

The background of the slide is a black field filled with numerous thin, flowing red lines. These lines are arranged in a complex, swirling pattern that resembles a stylized, abstract representation of a human figure or a dynamic, organic form. The lines are most concentrated in the center and right side of the image, creating a sense of movement and depth.

Superior appendages

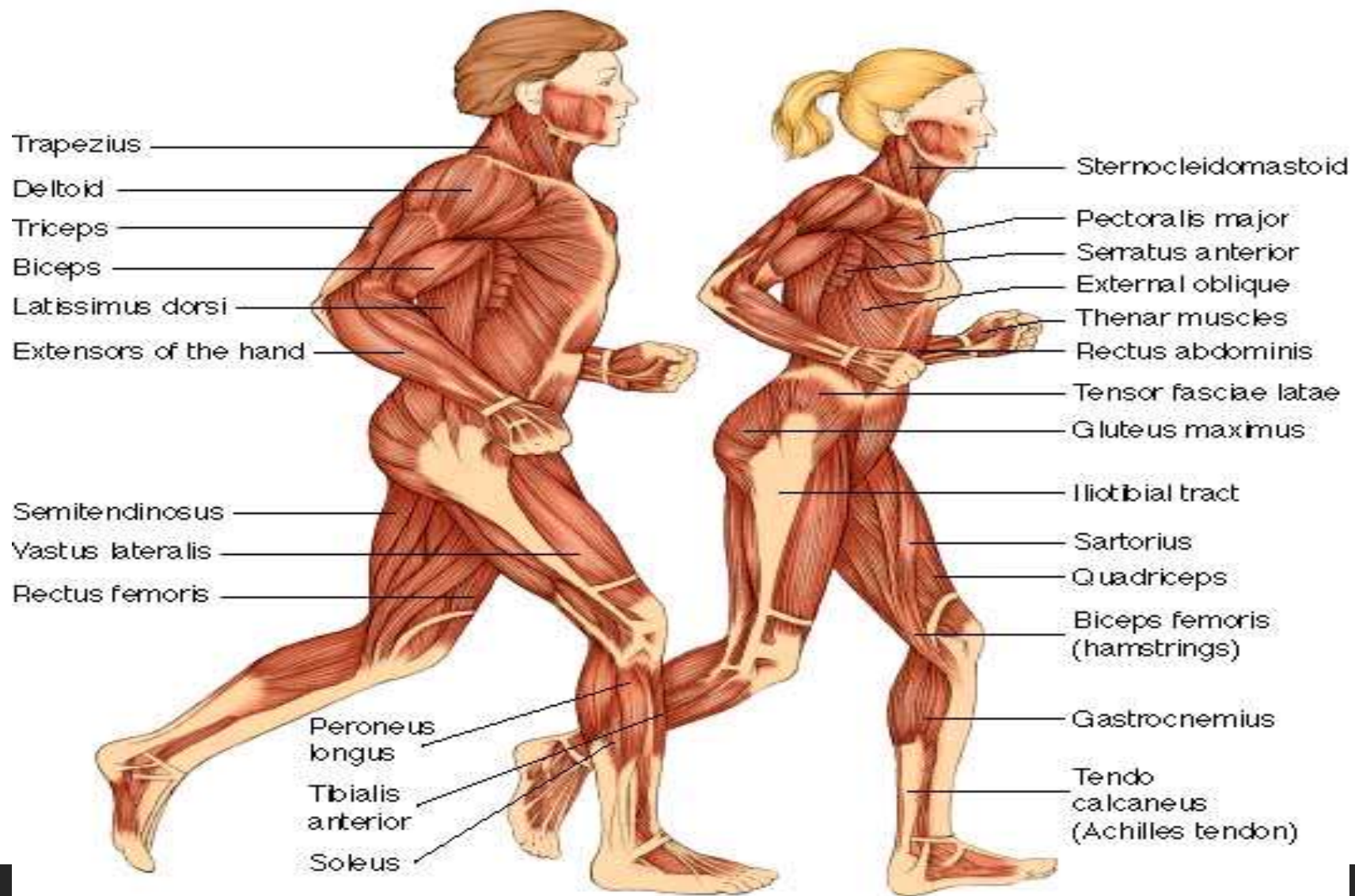
D.HAMMOUDI, MD

<i>Muscles of the Upper Appendage (Arm) that act on the Forearm:</i>				
Biceps brachii	Coracoid process; tubercle over glenoid cavity	Radial tuberosity	Flexes and supinates arm at elbow; weak flexor at shoulder	Musculocutaneous
Brachialis	Front of distal humerus	Coronoid process	Flexes arm at elbow	Musculocutaneous
Brachioradialis	Supracondylar ridge humerus	Styloid process of radius	Synergist of arm flexion at elbow; stabilizes elbow (rapid movements)	Radial nerve
Triceps brachii	Scapula; humerus	Olecranon process	Extends arm at elbow; assists arm adduction	Radial

MUSCLE NAME	ORIGIN	INSERTION	ACTION	NERVE SUPPLY/ NOTES
<i>Muscles of the Upper Appendage (Arm) that act on the Forearm (continued):</i>				
Supinator	Lateral epicondyle	Proximal radius	Supinates forearm	Radial (Posterior interosseous)
Pronator teres	Medial epicondyle; coronoid process	Lateral radius (midshaft)	Pronates forearm; weak elbow flexor	Median
Anconeus	Lateral epicondyle	Olecranon process	Abducts ulna during pronation; aids elbow extension	Radial
Coracobrachialis	Coracoid process	Medial humerus	Flexion and abduction of humerus	Musculocutaneous
<i>Muscles of the Upper Appendage (Forearm) that act on the Wrist, Hand, and Fingers:</i>				
Flexor carpi ulnaris	Medial epicondyle; olecranon process	Carpals; 5 th metacarpals	Flexes wrist; adducts hand (with extensor carpi ulnaris); stabilizes wrist for finger extension	Ulnar
Palmaris longus	Medial epicondyle	Palmar aponeurosis	Weak wrist flexor; weak synergist of elbow flexion; not present in all people	Median
Flexor carpi radialis	Medial epicondyle	Base of 2 nd & 3 rd metacarpals	Flexes wrist; abducts wrist; weak synergist of elbow flexion	Median

Muscles of the Upper Appendage (Forearm) that act on the Wrist, Hand, and Fingers (continued):

Flexor digitorum superficialis	Medial epicondyle; coronoid	Middle phalanges 2-5	Flexes wrist and middle phalanges of digits 2-5 (fast acting)	Median
Extensor carpi ulnaris	Lateral epicondyle	Base of 5 th metacarpal	Extends wrist; adducts wrist	Radial (Posterior interosseous)
Extensor digitorum	Lateral epicondyle	Distal phalanges 2-5	Extends digits, weak wrist extensor; abducts (flares) fingers	Radial (posterior interosseous)
Flexor pollicis longus	Radius; interosseous membrane	Distal thumb phalanx	Flexes distal phalanx of thumb	Median
Flexor digitorum profundus	Coronoid process anterior ulna	Distal phalanges of 2-5	Flexes digits (slow); weak synergist of wrist flexion	Ulnar (medial half); median (lateral half)
Pronator quadratus	Distal ulna	Distal anterior radius	Prime mover of forearm pronation	Median
Extensor carpi radialis longus	Lateral supracondylar ridge	Base of 2 nd metacarpal	Extends wrist; abducts wrist (with flexor radialis)	Radial
Extensor carpi radialis brevis	Lateral epicondyle	Base of 3 rd metacarpal	Extends wrist; abducts wrist; steadies wrist during finger extension	Radial



Muscles that move the arm

Muscles that move the arm, like those that move the shoulder, are located on the chest and back.

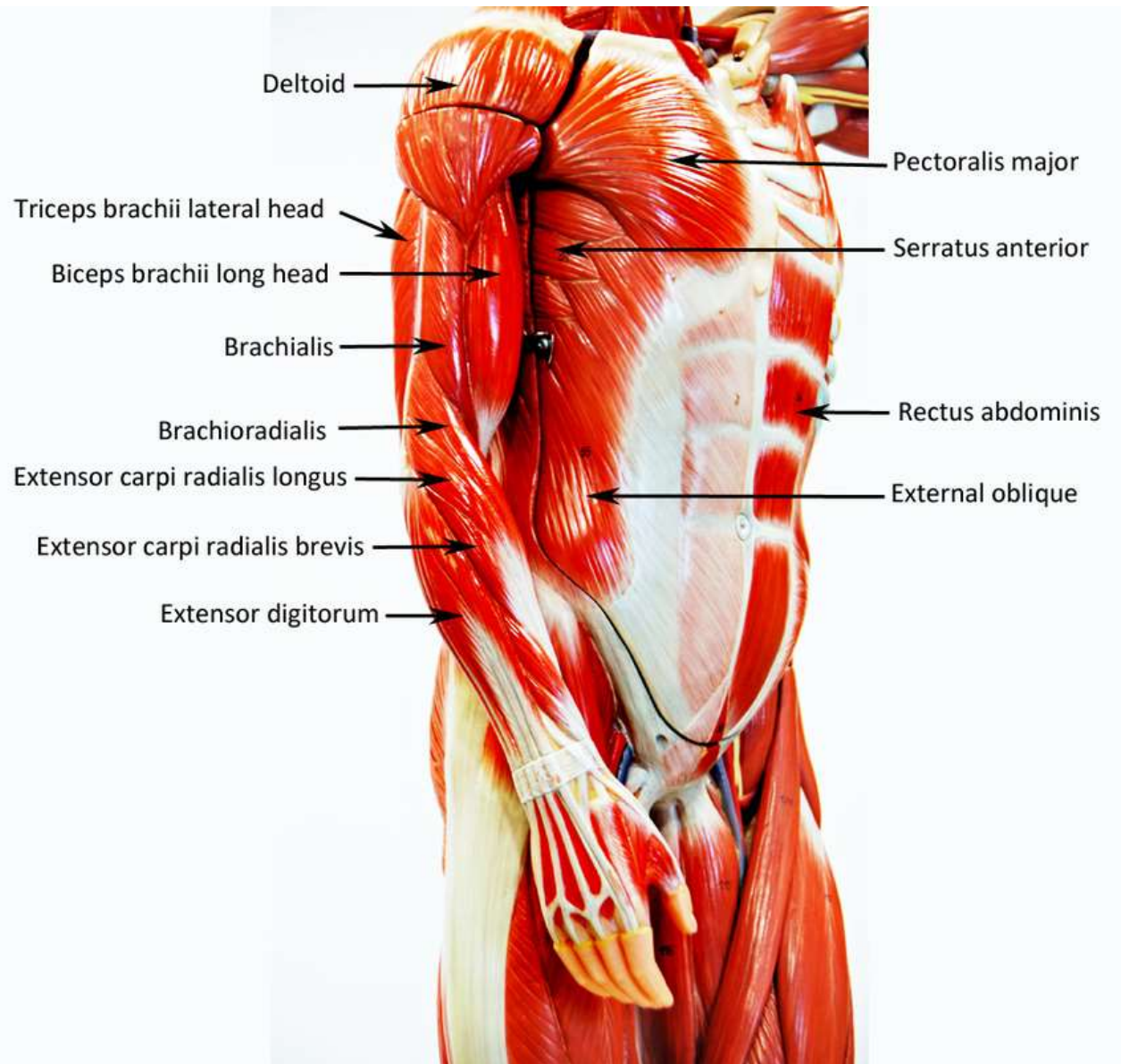
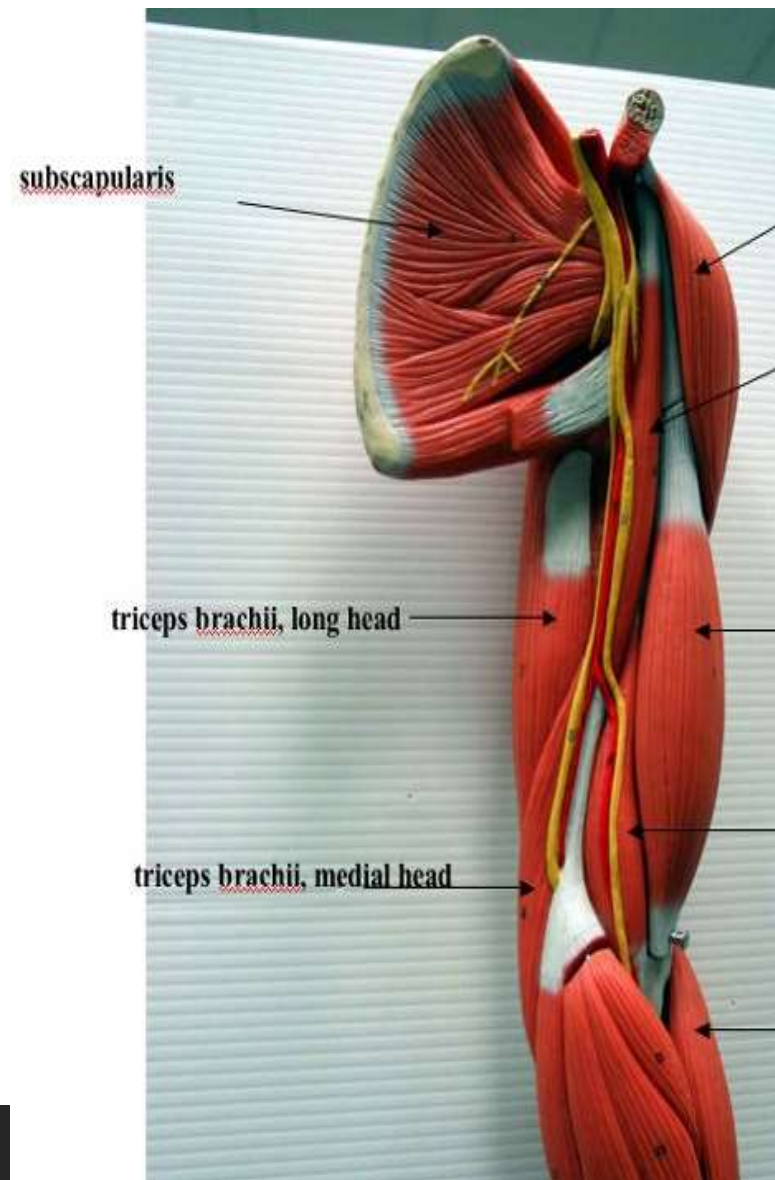
The ball-and-socket joint formed by the head of the humerus and glenoid cavity of the scapula allows a wide range of movements.

