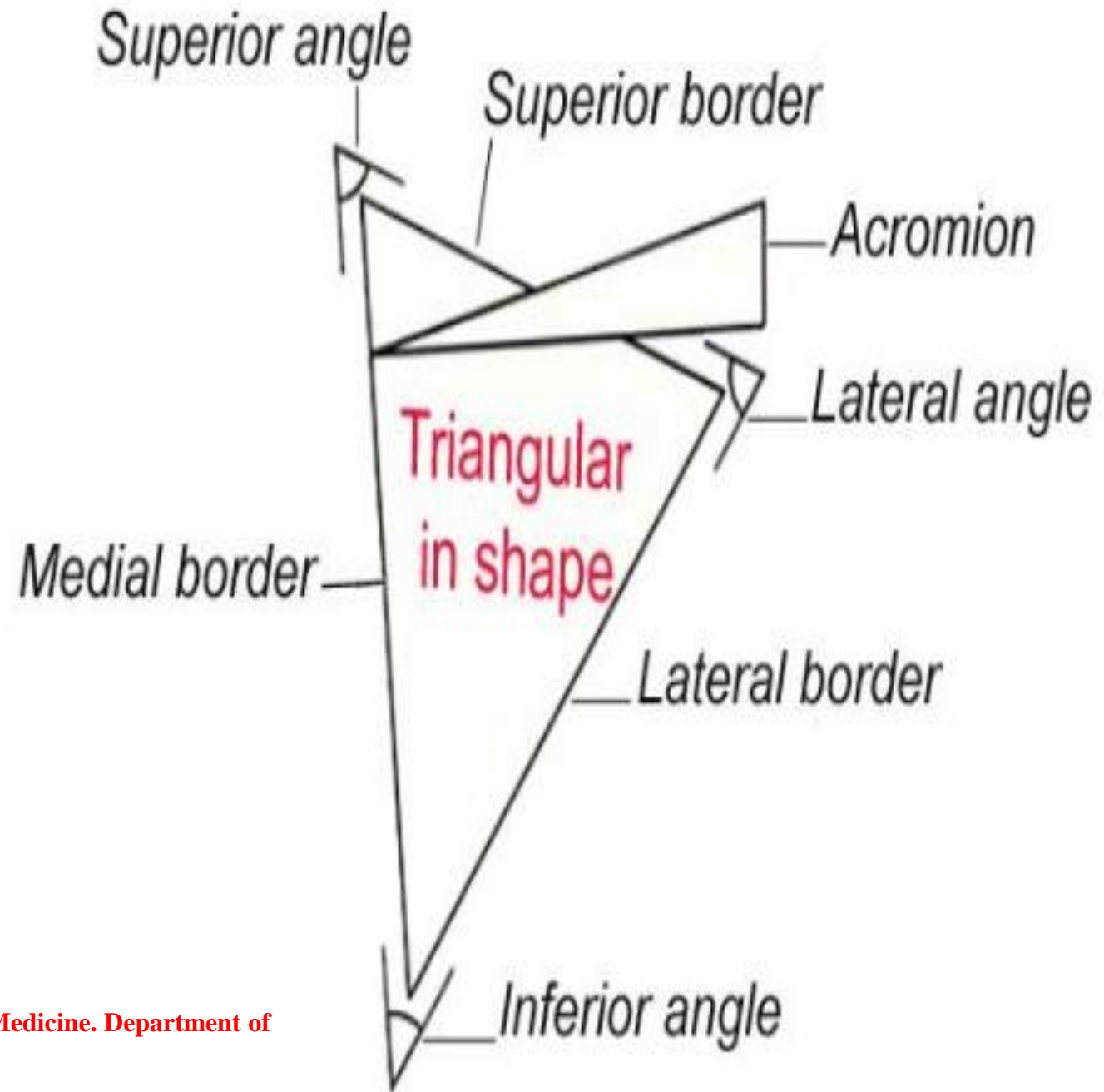
The scapula is a large, **flat** triangular bone



Triangular bone with:



- three angles (lateral, superior, and inferior)
- three borders (superior, lateral, and medial)
- two surfaces (costal and posterior)
- three processes (acromion, spine, and coracoid process).

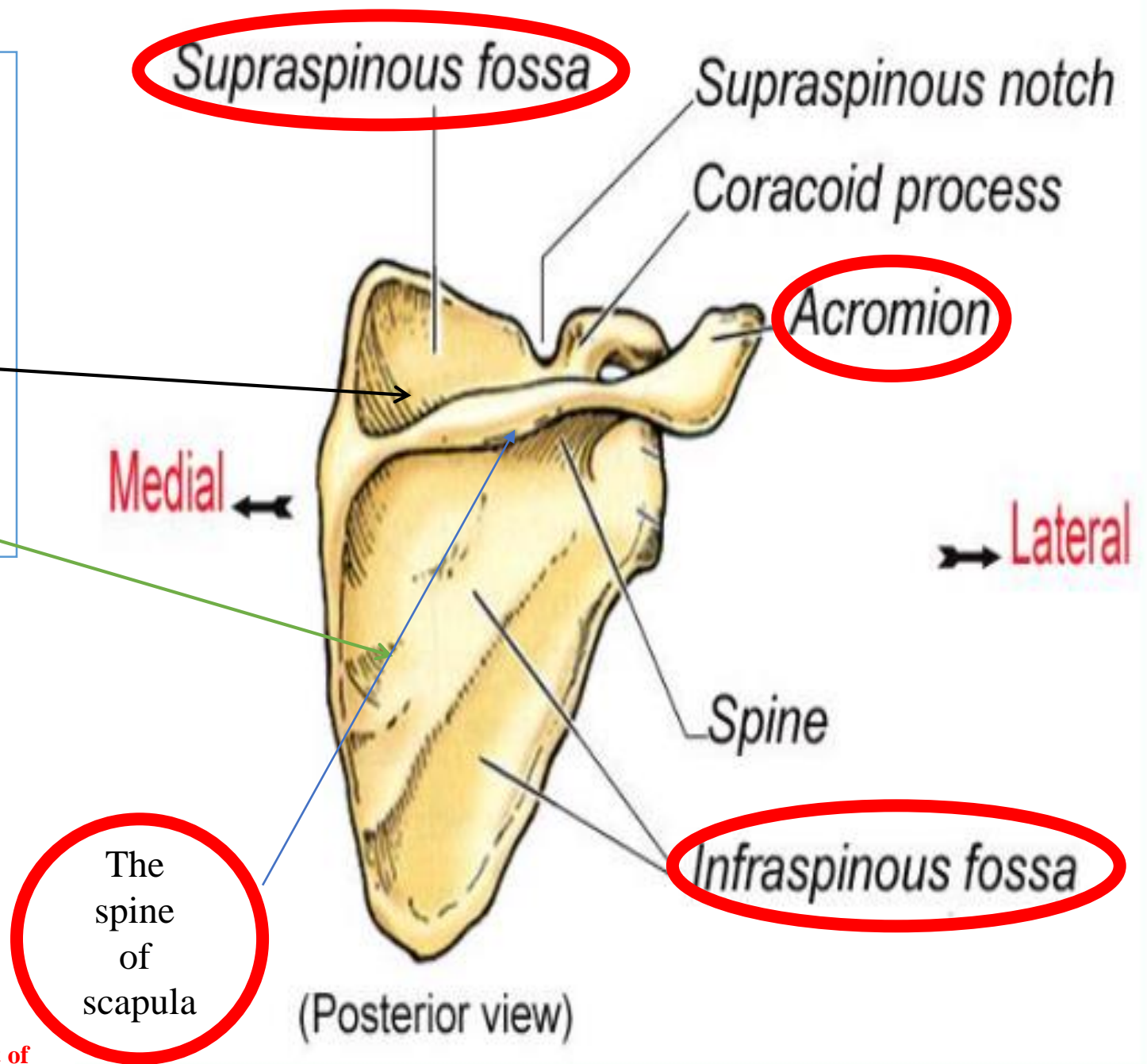


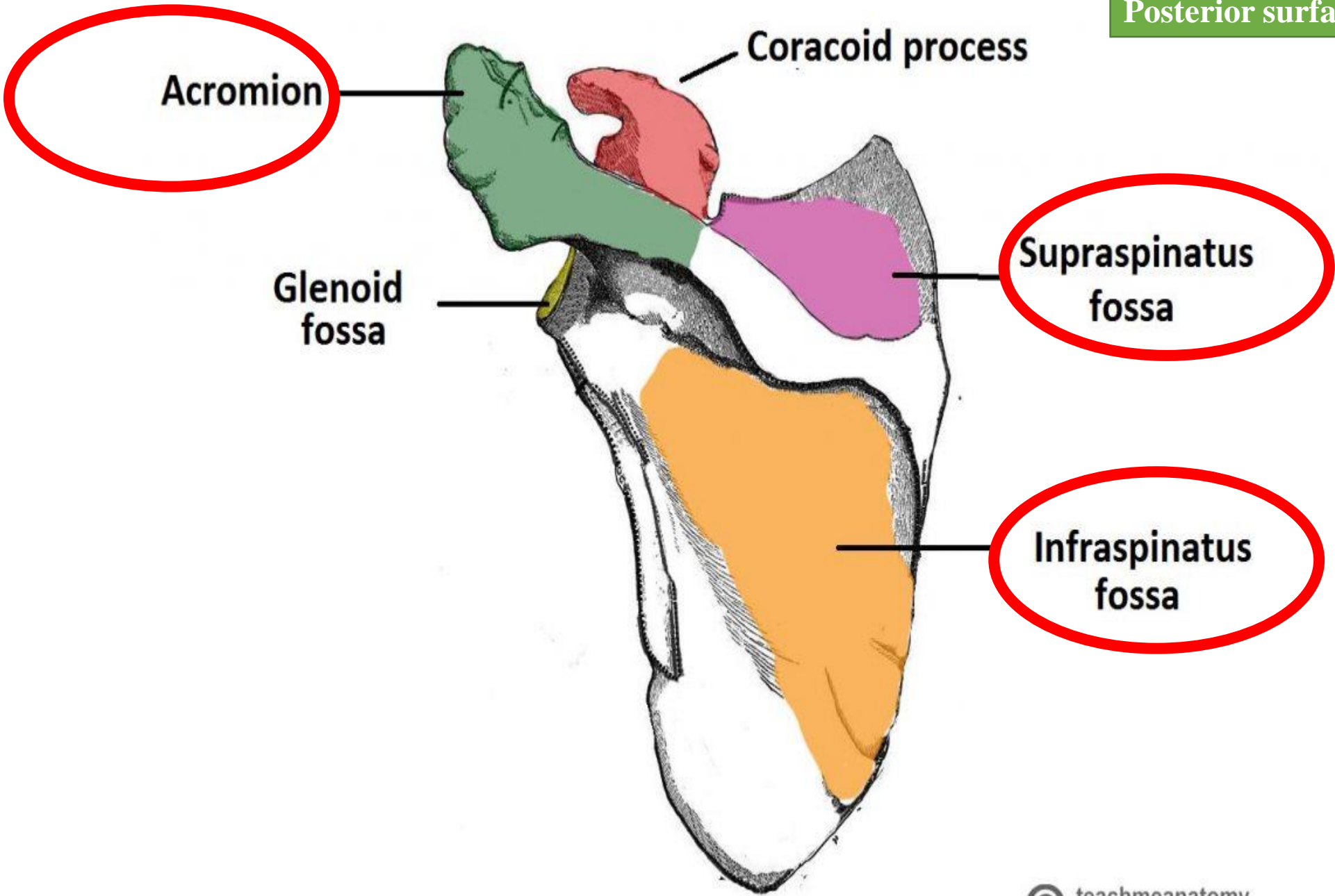
Posterior surface of the scapula

• **scapula**

- A prominent **spine** subdivides the **posterior surface** of the scapula into a small, superior **supraspinous fossa** and a much larger, **inferior infraspinous fossa**

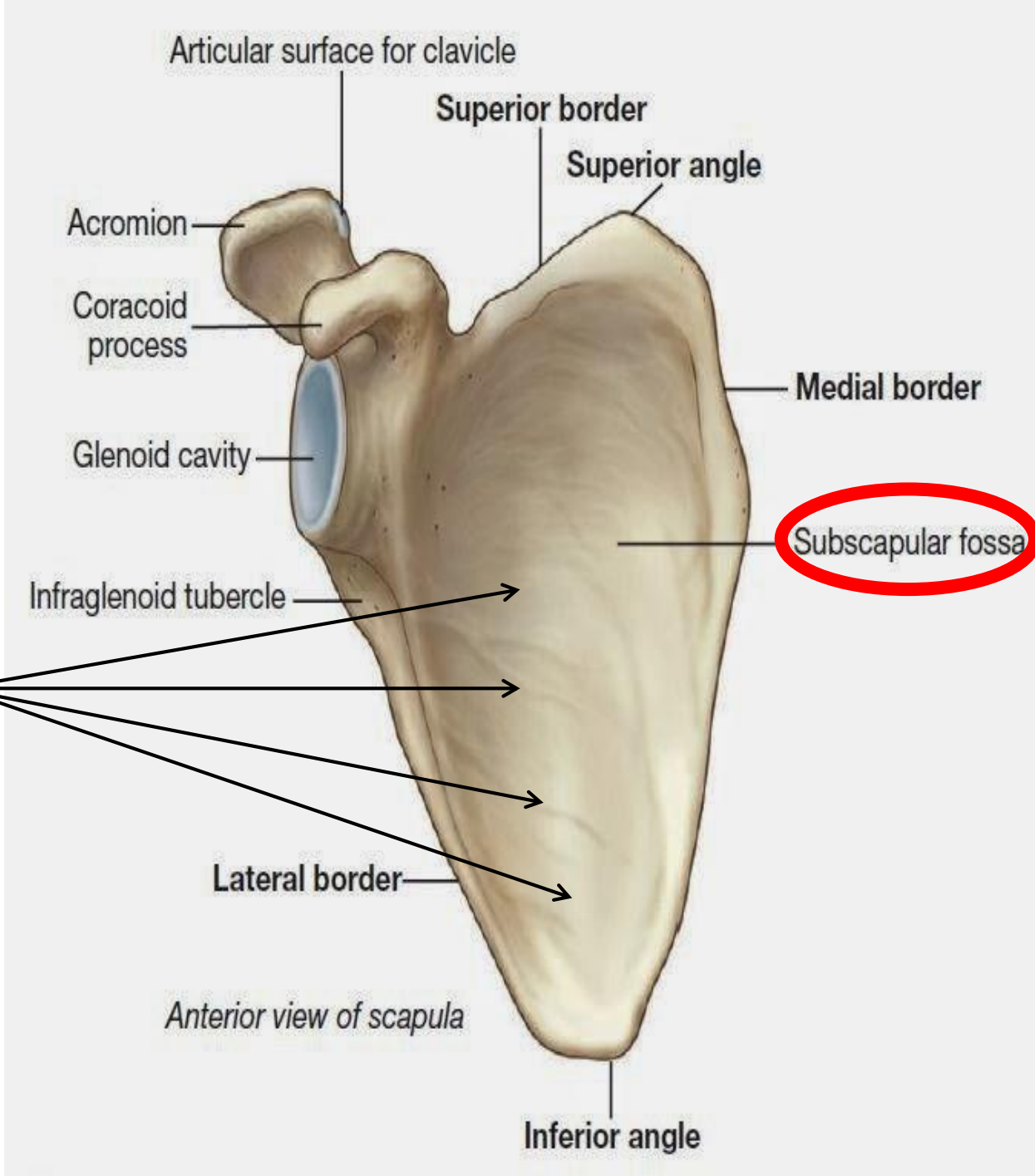
The **acromion**, which is an anterolateral projection of the spine, arches over the glenohumeral joint and articulates, via a small oval facet on its distal end, with the clavicle.