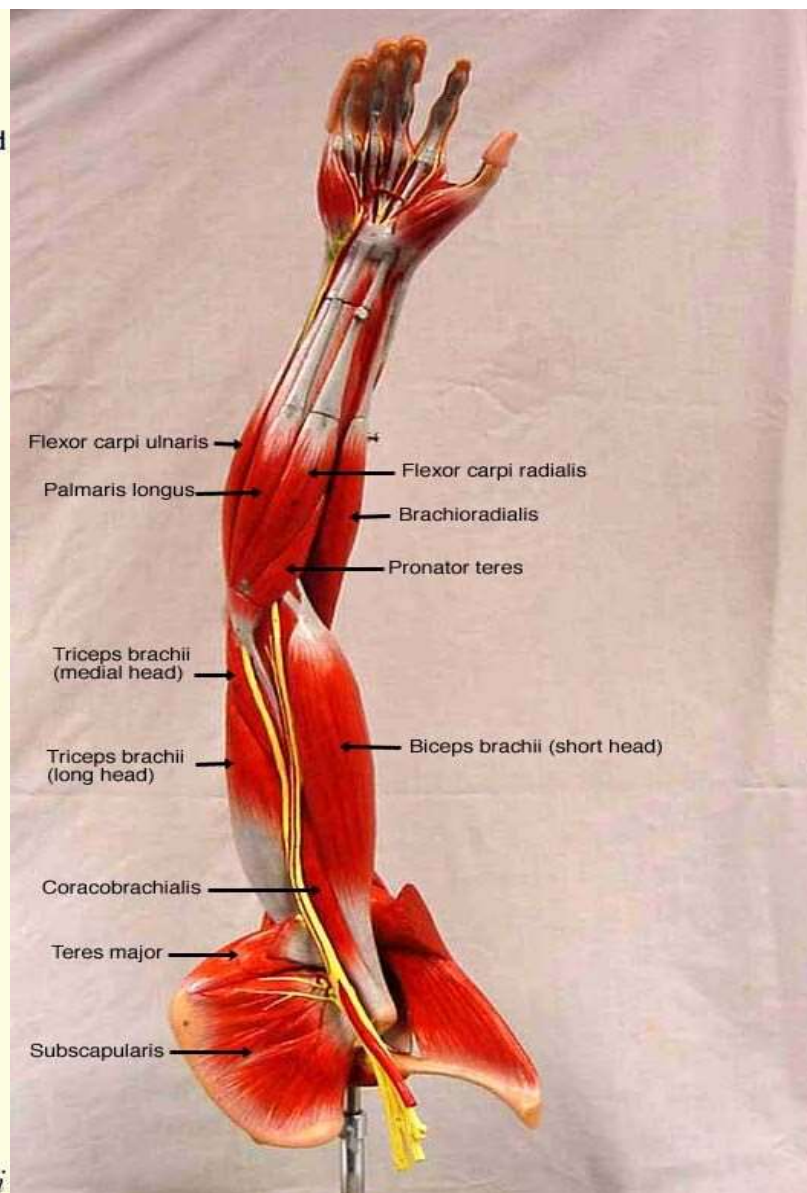
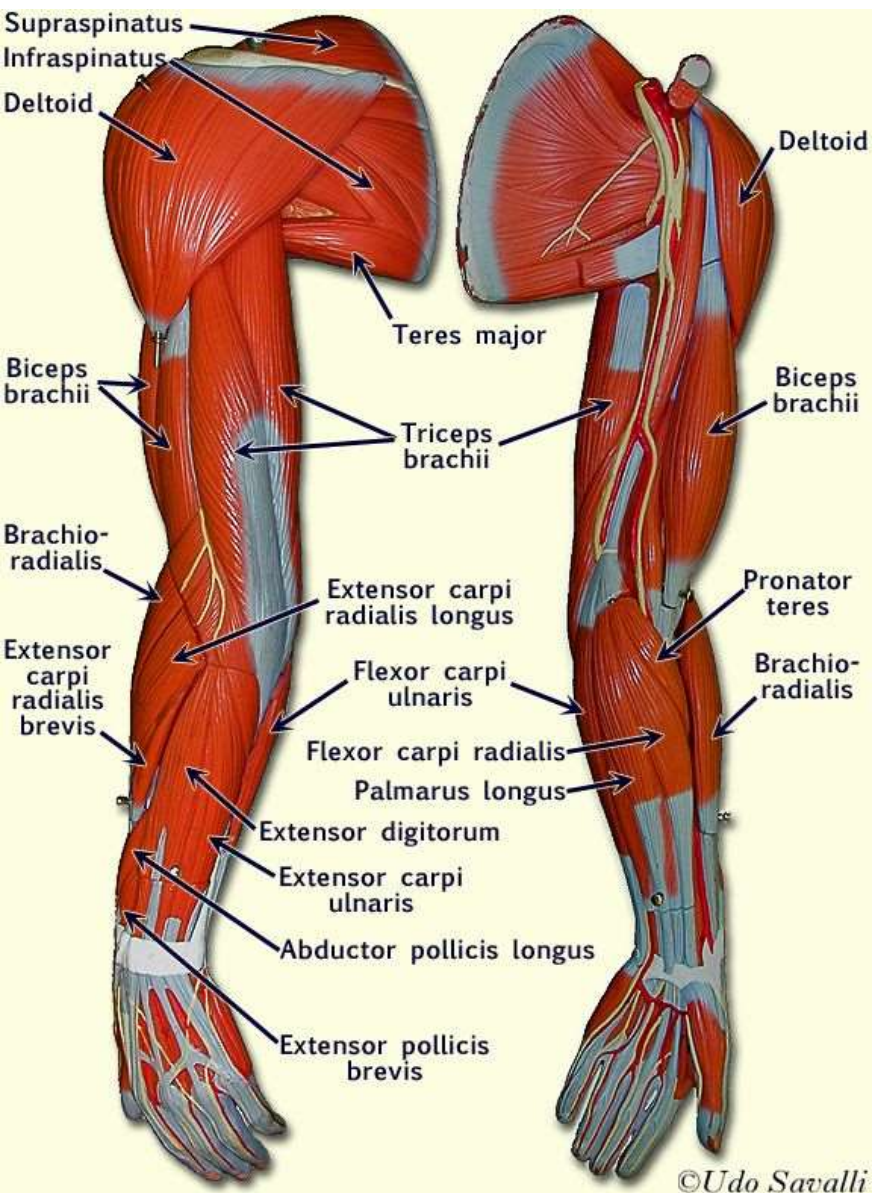
Pectoralis major. This muscle flexes the arm. It is commonly exercised by doing “bench presses.”

Latissimus dorsi. This muscle extends the arm. It can be exercised by rowing.

Deltoid*. This muscle abducts the arm. The deltoid originates on the clavicle, and the acromion and spine of the scapula. It inserts on the deltoid tuberosity of the humerus.

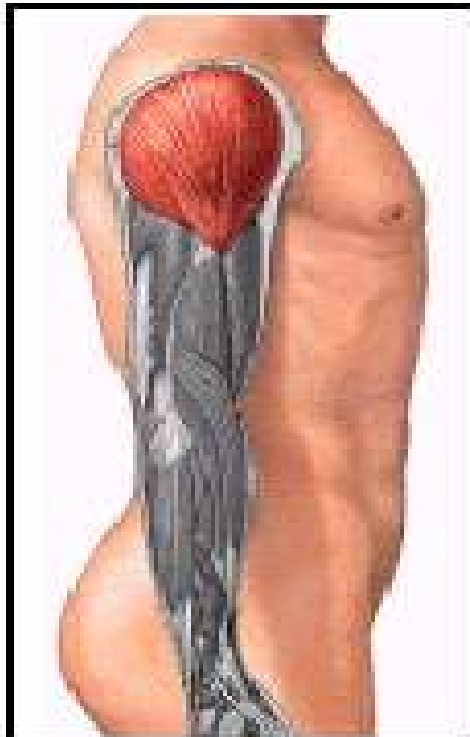
For your information, adduction of the arm is generally accomplished by a combination of the pectoralis major and the latissimus dorsi.

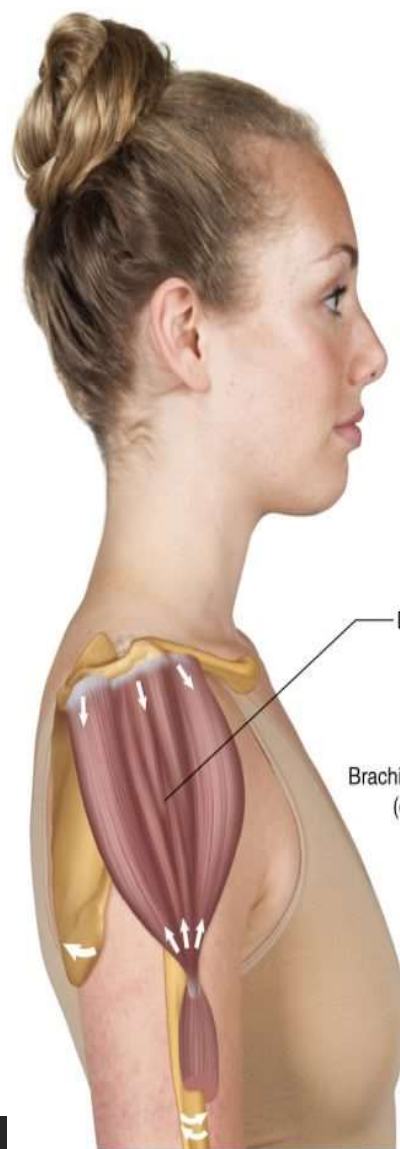
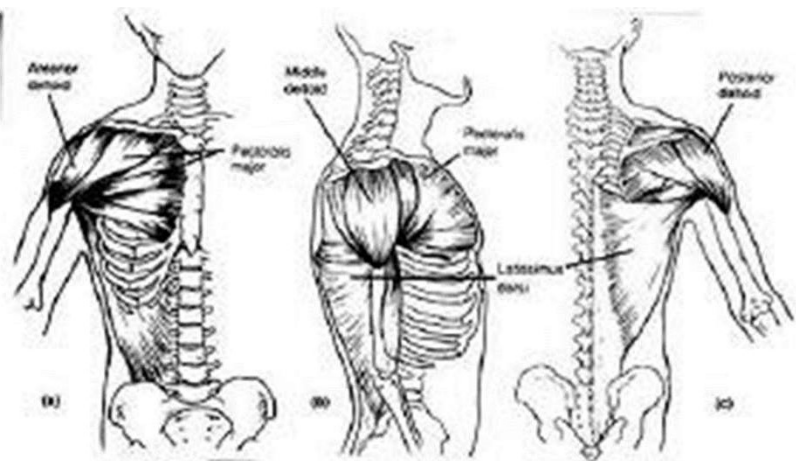




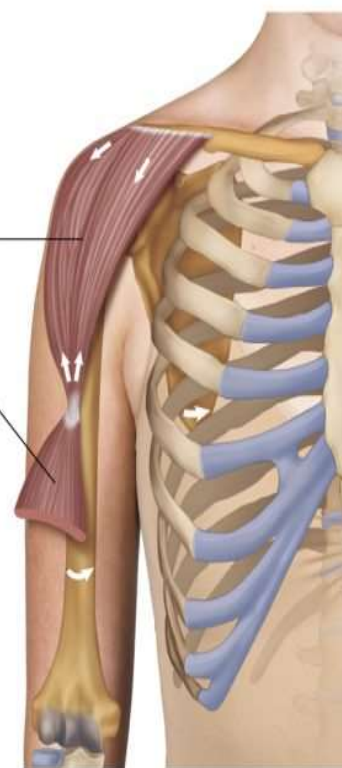
DELTOID

This triangular muscle is the muscle mass of the shoulder. Its origins are the clavicle, acromion process and spine of the scapula. The deltoid inserts on the deltoid tuberosity of the humerus. It is the prime mover of abduction of the arm.

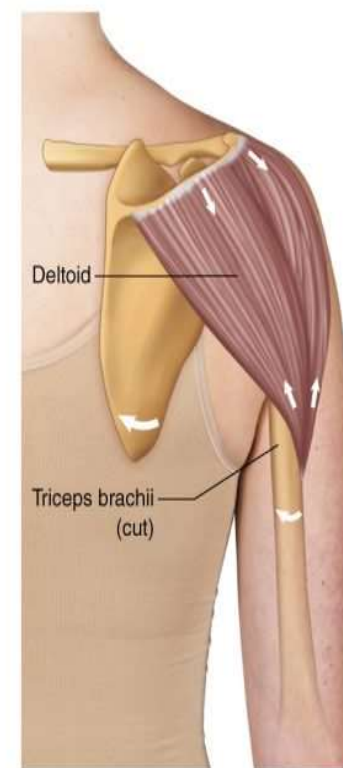




A



B



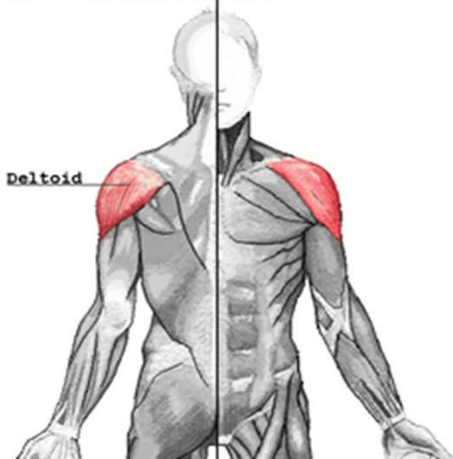
C

Deltoid*.

This muscle abducts the arm.

The deltoid originates on the clavicle, and the acromion and spine of the scapula.

It inserts on the deltoid tuberosity of the humerus.



Attachments

Origin

- Clavicle (Anterior Lateral Third)

Insertion

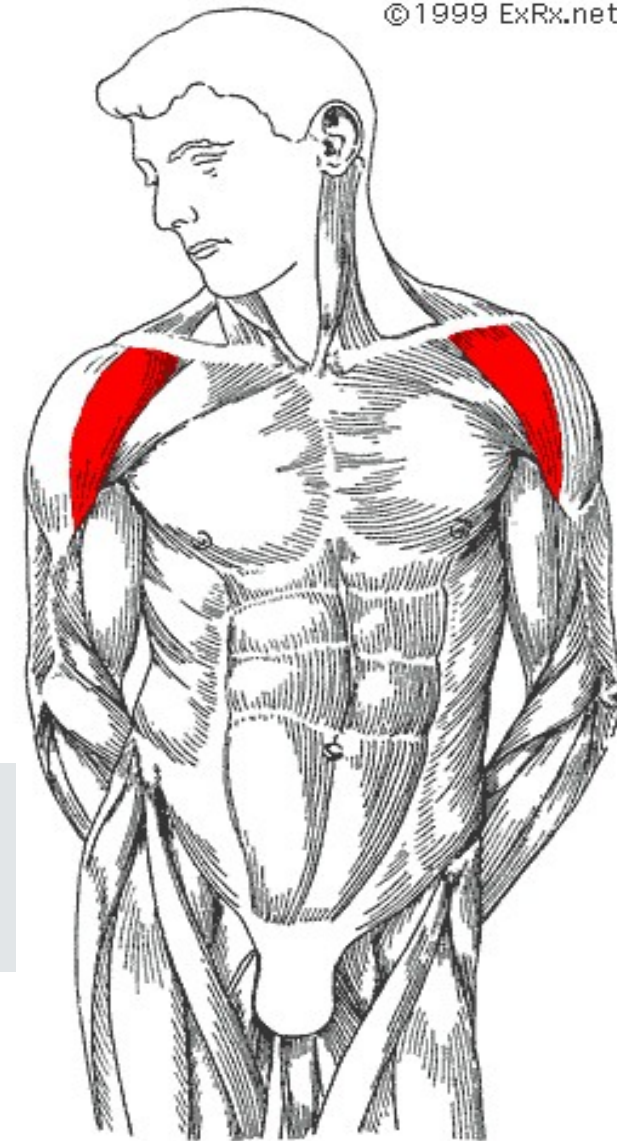
- Humerus (Lateral)
- Deltoid Tuberosity

Movement

- Shoulder
- Abduction
- Flexion
- Transverse Flexion
- Internal Rotation

The **deltoid muscle** is the muscle forming the rounded contour of the human shoulder. Delta (triangle). The deltoid is a frequent site to administer intra-muscular injections

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Deltoid (Posterior)

Movement

- Shoulder
- Extension
- Transverse Extension
- Transverse Abduction
- External Rotation

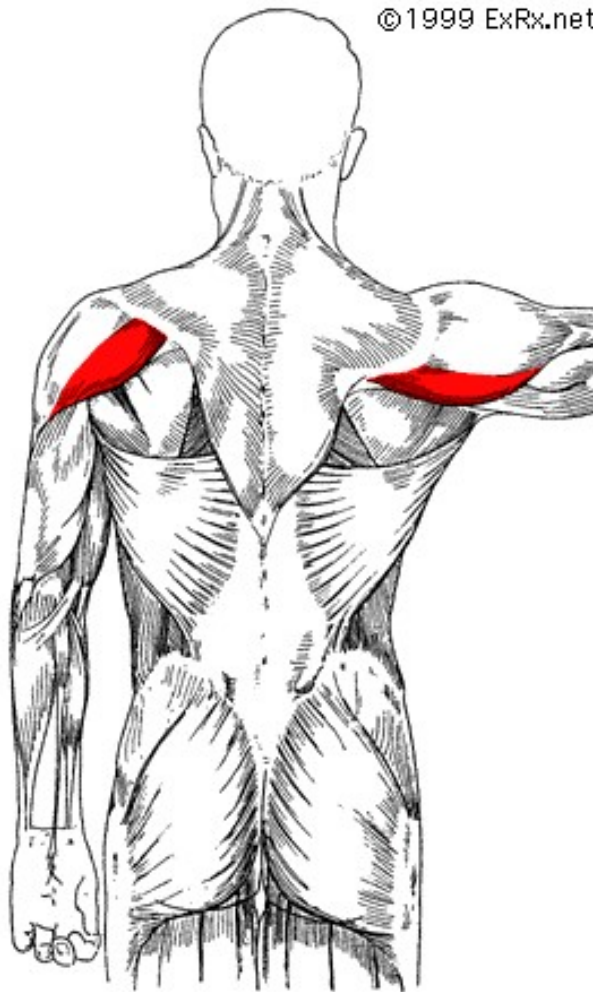
Attachments

Origin

- Scapula
- Spine (Inferior edge)

Insertion

- Humerus (Lateral)
 - Deltoid Tuberosity



Deltoid (Lateral)

Movement

- Shoulder
- Abduction
- Flexion
- Transverse Abduction

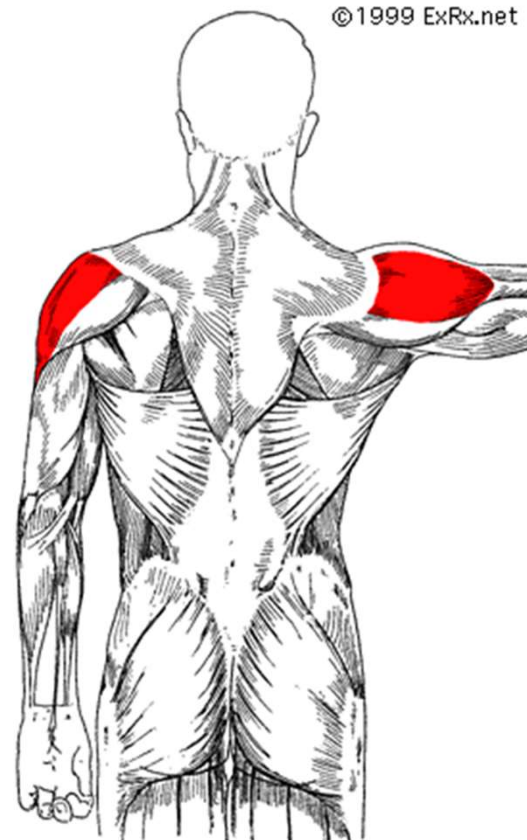
Attachments

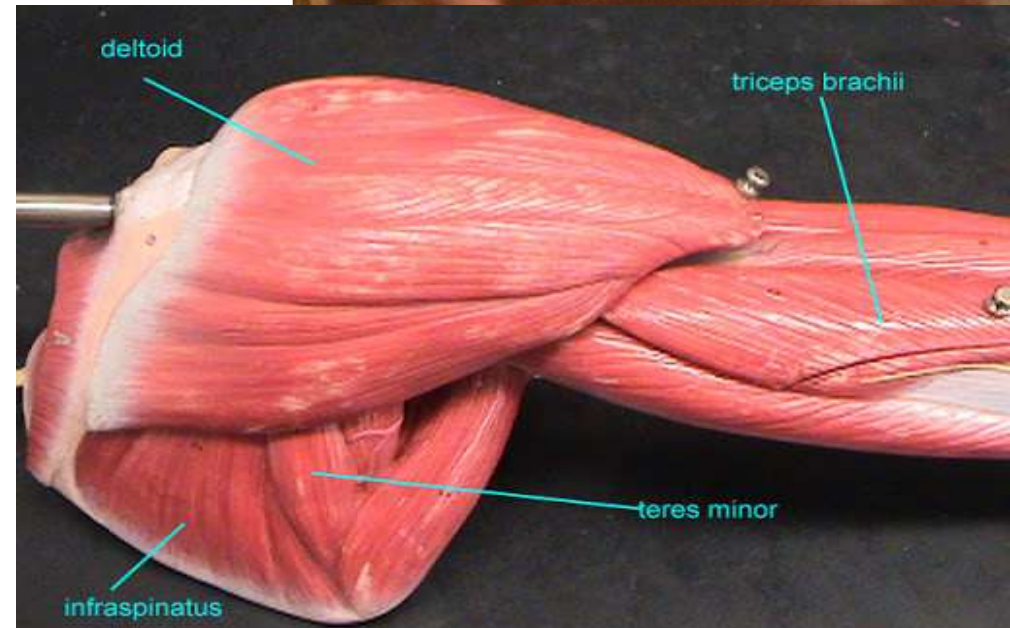
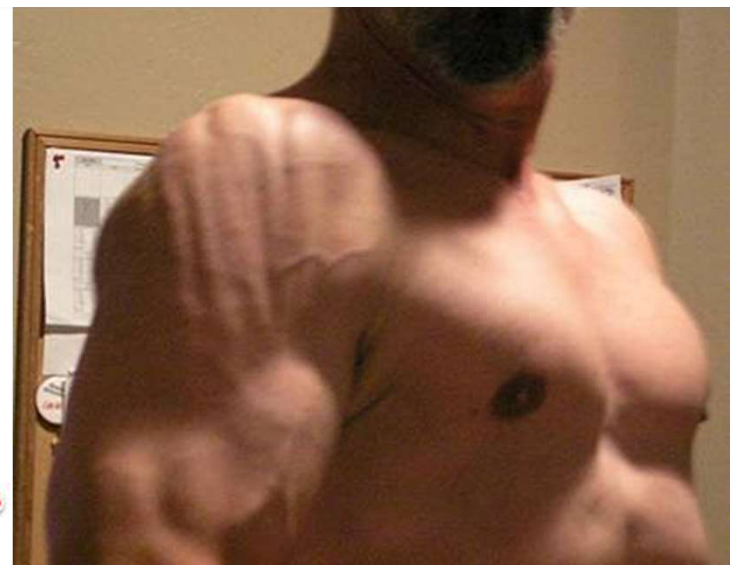
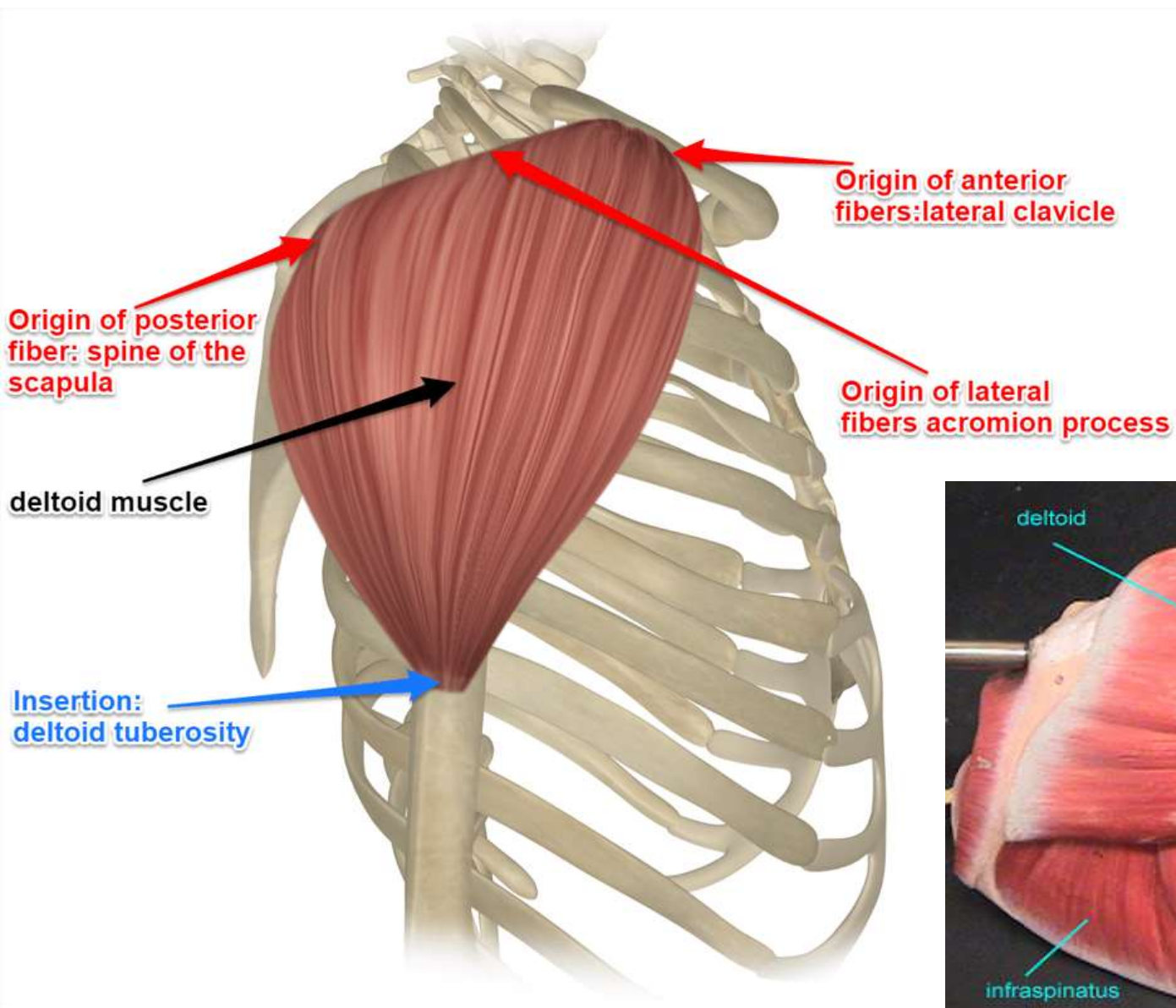
Origin

- Scapula
- Acromion (Lateral)

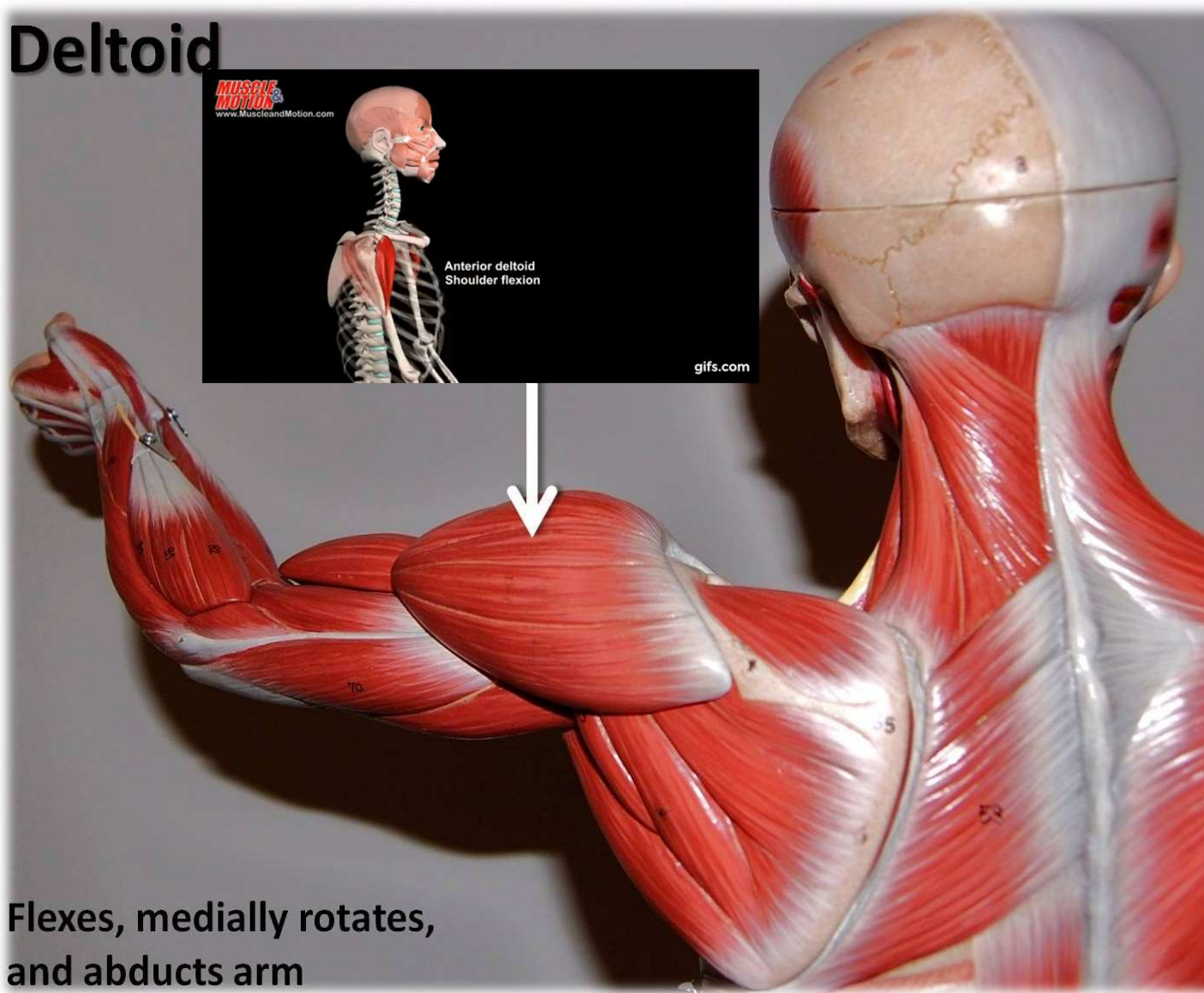
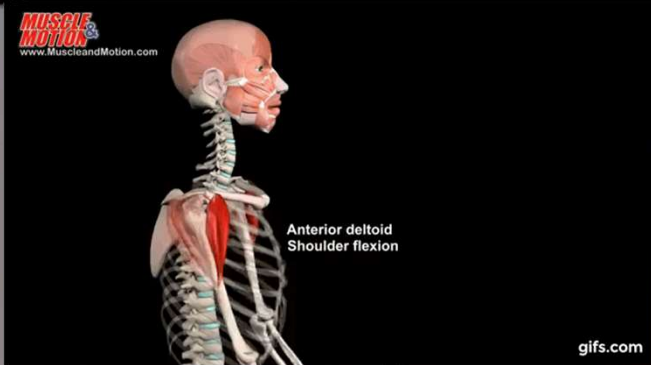
Insertion

- Humerus (Lateral)
 - Deltoid Tuberosity

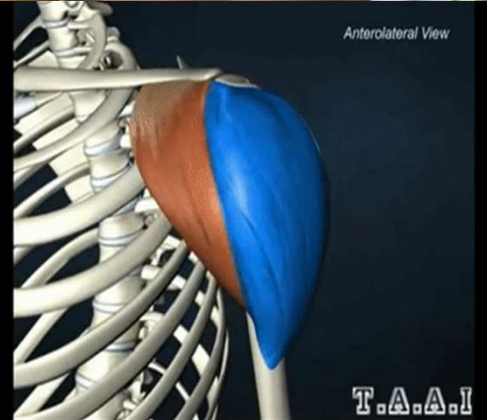




Deltoid



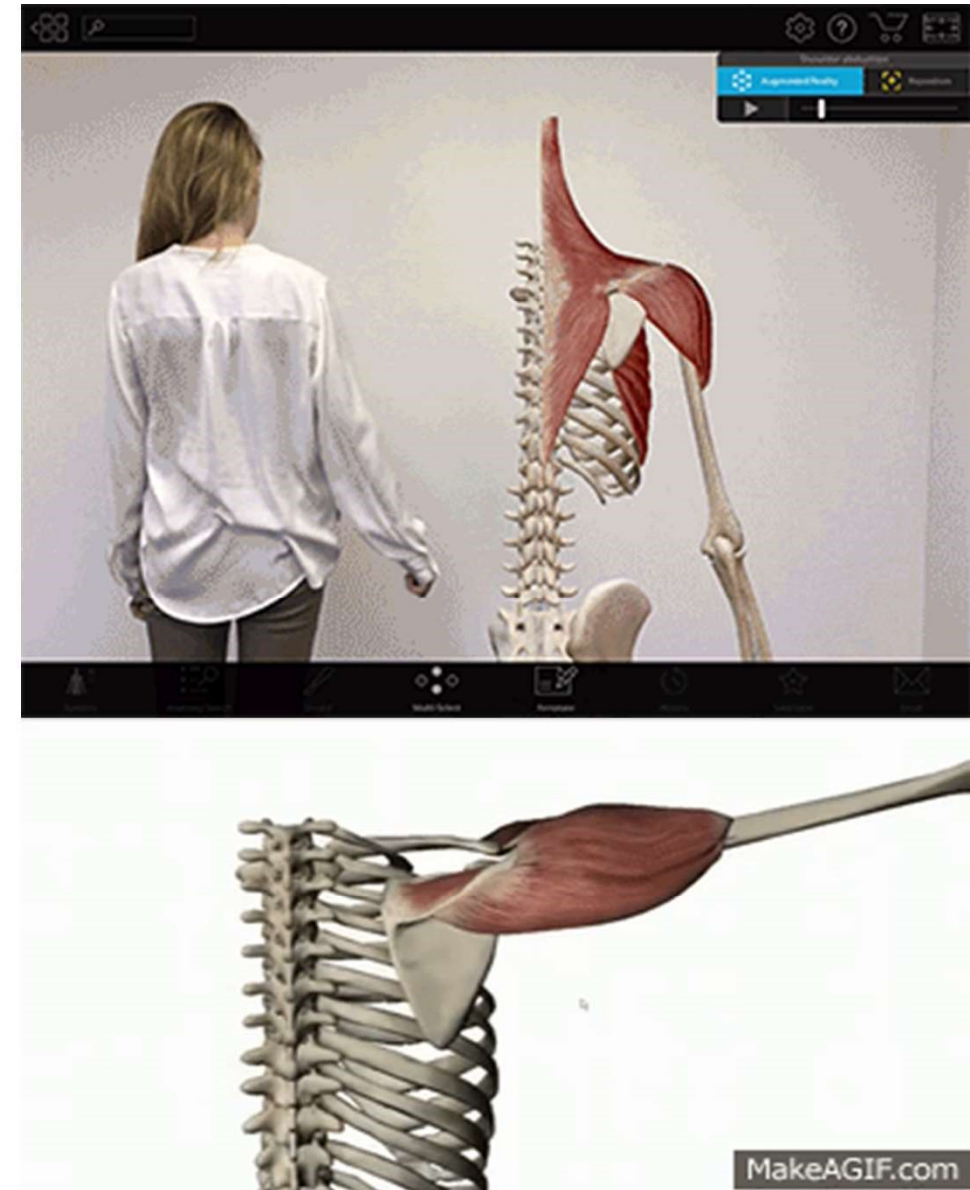
Flexes, medially rotates,
and abducts arm



The middle fibers abduct the arm. They are innervated by the axillary



from anatomical position, thus flexing the arm at the shoulder. They





Muscles that move the forearm

Muscles that **flex and extend** the forearm are generally located on the arm.

Muscles that rotate the forearm are located toward the proximal end of the forearm.

Biceps brachii*. The primary action of this muscle is to flex the forearm.