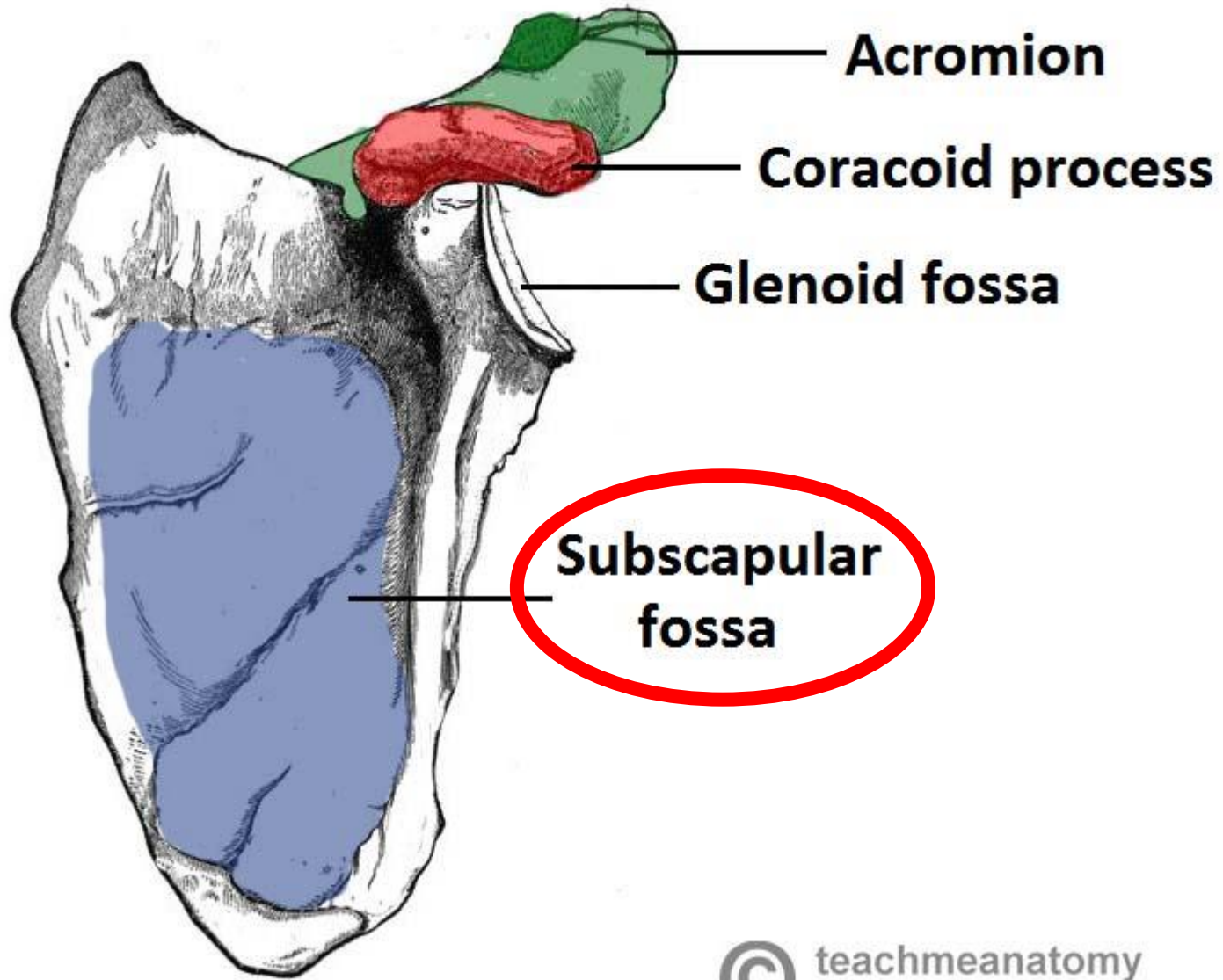


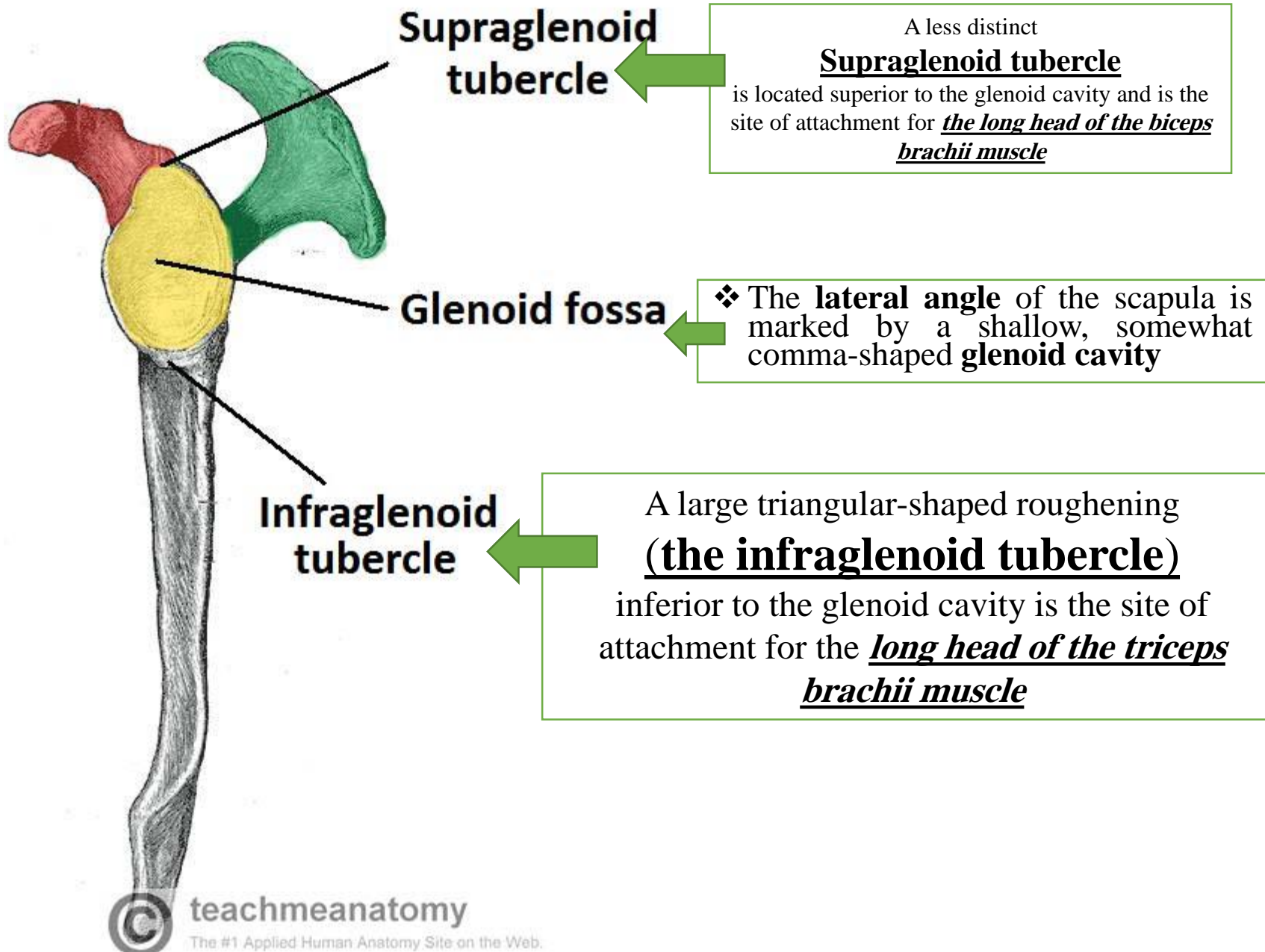


The anterior or The **costal surface** of the scapula

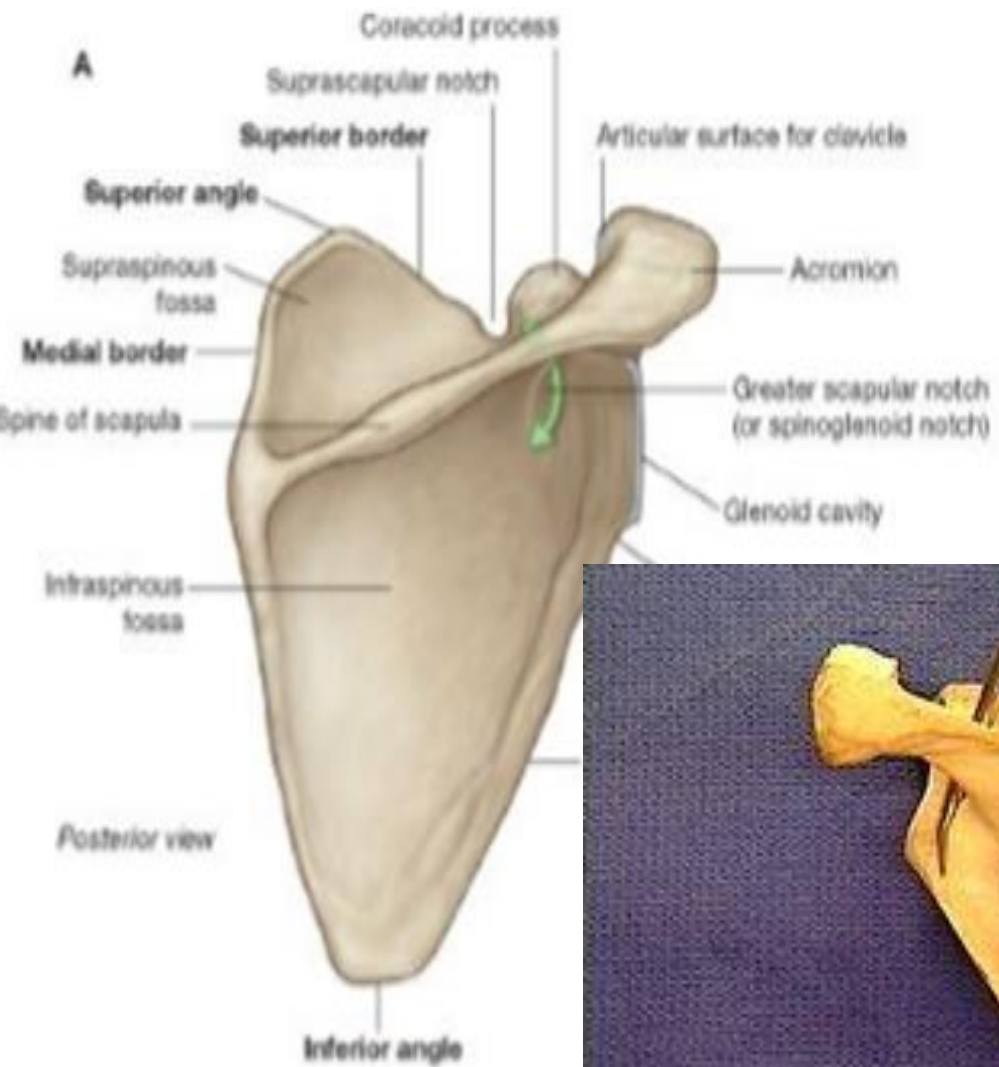
characterized by a shallow concave **subscapular fossa**







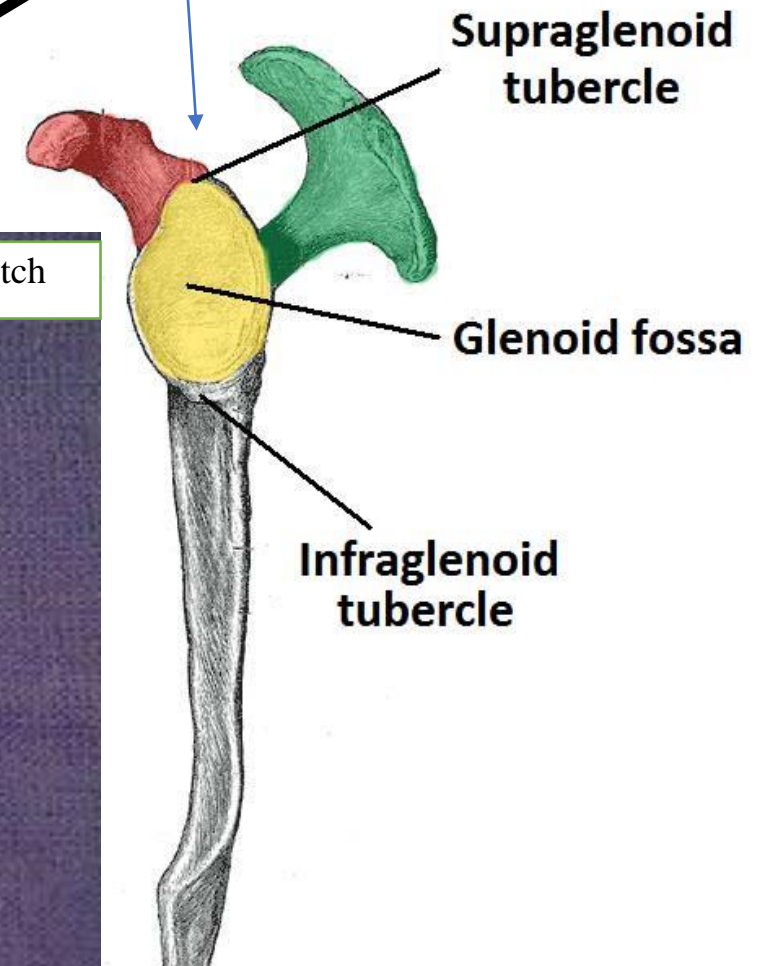
The region between the lateral angle of the scapula and the attachment of the spine to the posterior surface of the scapula is the (**Greater scapular notch**) (**spinoglenoid notch**).



POSTERIOR VIEW



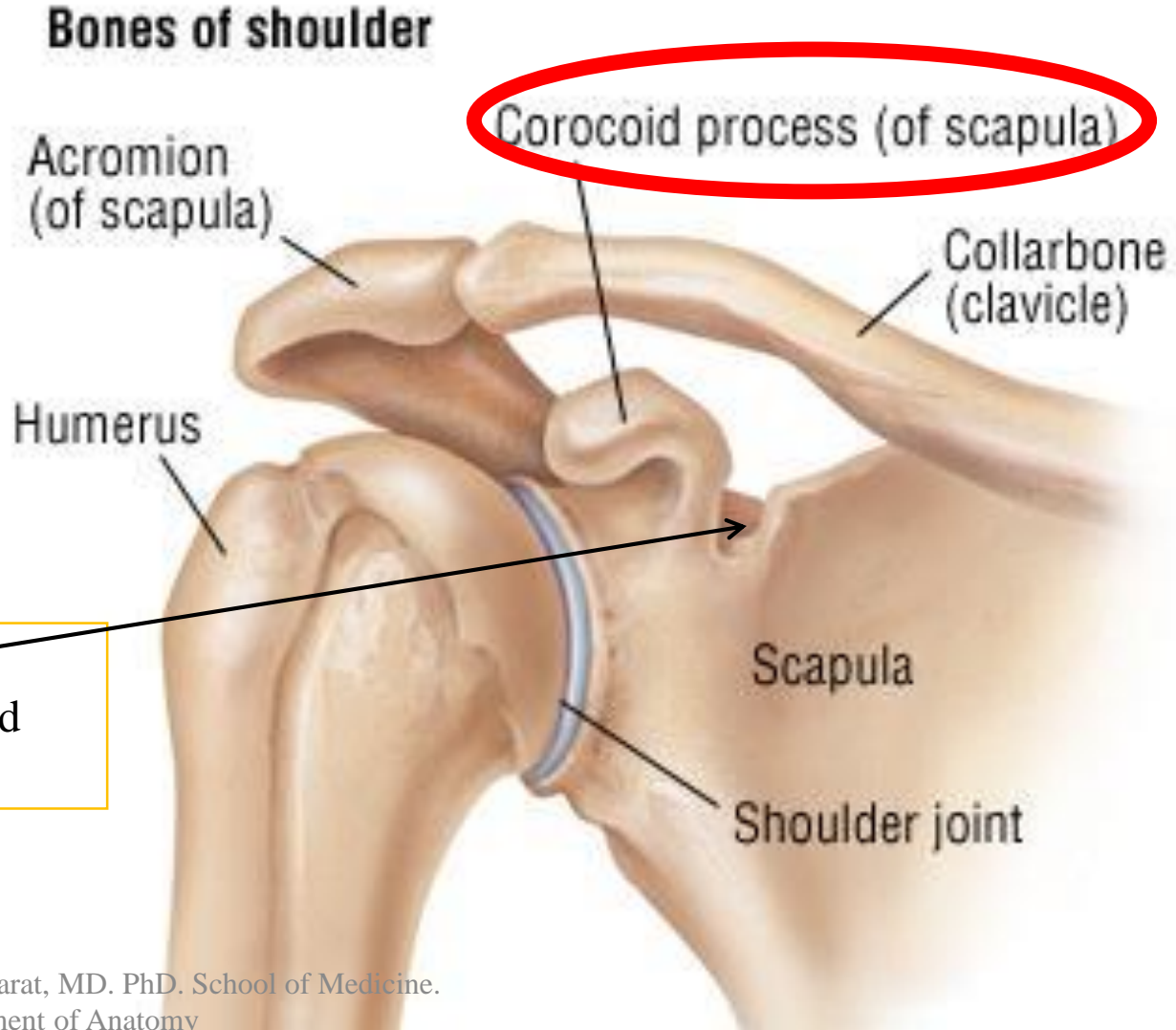
POSTERIOR VIEW



The superior border

is marked on its lateral end by: the **coracoid process**, a hook-like structure that projects anterolaterally and is positioned directly inferior to the lateral part of the clavicle

The suprascapular notch, which lies immediately medial to the root of the coracoid process.