This muscle **originates on the coracoid process and the edge of the glenoid cavity, and it inserts onto the radial tuberosity.**

Brachialis. The primary action of this muscle is **to flex the forearm.**

Brachioradialis. This muscle also **flexes the forearm.**

Triceps brachii*. **The primary action of this muscle is to extend the forearm.**

This muscle has origins on the **scapula and posterior shaft of the humerus. It inserts on the olecranon process.**

Supinator. The primary action of this muscle is to **supinate the forearm.**

Pronator teres. The primary action of this muscle is to **pronate the forearm.**



Biceps brachii*.

triarticate biceps brachii muscles

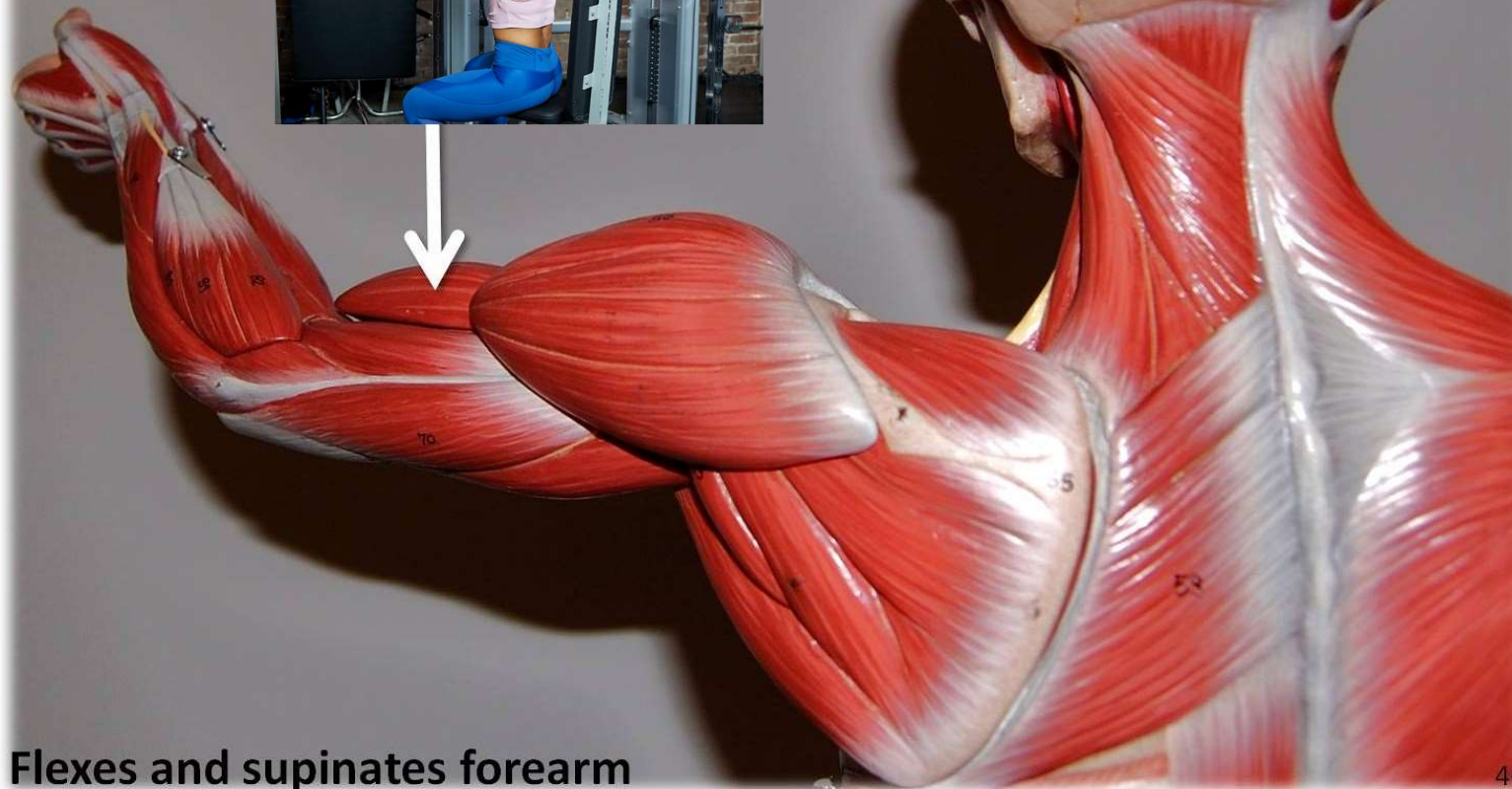
- The primary action of this muscle is to flex the forearm.
- This muscle originates on the coracoid process and the edge of the glenoid cavity, and it inserts onto the radial tuberosity.
- Notice that this muscle causes movement of the joint between the ulna and the humerus, but it attaches to neither of these bones.



Biceps brachii



Biceps brachii



Movement

Elbow: Flexion [1, 2]
Forearm: Supination [1, 2]
Shoulder: Flexion (Weak) [2]
Transverse Flexion (Weak) [2]

Attachments

Origin

Scapula
Supraglenoid Tuberosity [1]
Coracoid Process [2]

Insertion

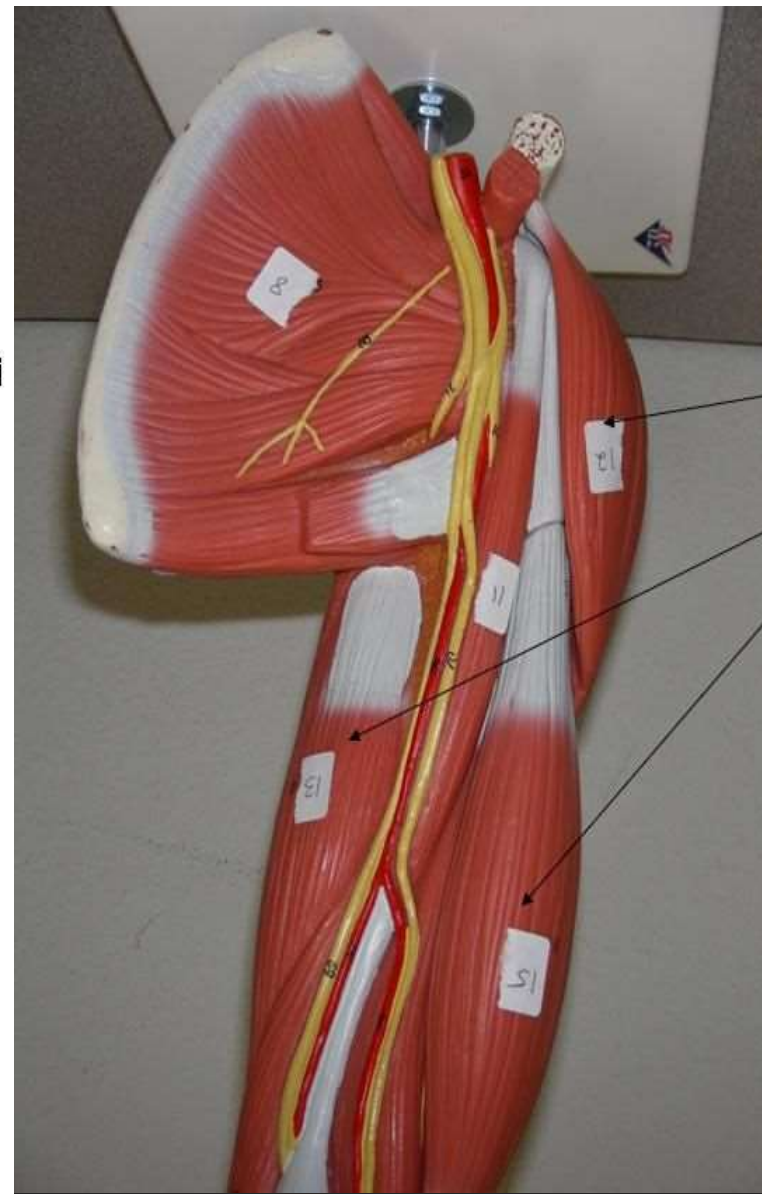
Radius
Tubercle [1, 2]
Fascia of forearm
Bicipital Aponeurosis [1, 2]

Flexes and supinates forearm



Deltoid

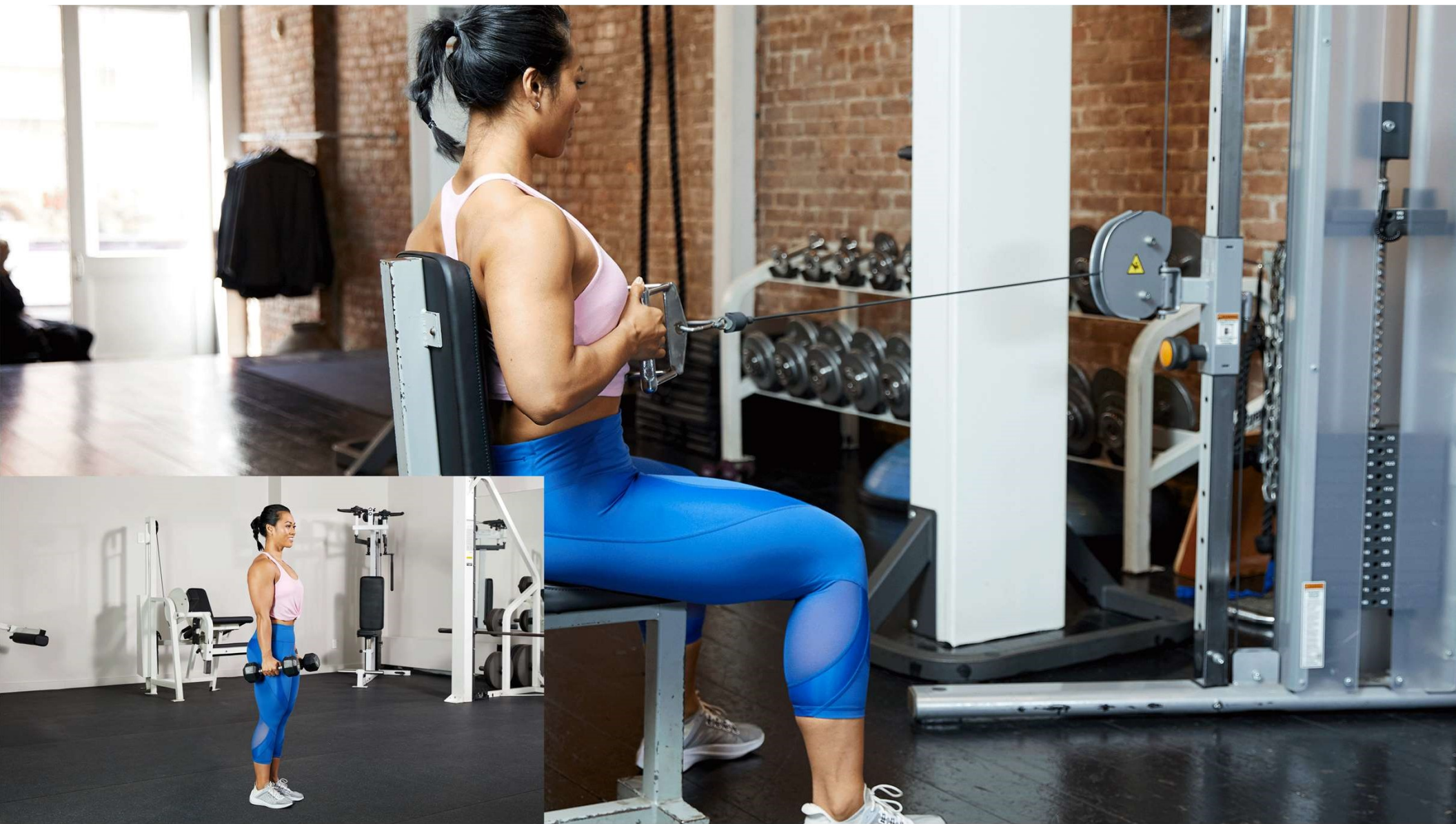
Biceps brachii



Deltoid

Triceps brachii

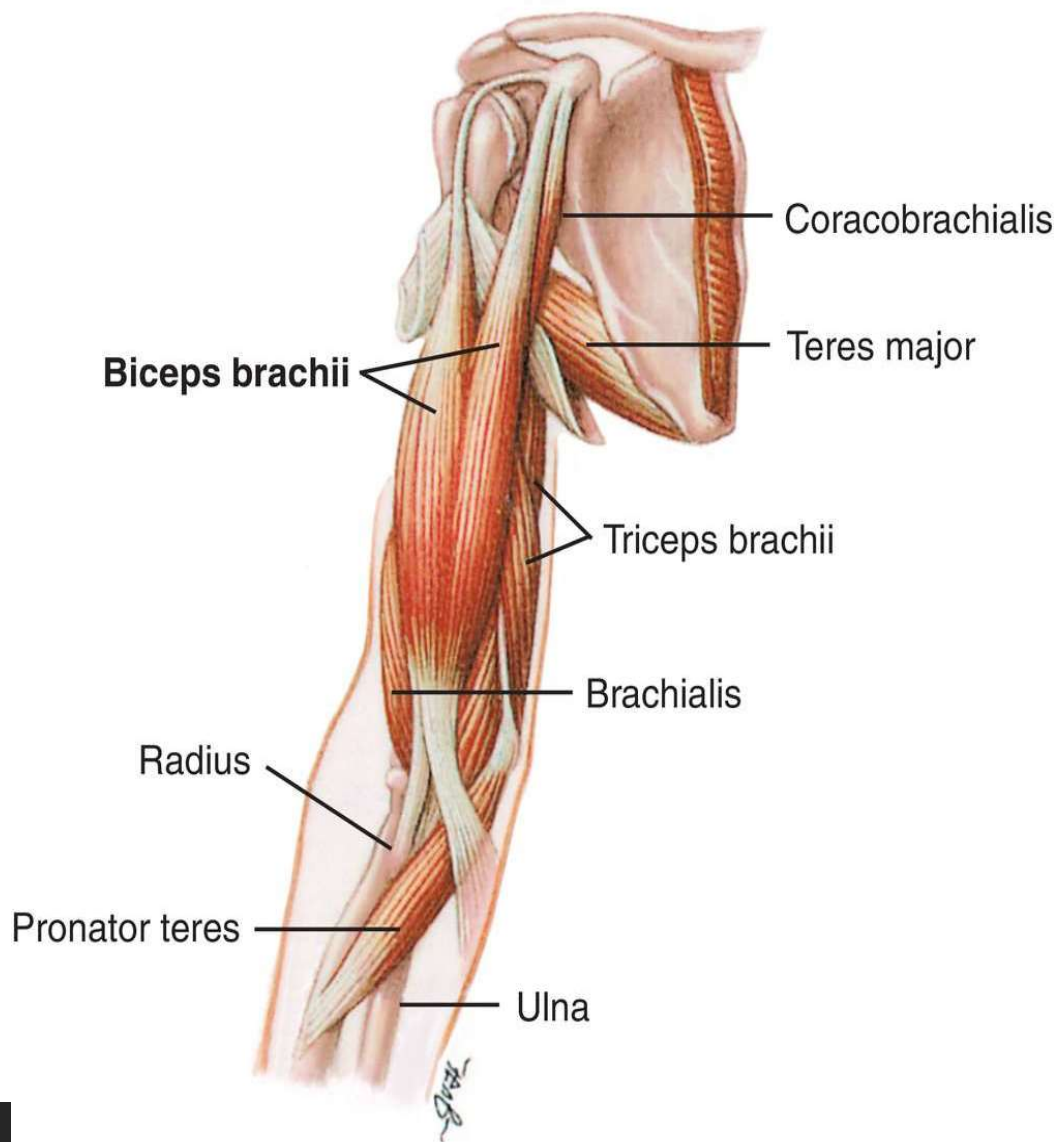
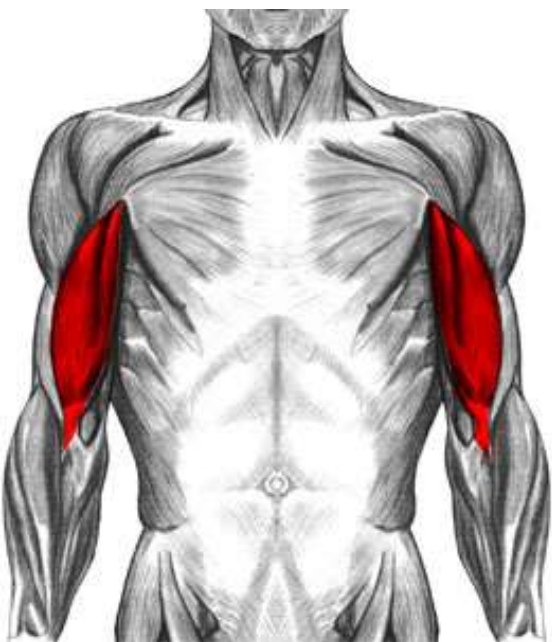
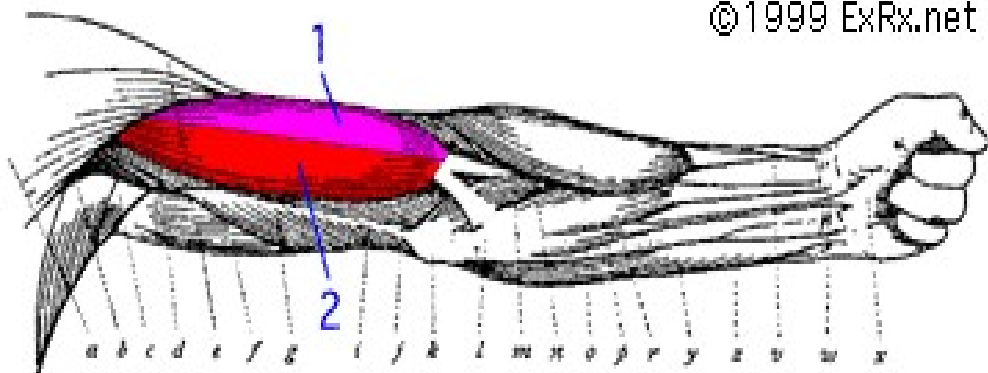
Biceps brachii



Biceps brachii

1/Long Head (Outer)
2/Short Head (Inner)

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Brachialis..