Surface anatomy of the scapula

The spine and acromion can be readily palpated on a patient, as can the tip of the coracoid process, the inferior angle, and much of the medial border of the scapula.

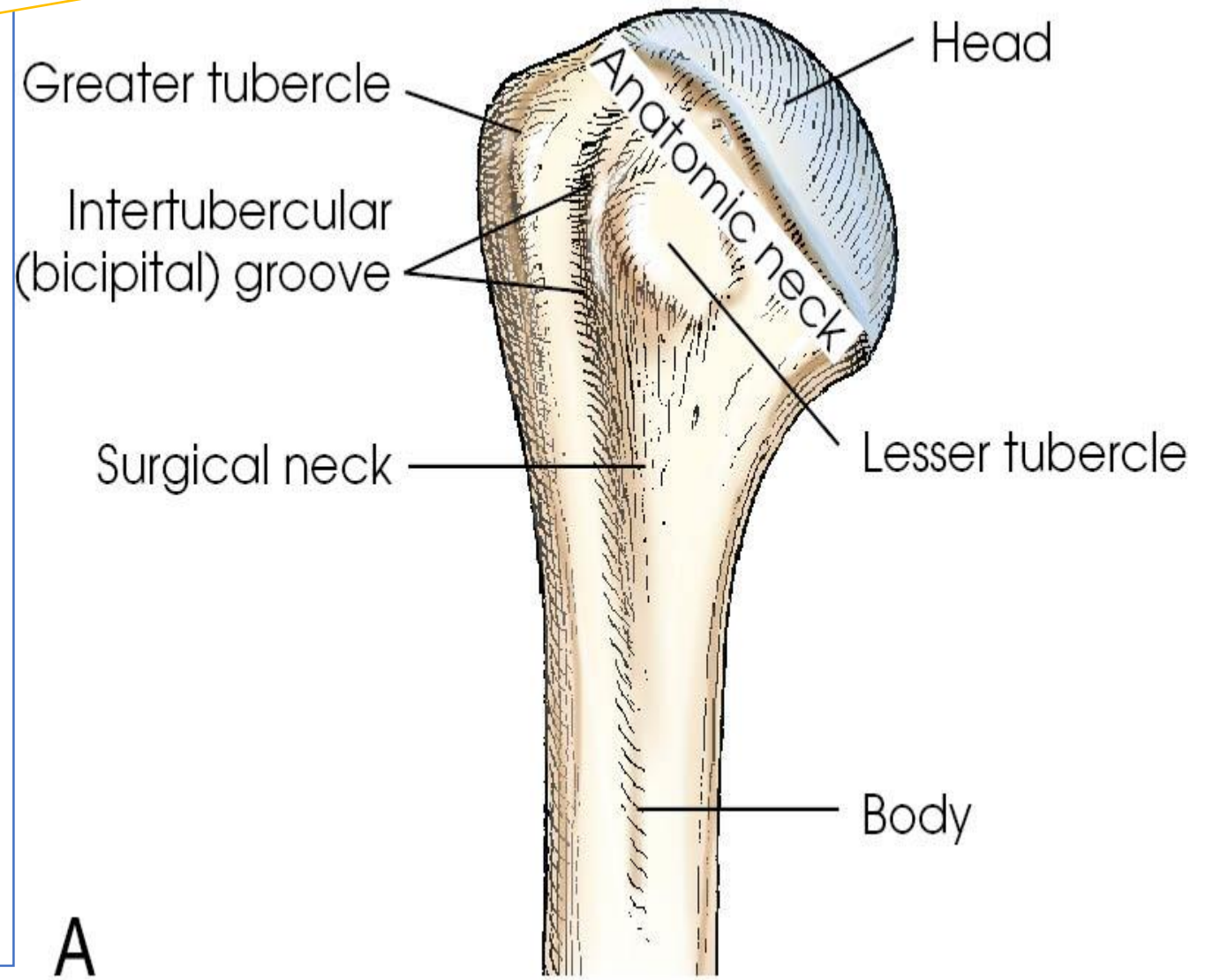


3-Humerus

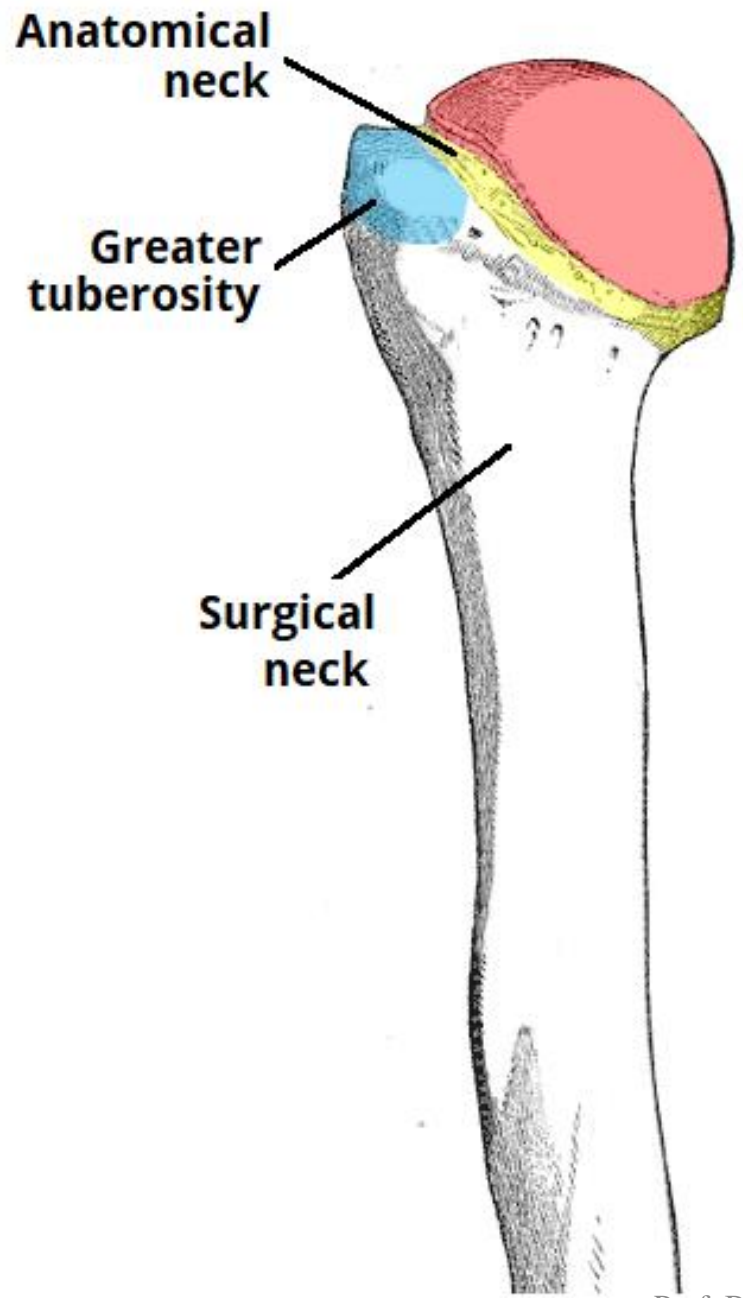
- **Proximal humerus**

- The proximal end of the humerus consists of:

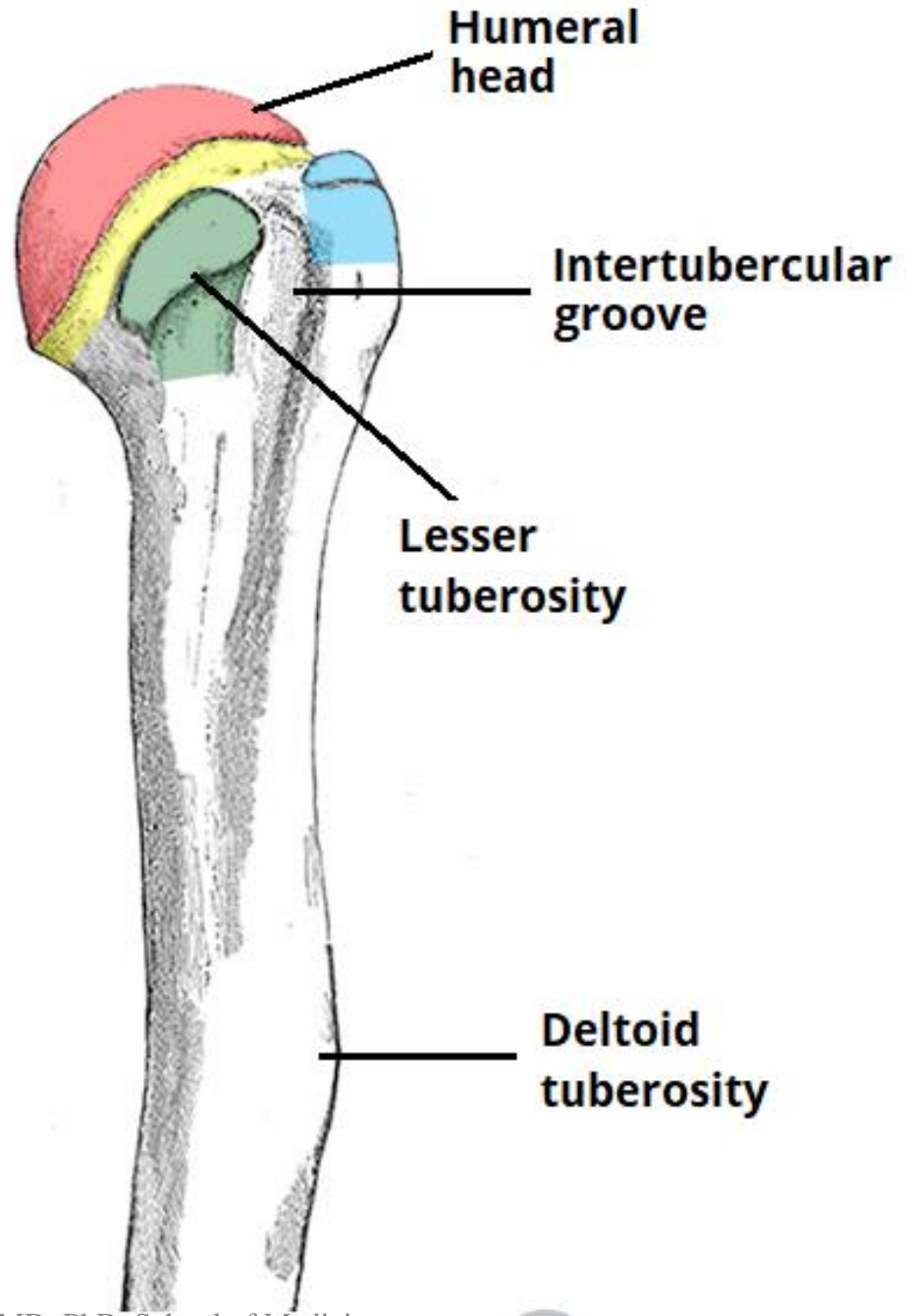
1. the head
2. the anatomical neck
3. the greater and lesser tubercles
4. the surgical neck
5. the superior half of the shaft of humerus .



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(i) Posterior Face



(ii) Anterior Face

Prof. Badran and Prof. Shatarat, MD, PhD. School of Medicine.
Department of Anatomy

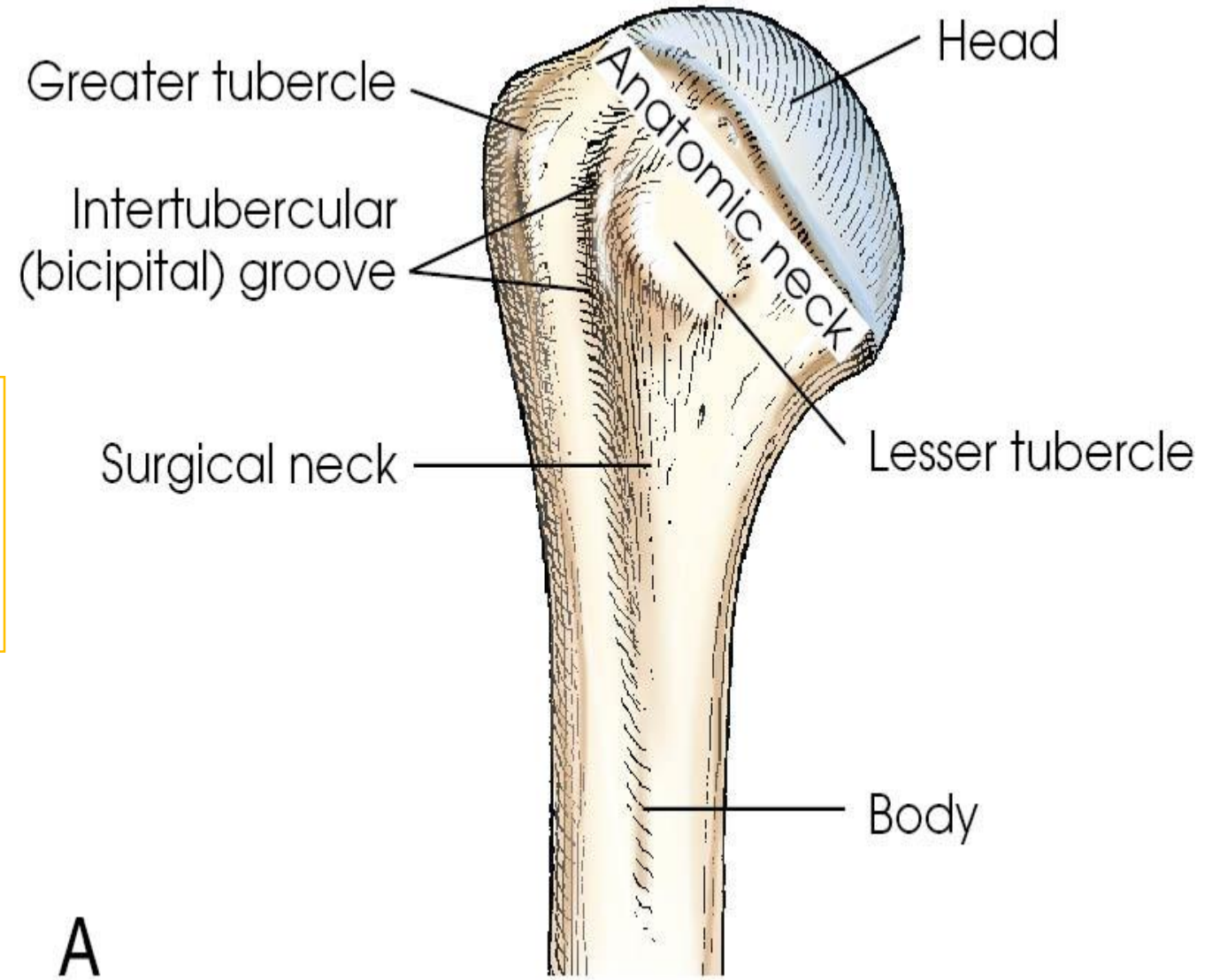
Bones:

Read only

The **head** is half-spherical in shape and projects medially and somewhat superiorly to articulate with the much smaller glenoid cavity of the scapula.

The **anatomical neck** is very short and is formed by a narrow constriction immediately distal to the head. It lies between the head and the greater and lesser tubercles laterally, and between the head and the shaft more medially.

The **greater and lesser tubercles** are prominent landmarks on the proximal end of the humerus and serve as attachment sites for the four rotator cuff muscles of the glenohumeral joint.