The primary action of this muscle is to flex the forearm



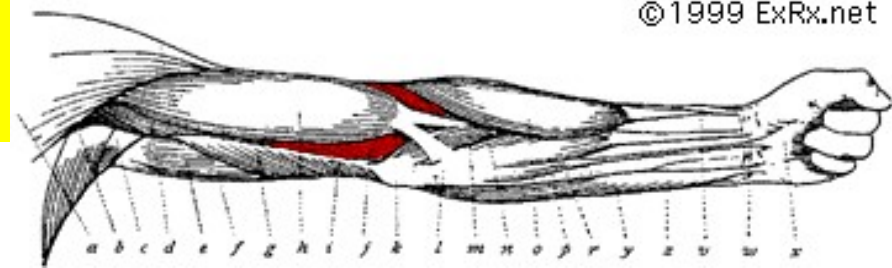
Movement

Elbow
Flexion

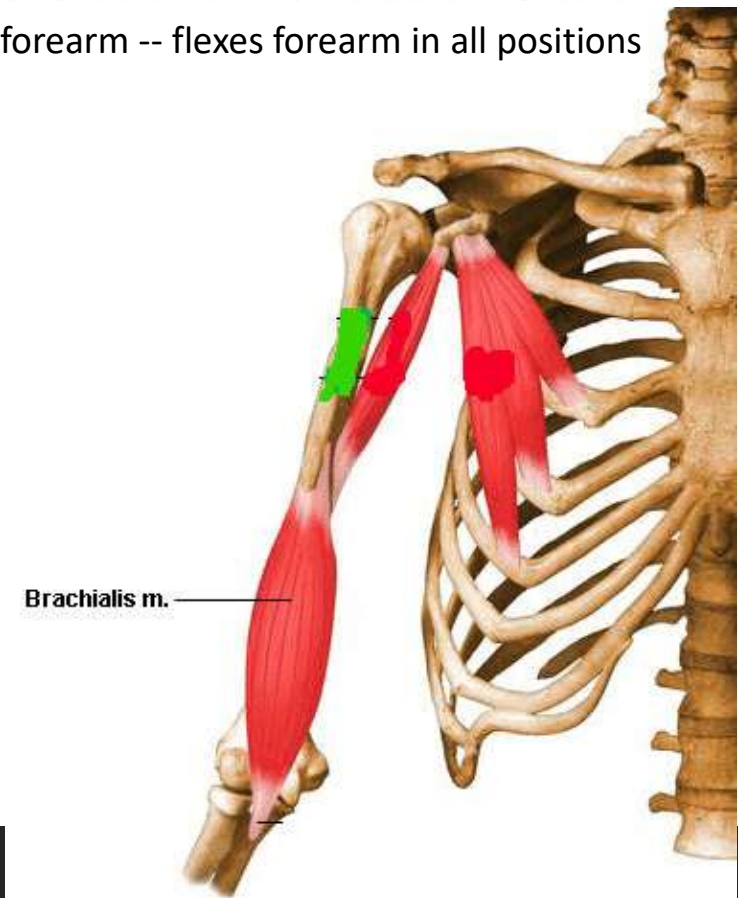
Attachments

Origin
Humerous (Anterior)

Insertion
Ulna
Coronoid Process



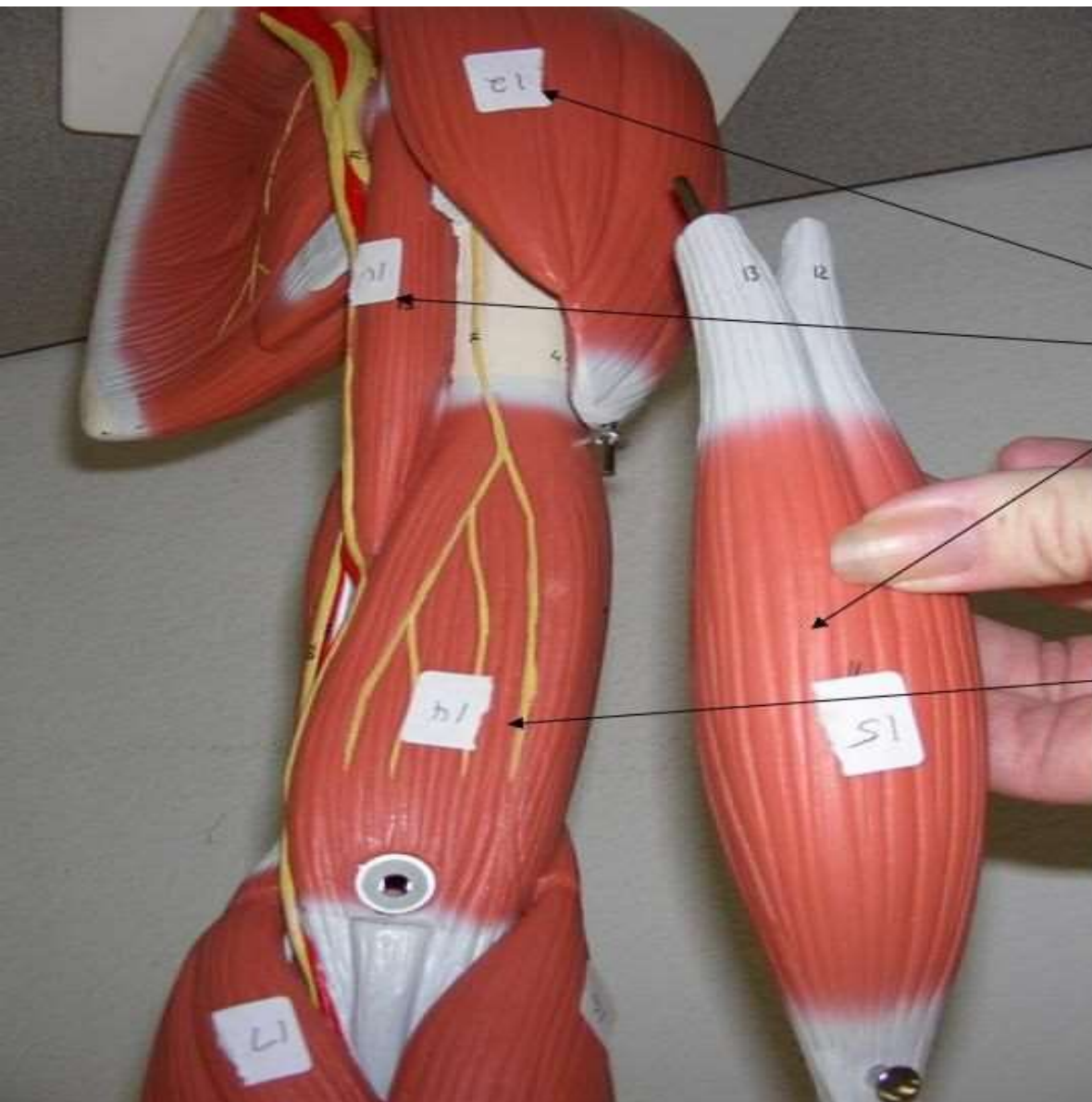
Major flexor of forearm -- flexes forearm in all positions



Brachialis



Flexes elbow

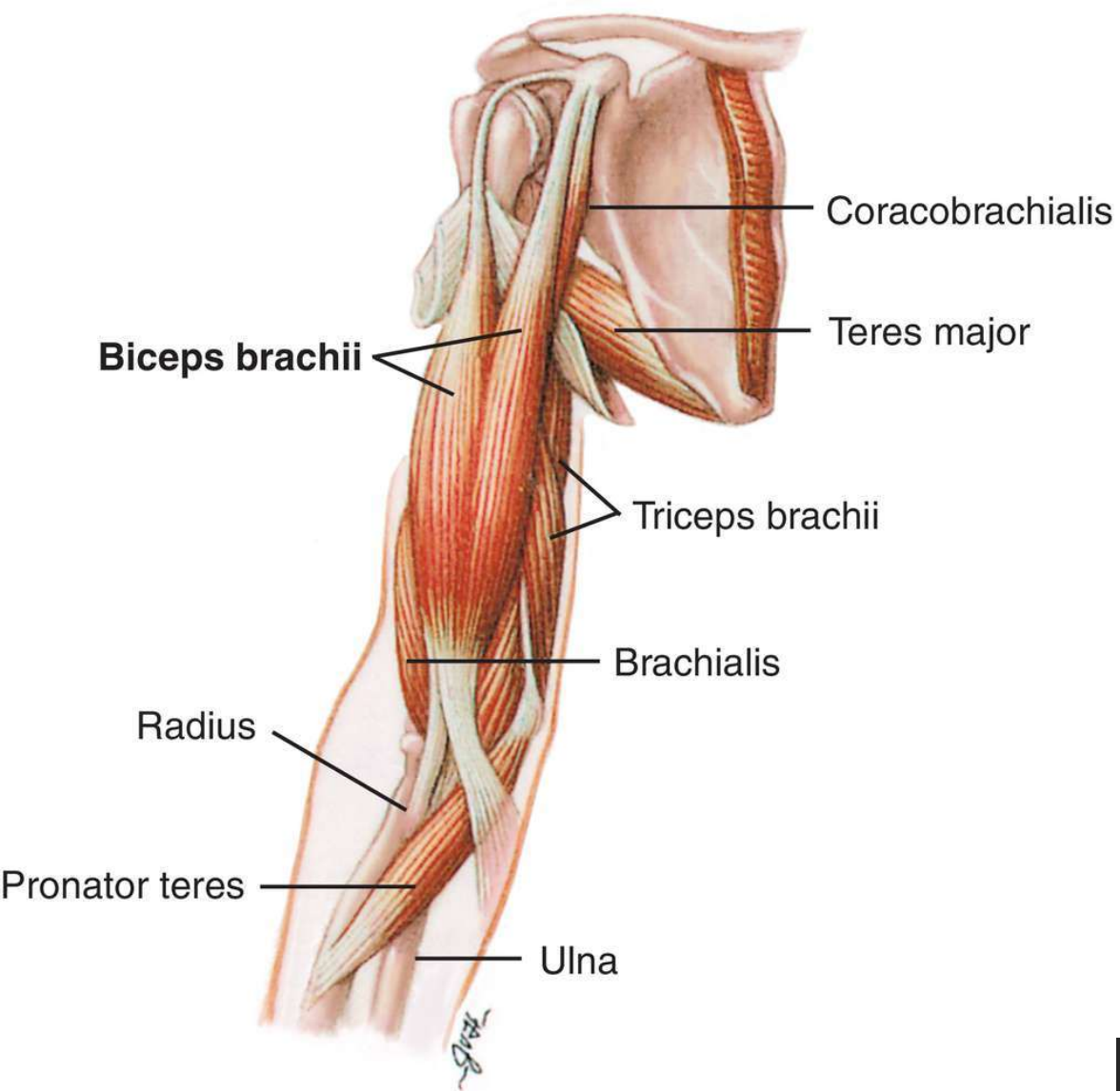


Deltoid

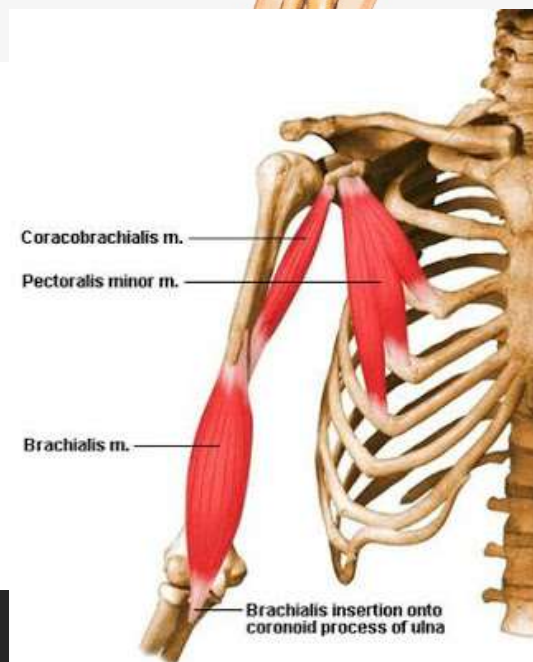
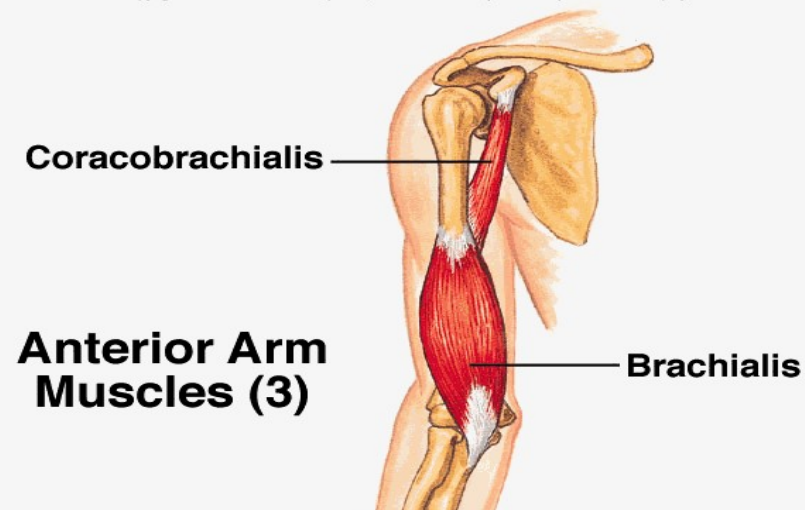
Coracobrachialis

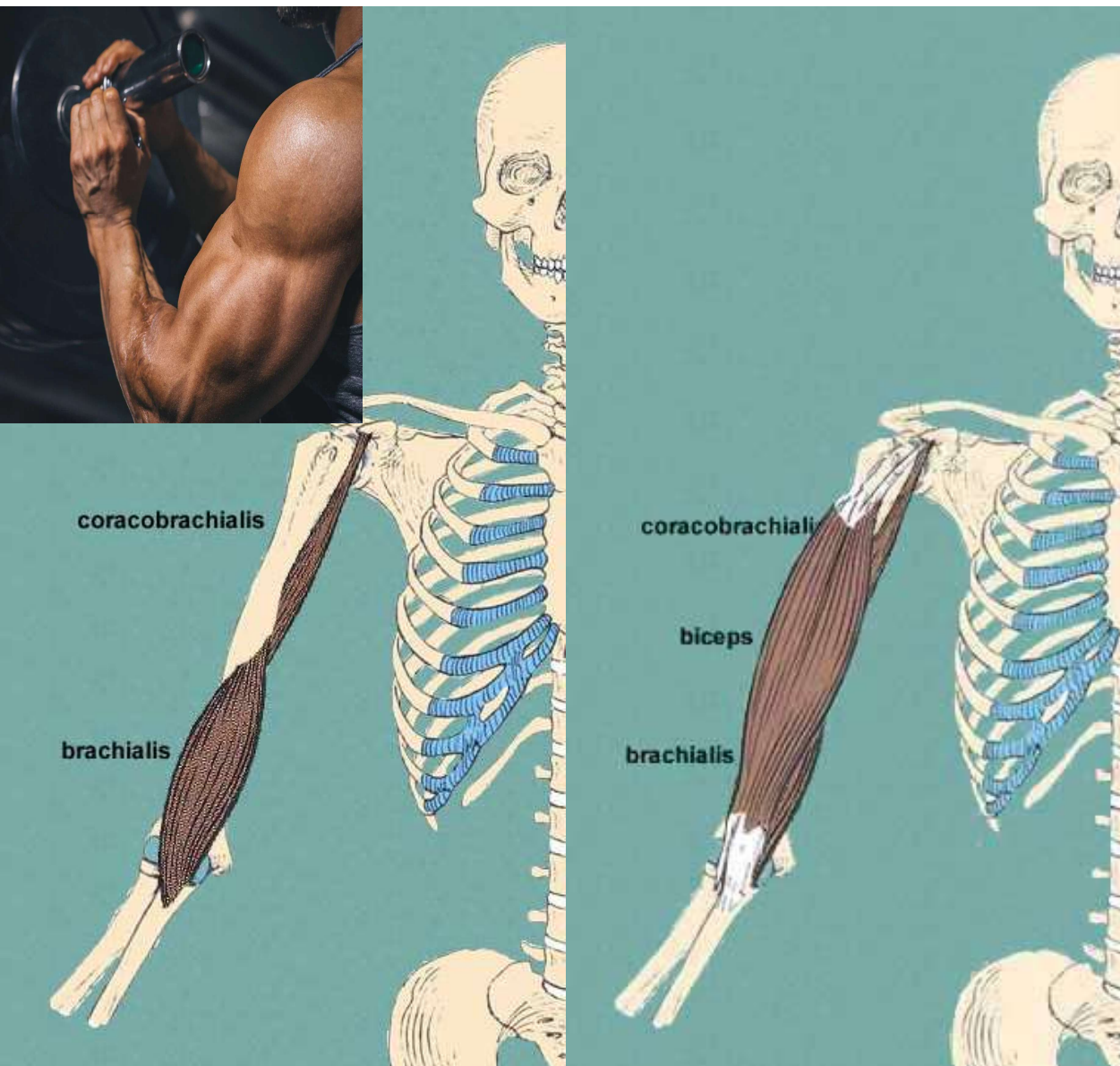
Biceps brachii

Brachialis (deep to biceps brachii)



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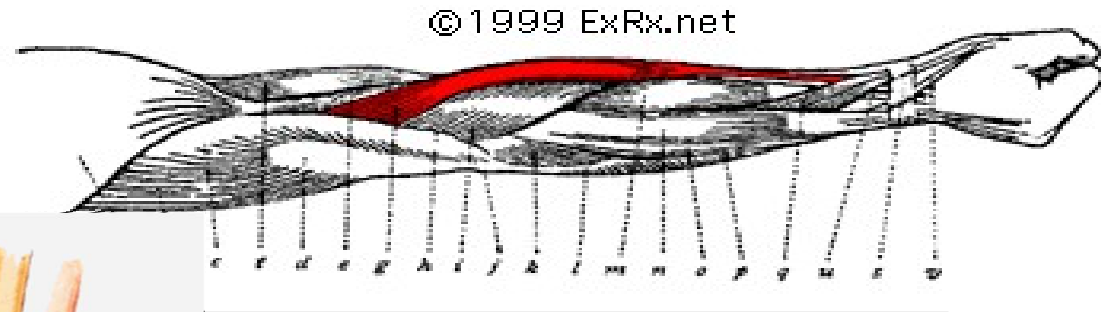




Brachioradialis.