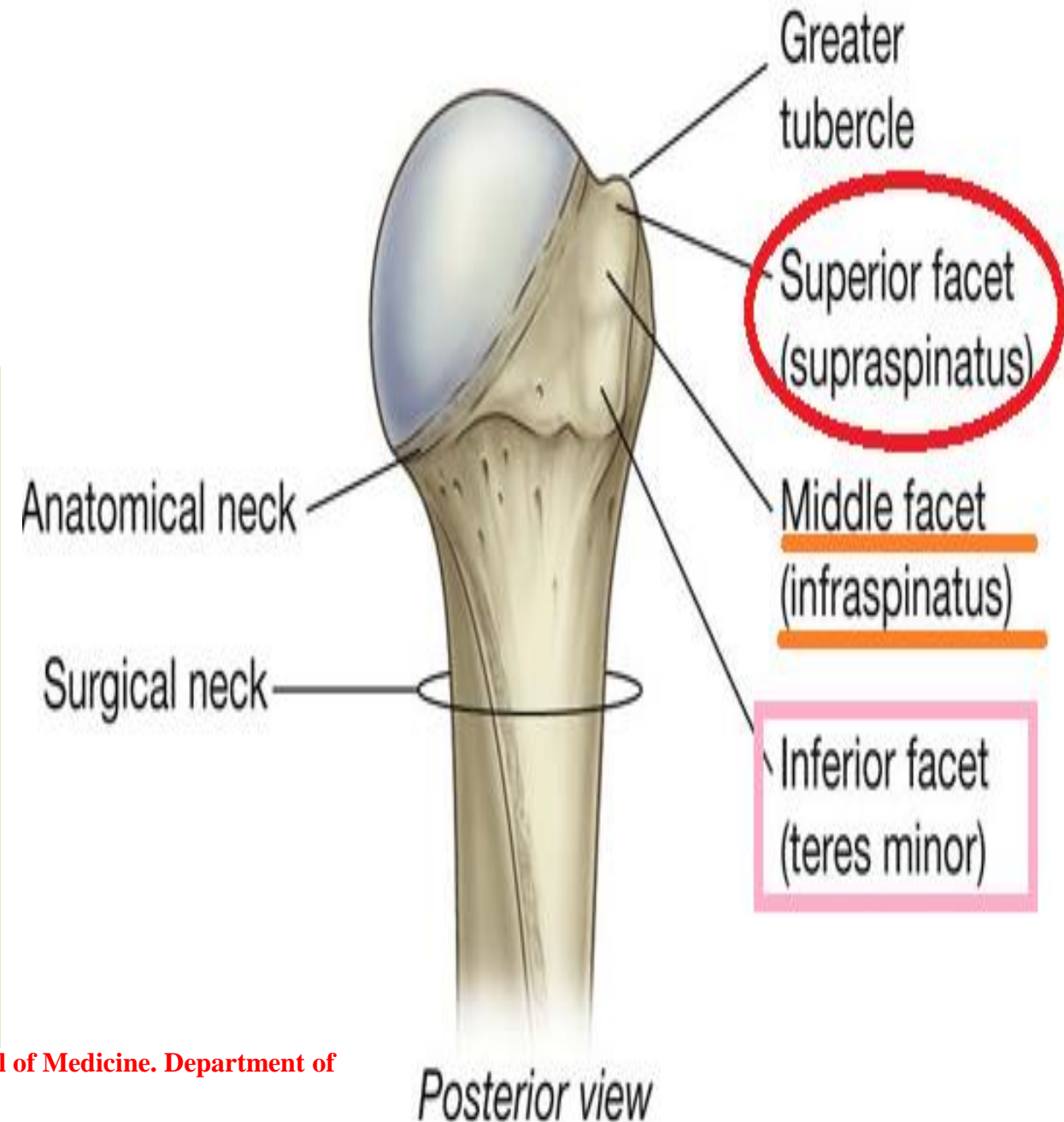
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Bones:

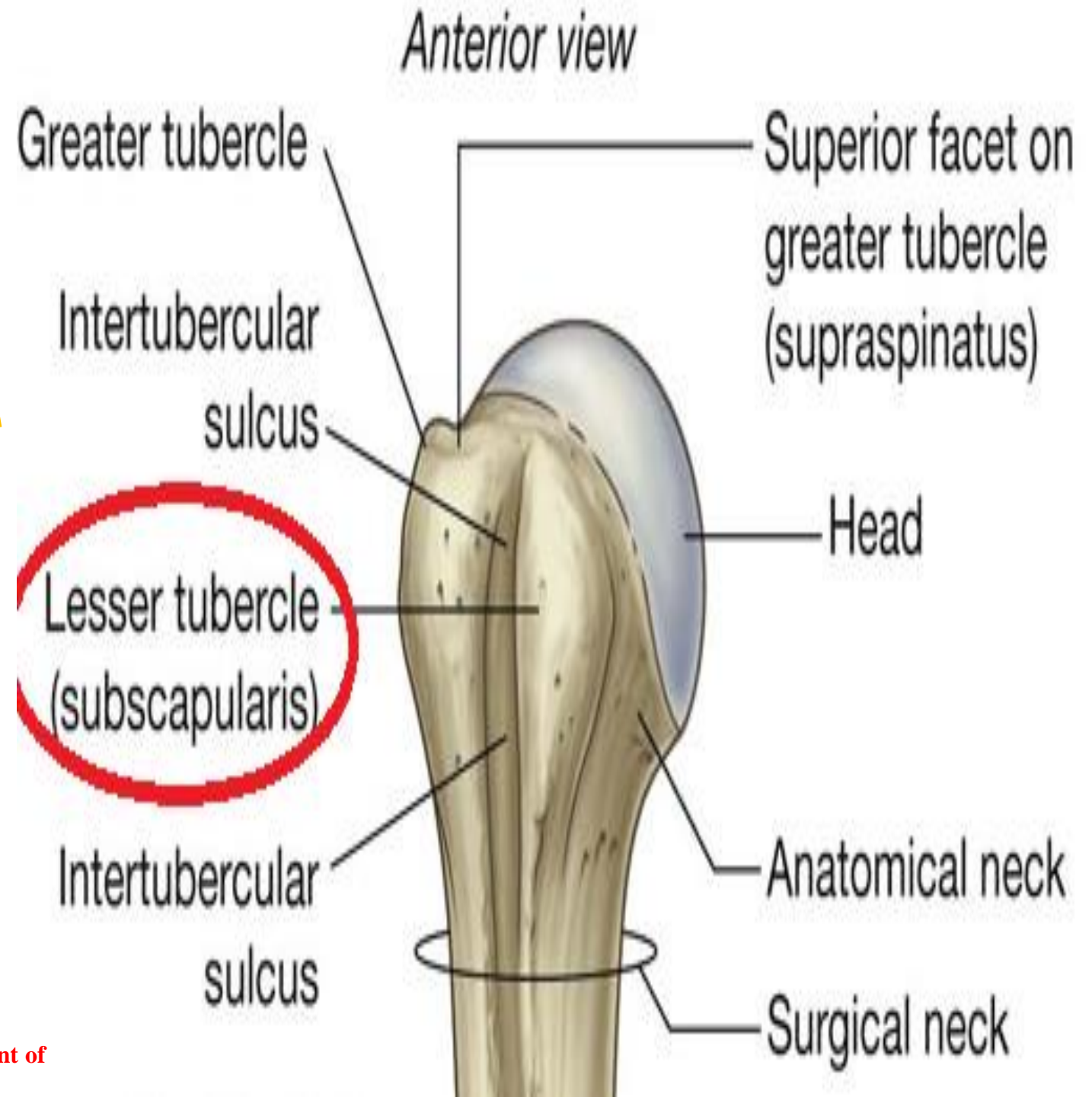
• Proximal humerus

- The **greater tubercle** is lateral in position.
- Its superior surface and posterior surface are marked by three large smooth facets for muscle tendon attachment:
- the superior facet is for attachment of the supraspinatus muscle
- the middle facet is for attachment of infraspinatus
- the inferior facet is for attachment of teres minor.