This muscle also flexes the forearm

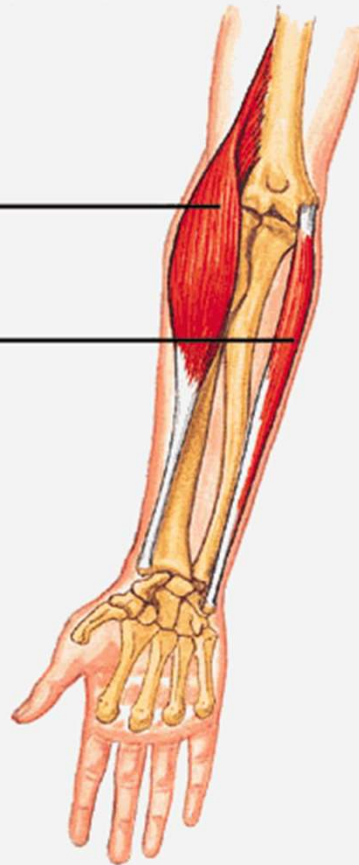
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Brachioradialis

**Flexor
carpi
ulnaris**

**Anterior Forearm
Muscles (2)**



Movement

Elbow
Flexion

Attachments

Origin

Humerous
Lateral Condyle

Insertion

Radius (Lateral Distal)
Styloid Process

Brachioradialis



BRACHIORADIALIS

Description:

elongated, fusiform muscle
along the outer side of the
radius

Origin:

lateral supracondylar ridge
of humerus

Insertion:

lateral port of the radius
above the styloid process

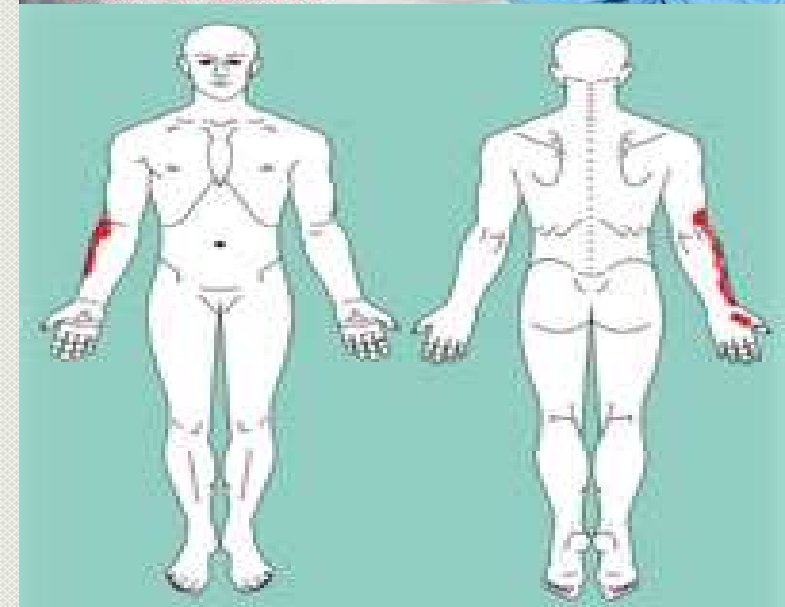
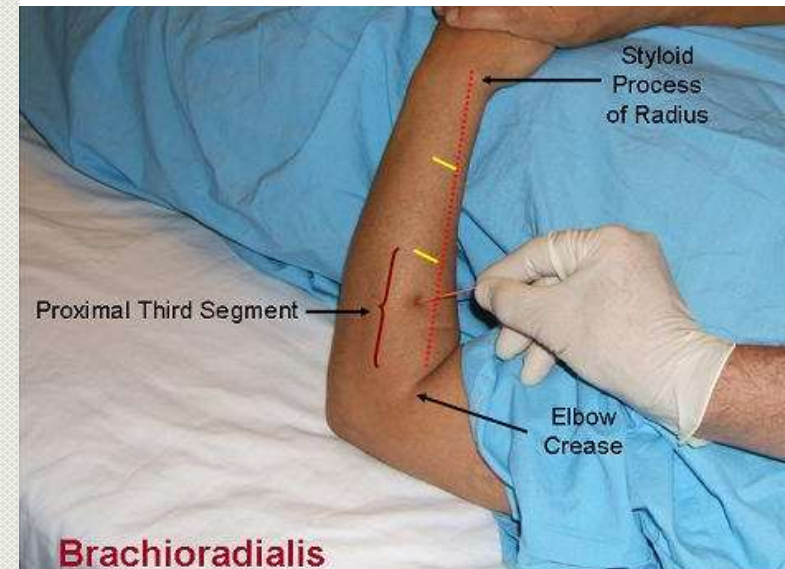
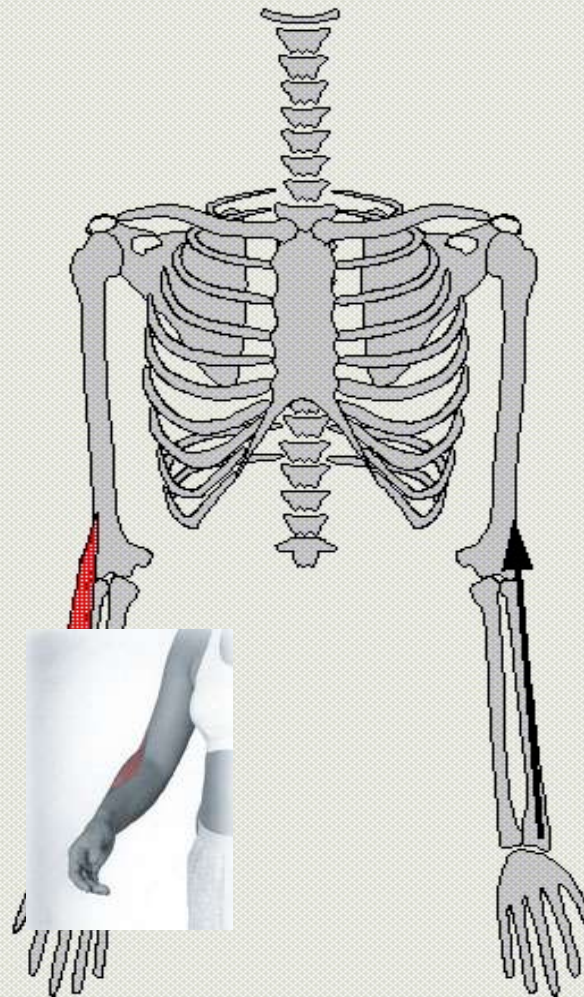
Function:

- flexion of the forearm
- supination of the forearm in
when in extension

Modelization:

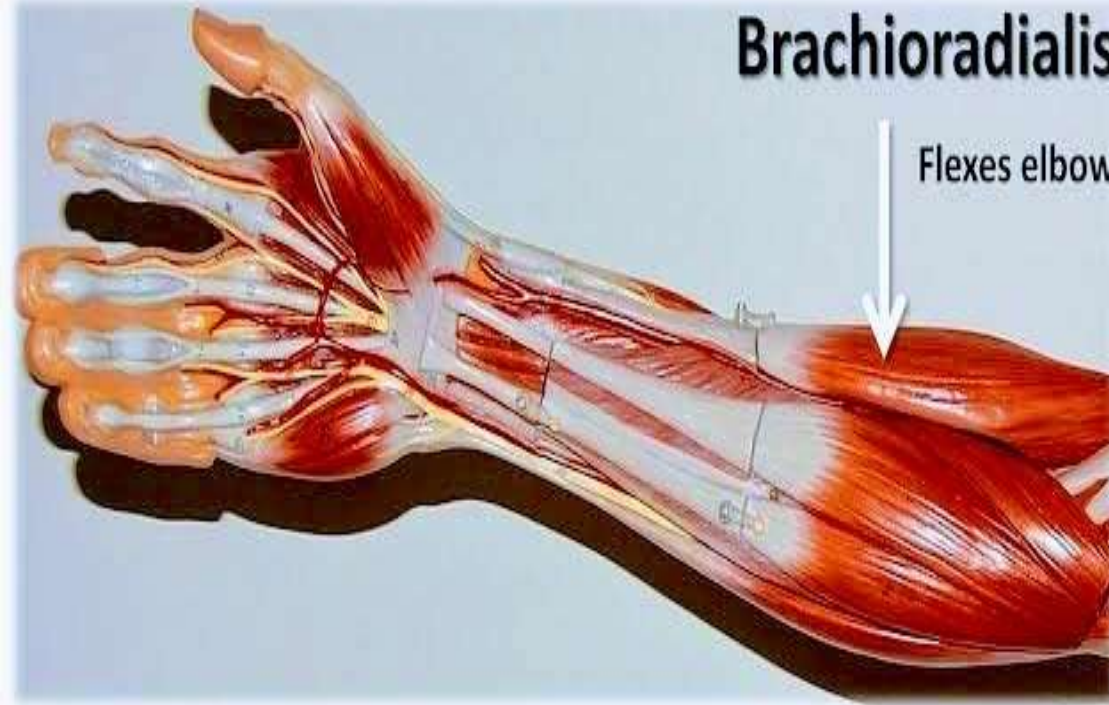
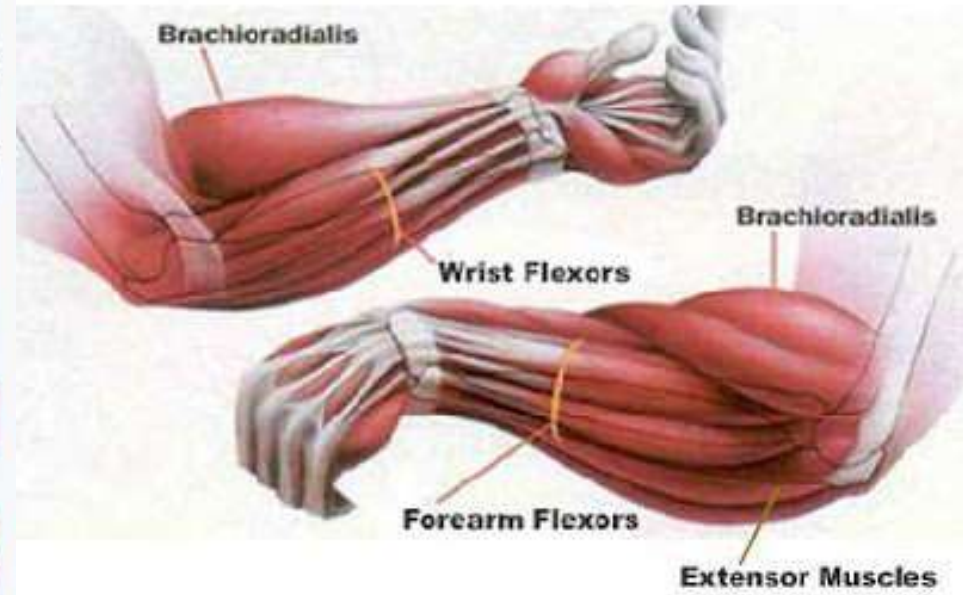
one vector between the
humerus and the ulna

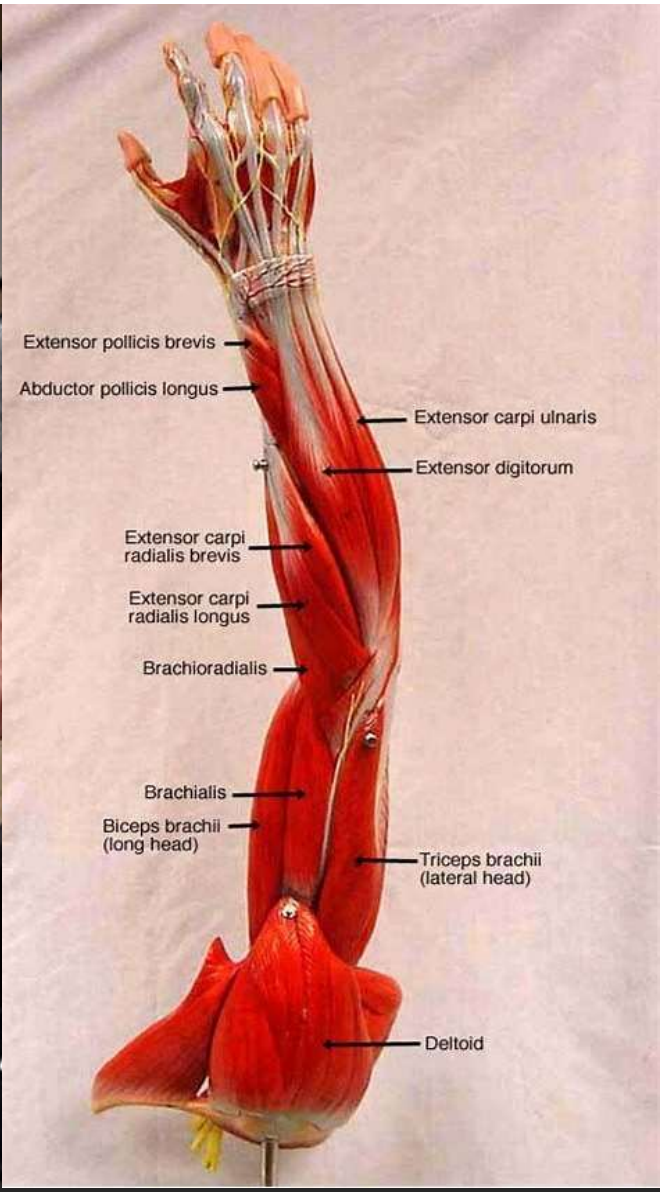
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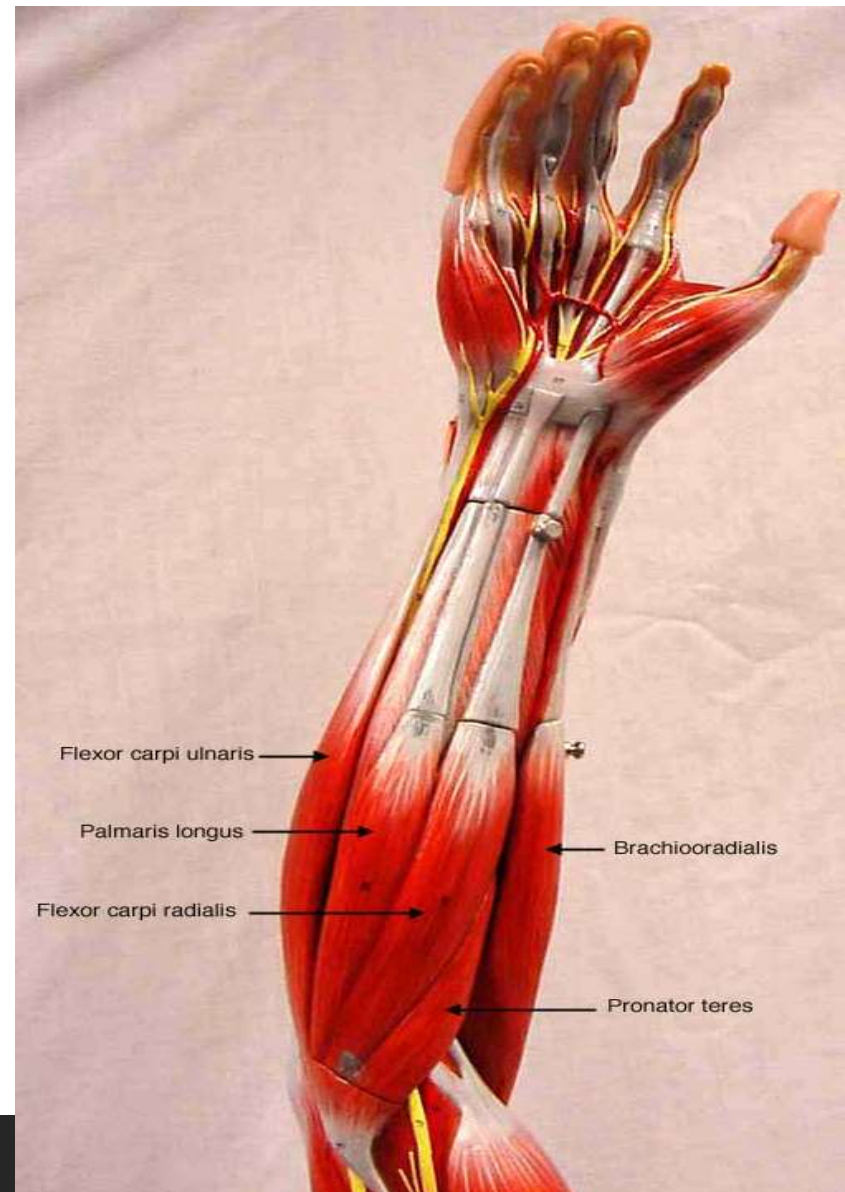


Brachioradialis

Flexes elbow







Triceps brachii

The primary action of this muscle is to extend the forearm.

This muscle has origins on the scapula and posterior shaft of the humerus.

It inserts on the olecranon process.

Movement

Elbow: Extension [1, 2, 3]
Shoulder: Extension [1] Adduction [1]

Attachments

Origin

Scapula [1]
Infraglenoid Turbercle
Humerous (Posterior)
Superior to Radial Groove [2]
Inferior to Radial Groove [3]

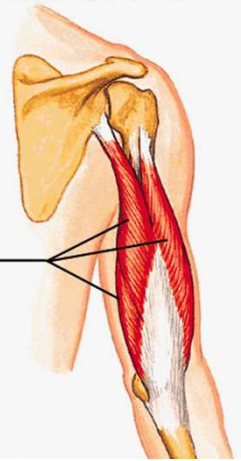
Insertion

Ulna (Proximal Posterior) [1, 2, 3]
Olecranon Process

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Posterior Arm Muscle

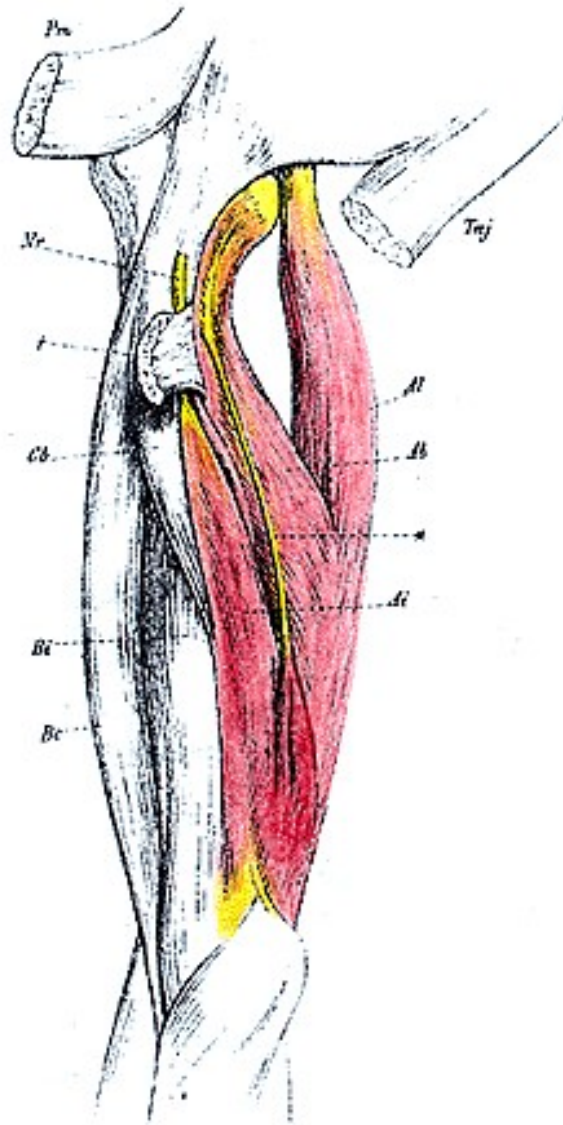
Triceps brachii



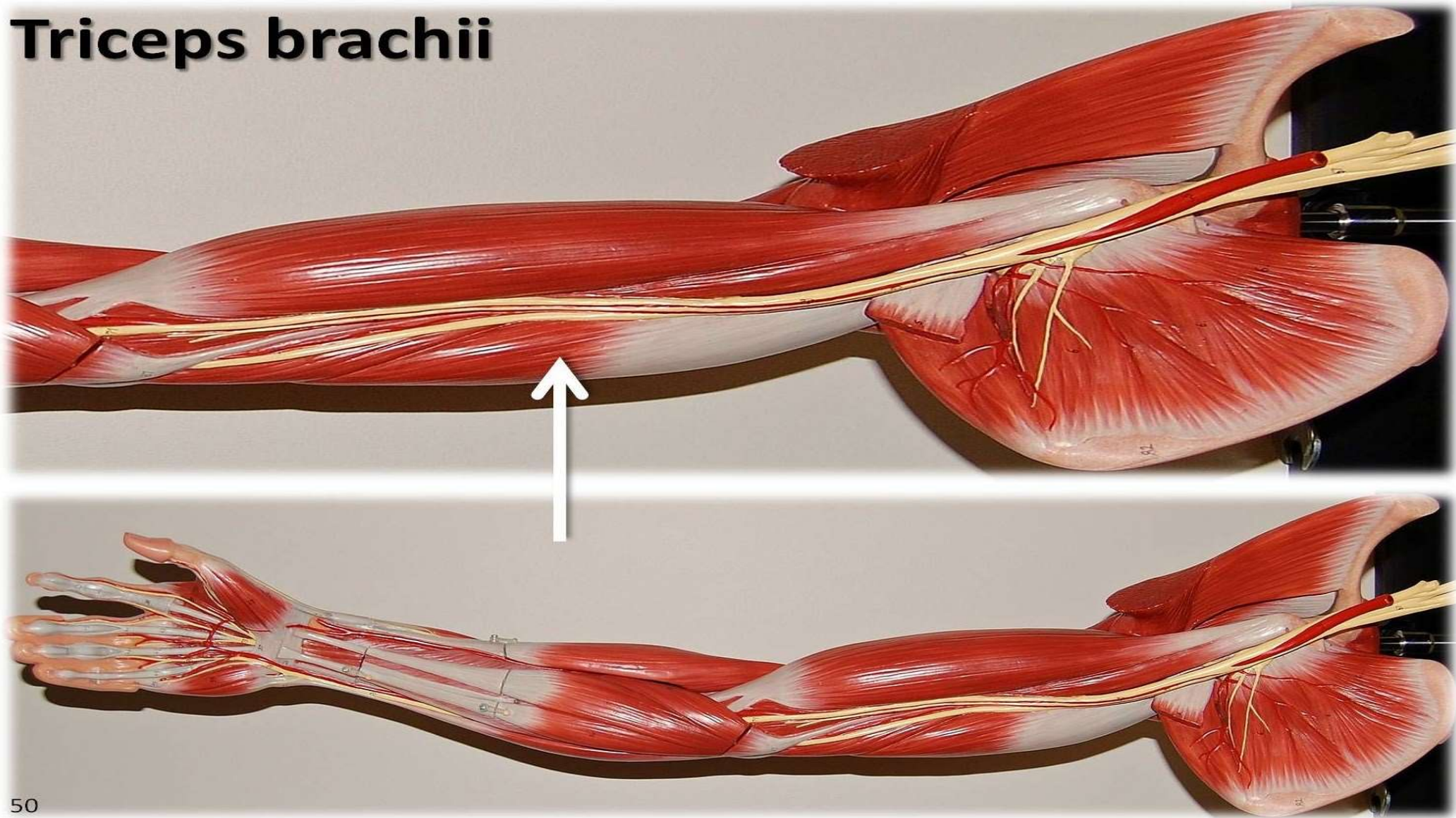
Triceps brachii



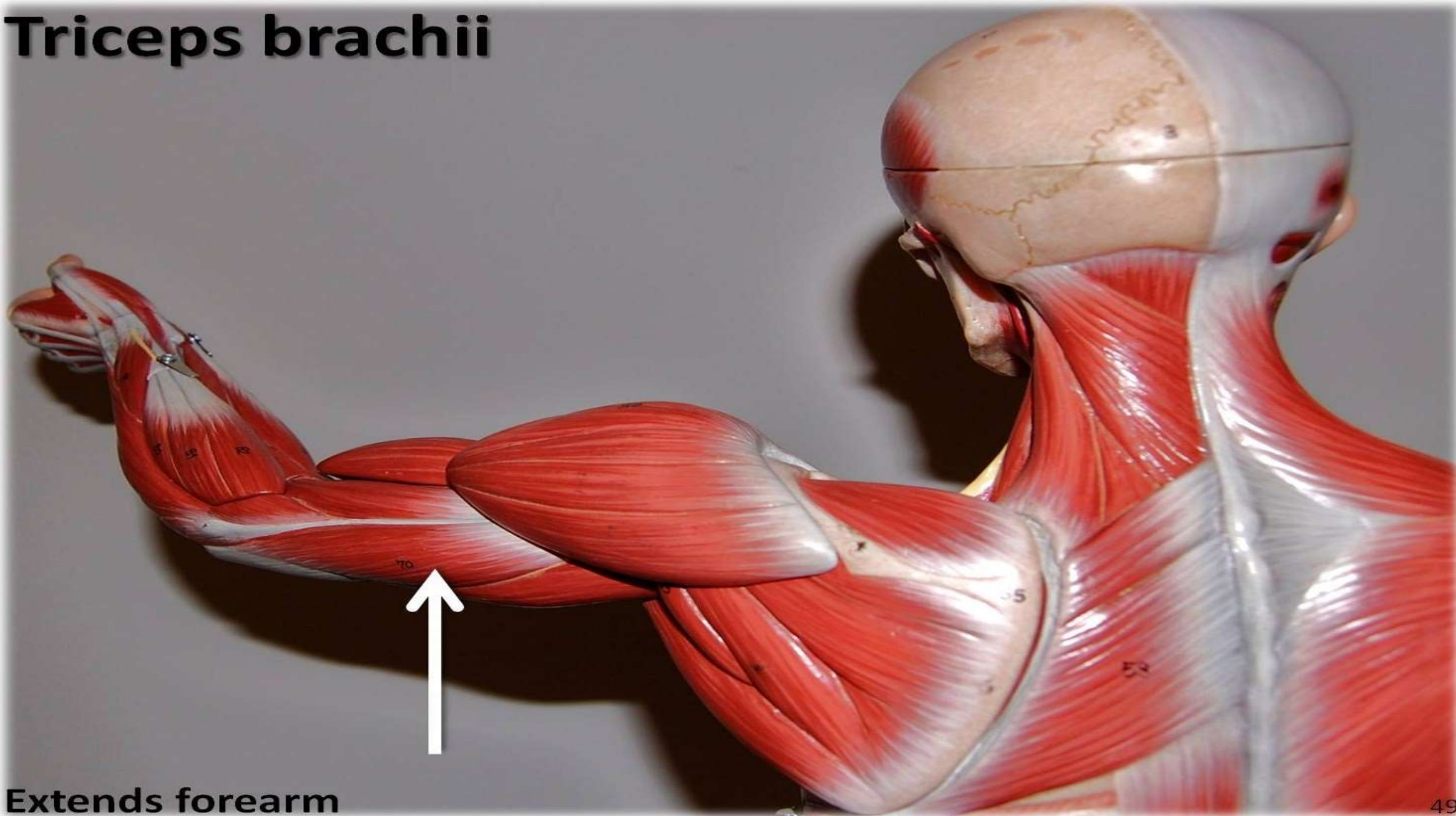
Triceps brachii



Triceps brachii

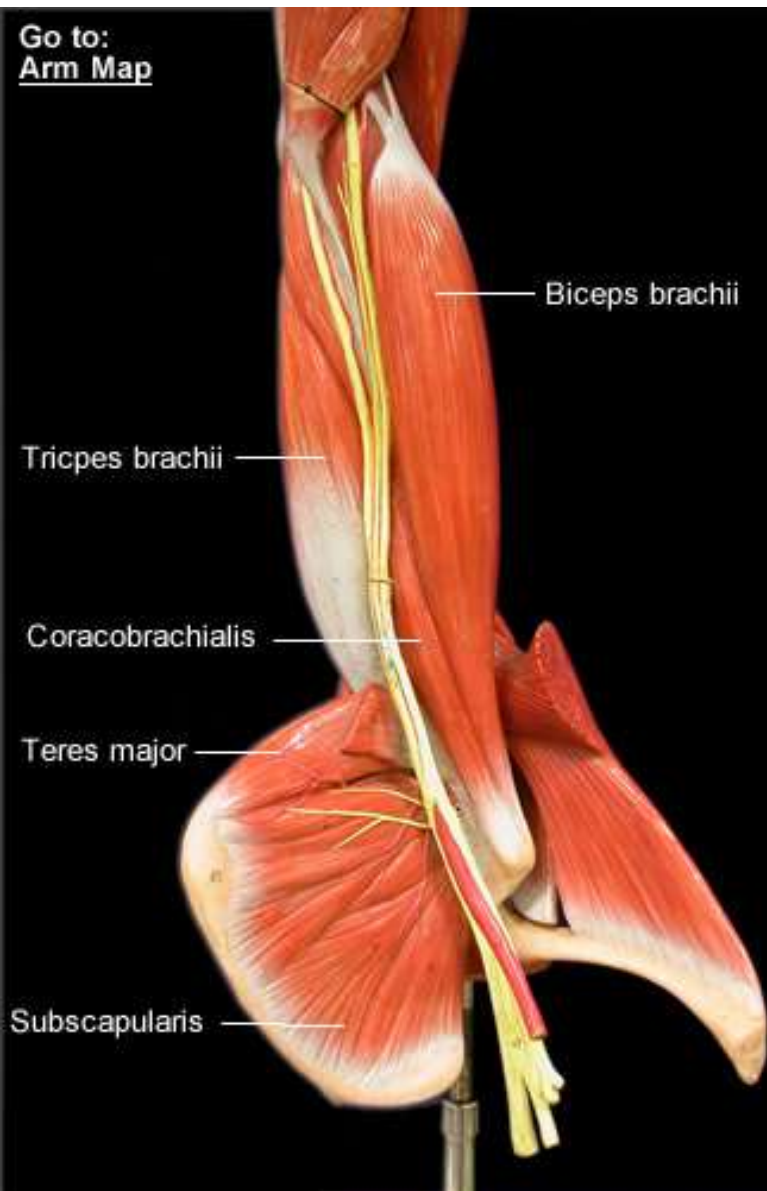


Triceps brachii

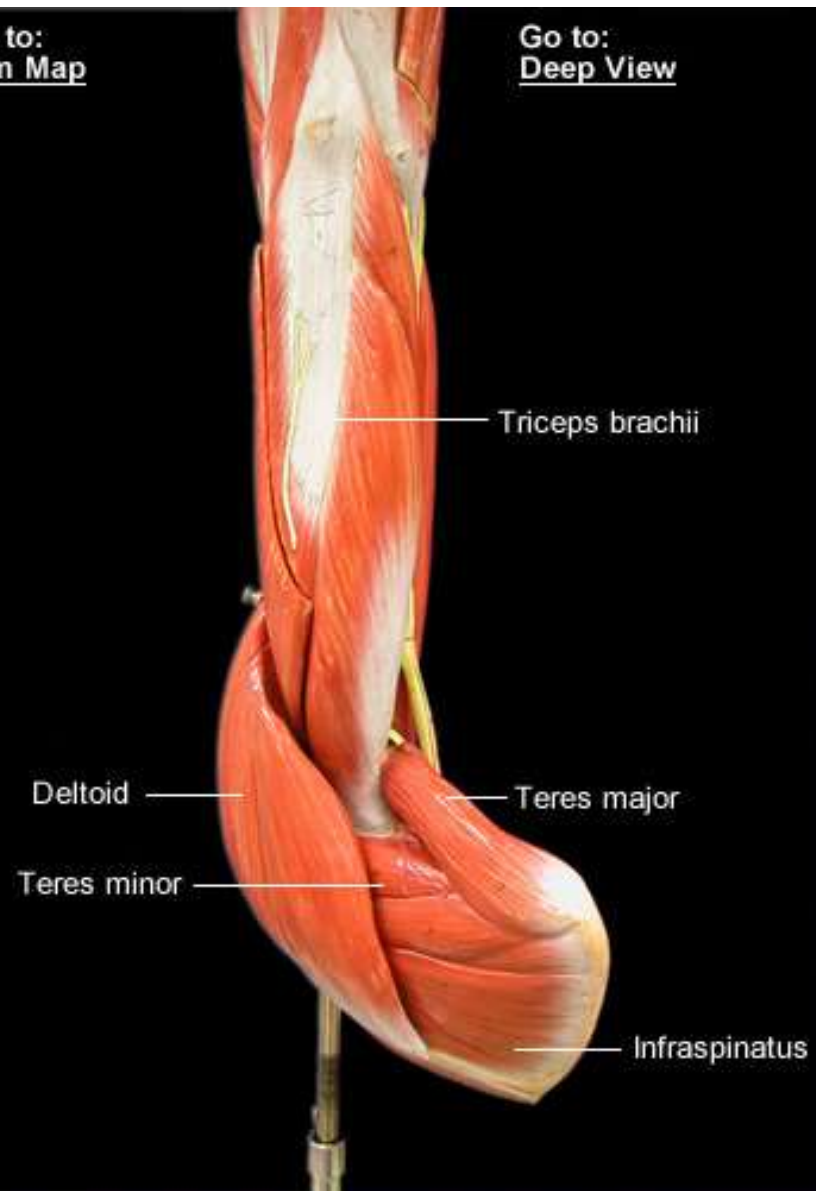


Extends forearm

[Go to:
Arm Map](#)