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The **lesser tubercle** is **anterior in** position and its surface is marked by a large smooth impression for attachment of the **subscapularis muscle**

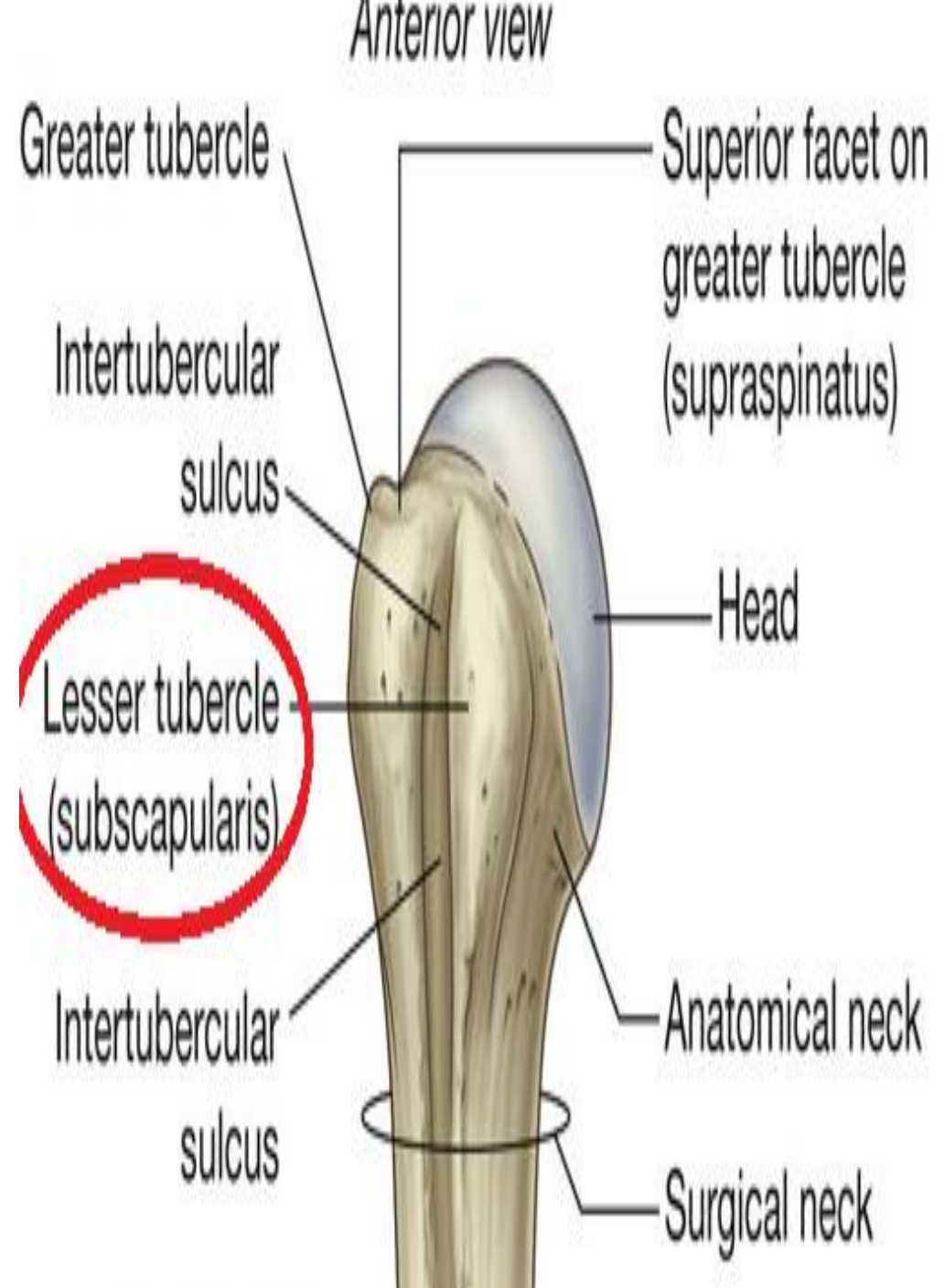


Bicipital groove also called intertubercular sulcus

Location: A deep intertubercular sulcus (bicipital groove) separates the lesser and greater tubercles and continues inferiorly onto the proximal shaft of the humerus .



Contents: The tendon of **the long head of the biceps brachii** passes through this sulcus



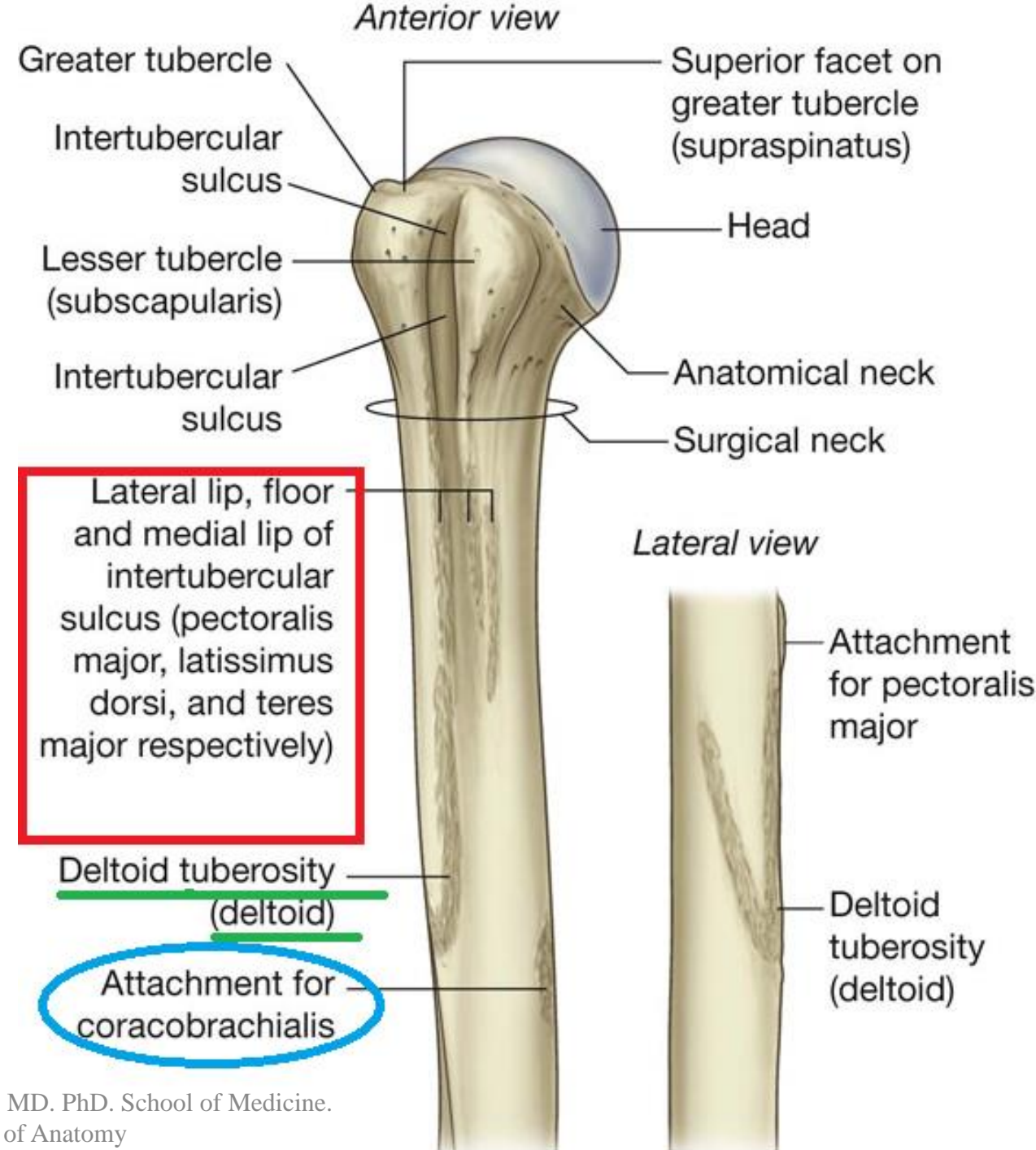
It has

Lateral lip to which is attached **pectoralis major muscle**
Medial lip to which is attached **teres major muscle**
a floor to which is attached **latissimus dorsi muscle**

A lady between two men

The lateral lip of the intertubercular sulcus is continuous inferiorly with a large V-shaped **deltoid tuberosity** on the lateral surface of the humerus midway along its length, which is where **the deltoid muscle** inserts onto the humerus.

In approximately the same position, but on the medial surface of the bone, there is a **thin vertical roughening** for attachment of the **coracobrachialis muscle**



B. Shaft:

- 1. Deltoid Tuberosity
- 2. Spiral groove

C. Distal end:

- 1. Radial Fossa
- 2. Lateral Epicondyle
- 3. Capitulum
- 4. Trochlea
- 5. Medial Epicondyle
- 6. Coronoid Fossa
- 7. Olecranon Fossa