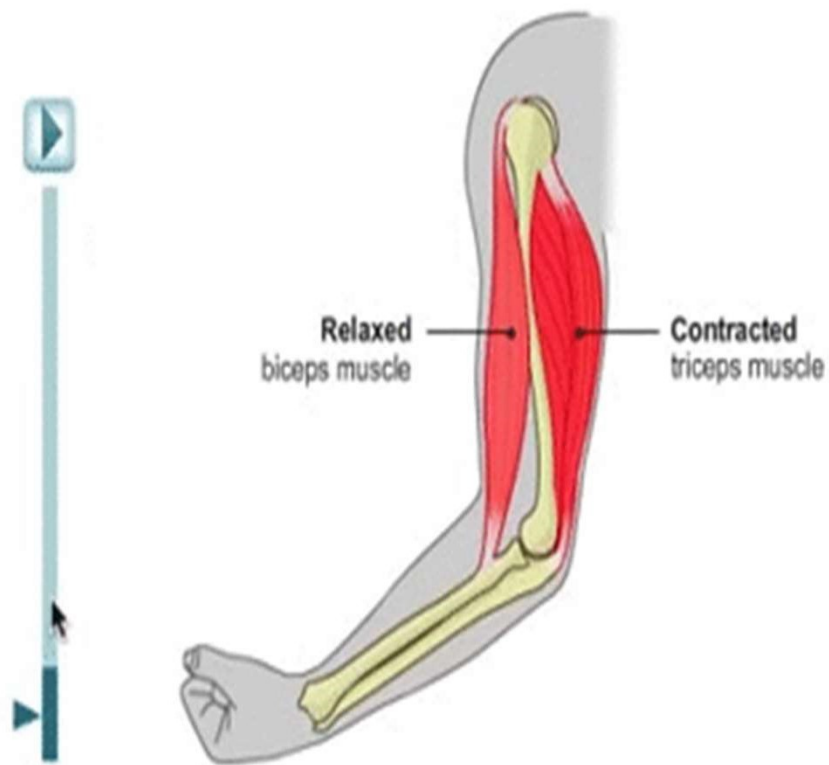
[Go to:
Arm Map](#)



Muscle pairs

Antagonistic pairs of muscles create movement when one (the **prime mover**) contracts and the other (the **antagonist**) relaxes. Examples of antagonistic pairs working are:

- the quadriceps and hamstrings in the leg
- the biceps and triceps in the arm

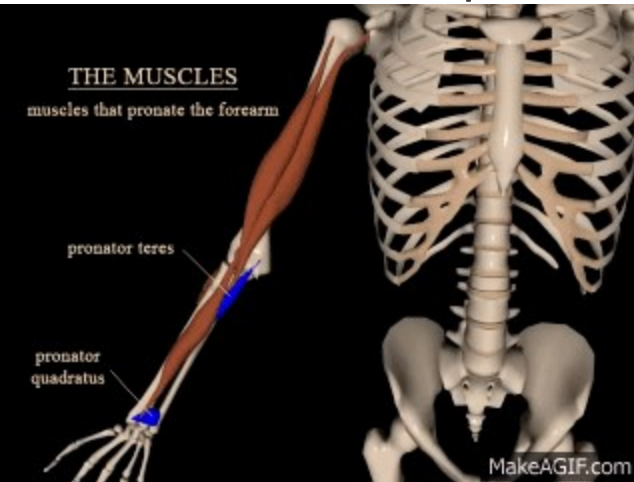
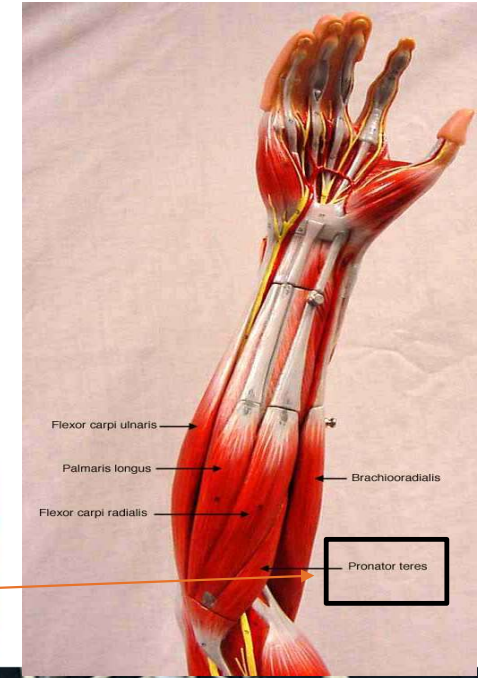


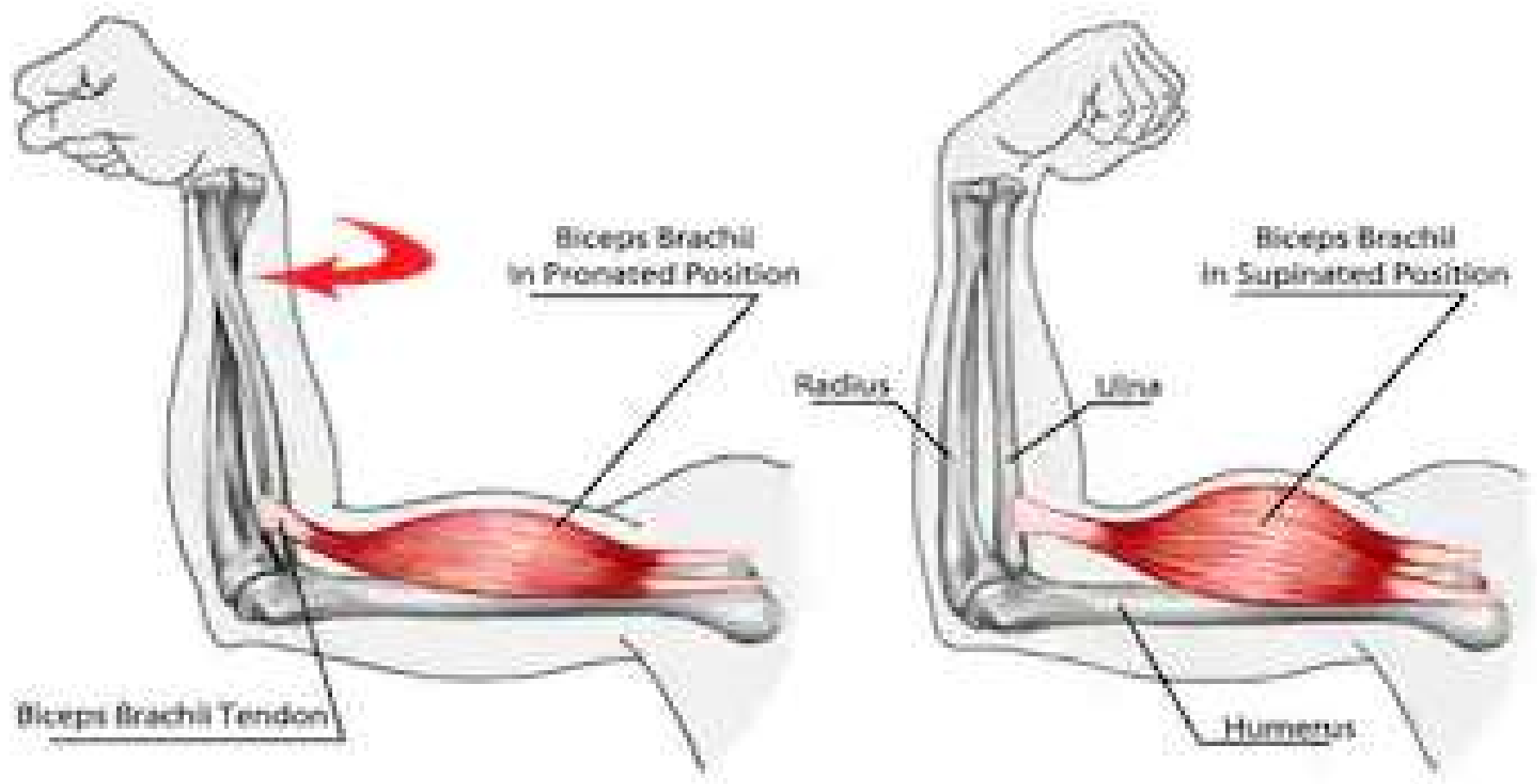


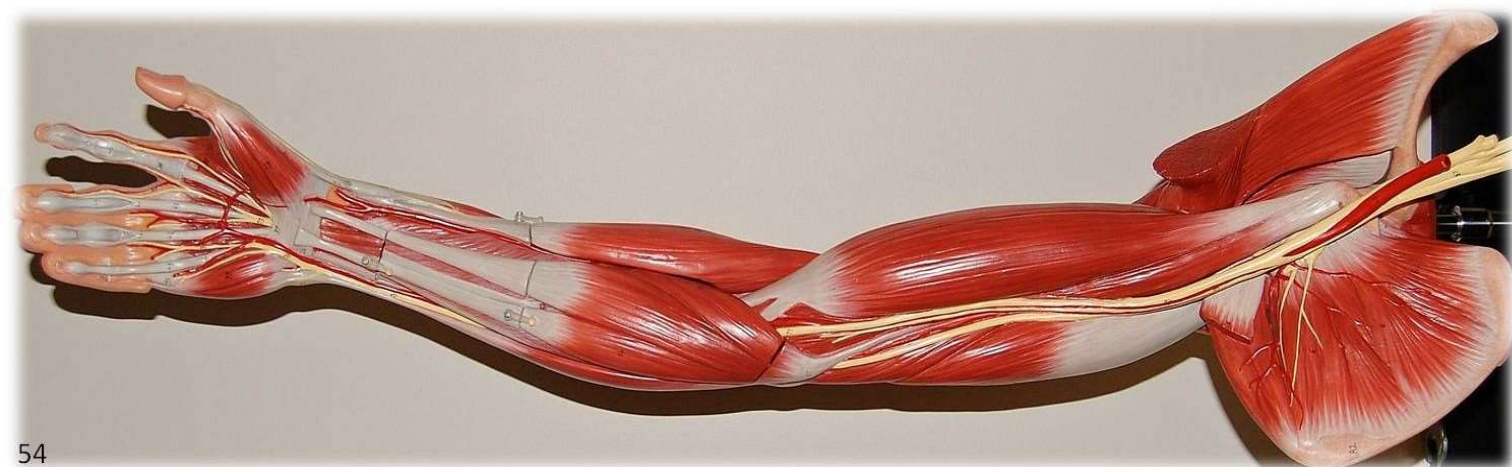
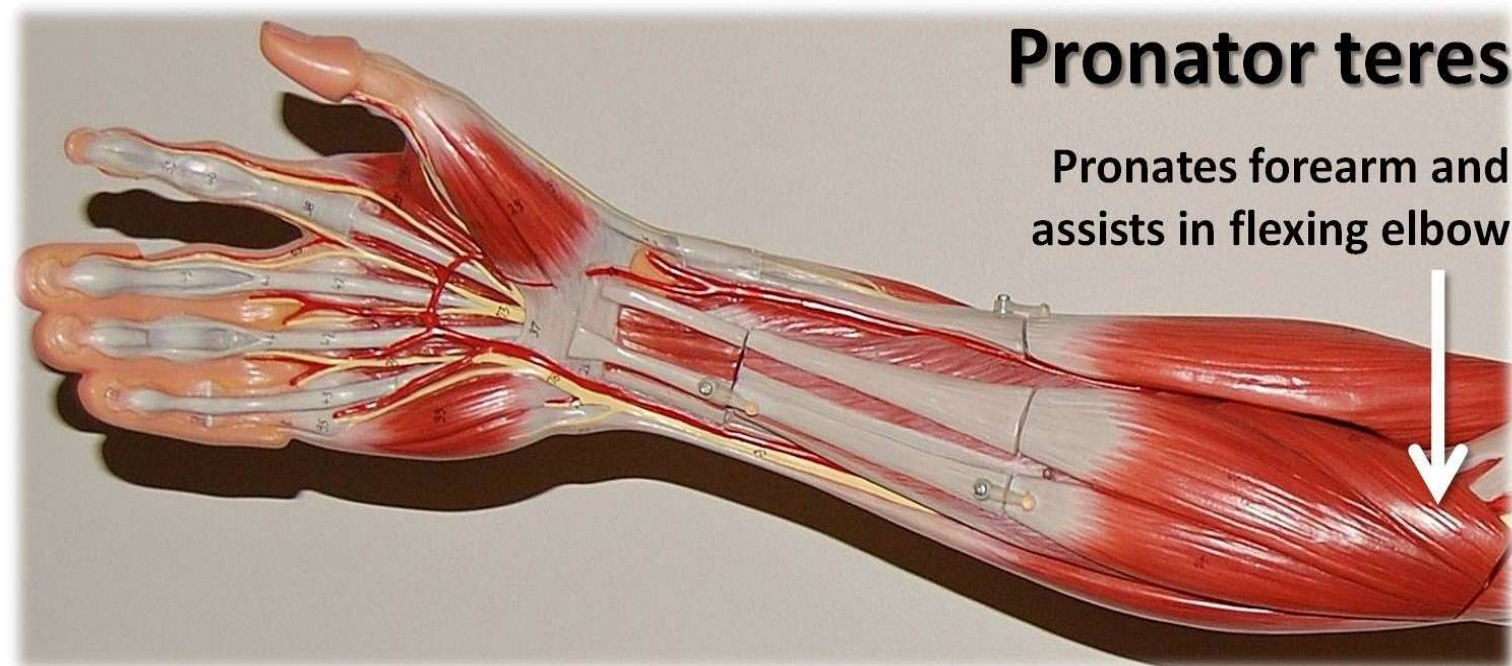
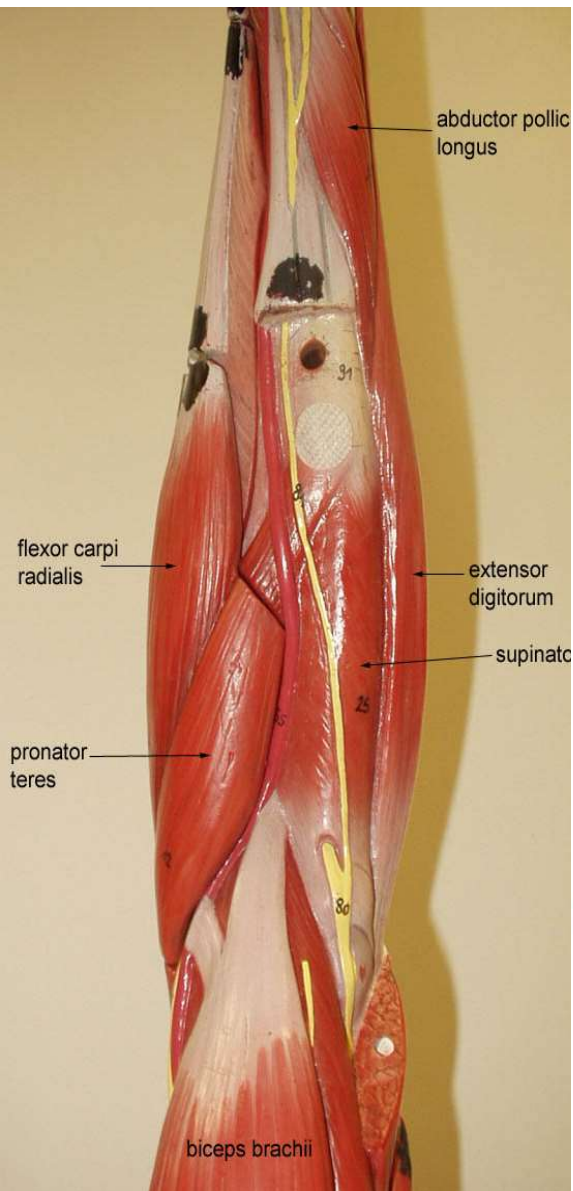
Supinator/ Pronator teres

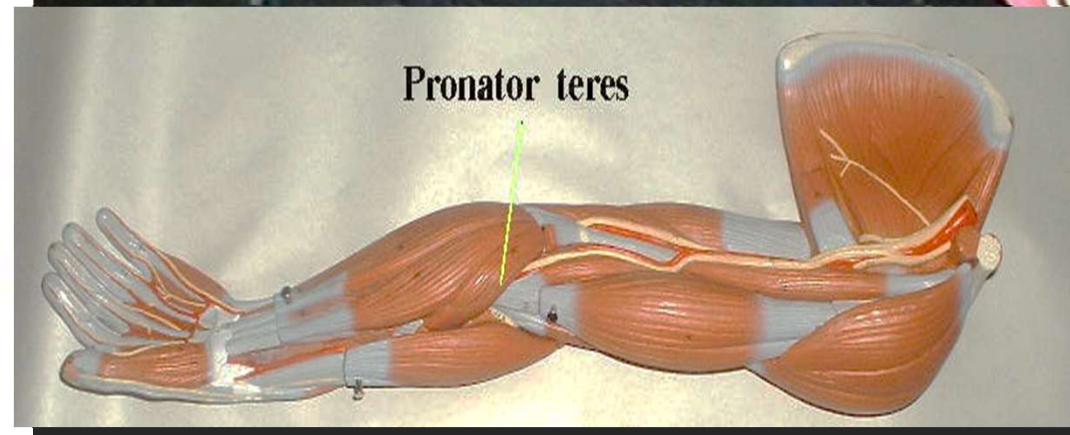
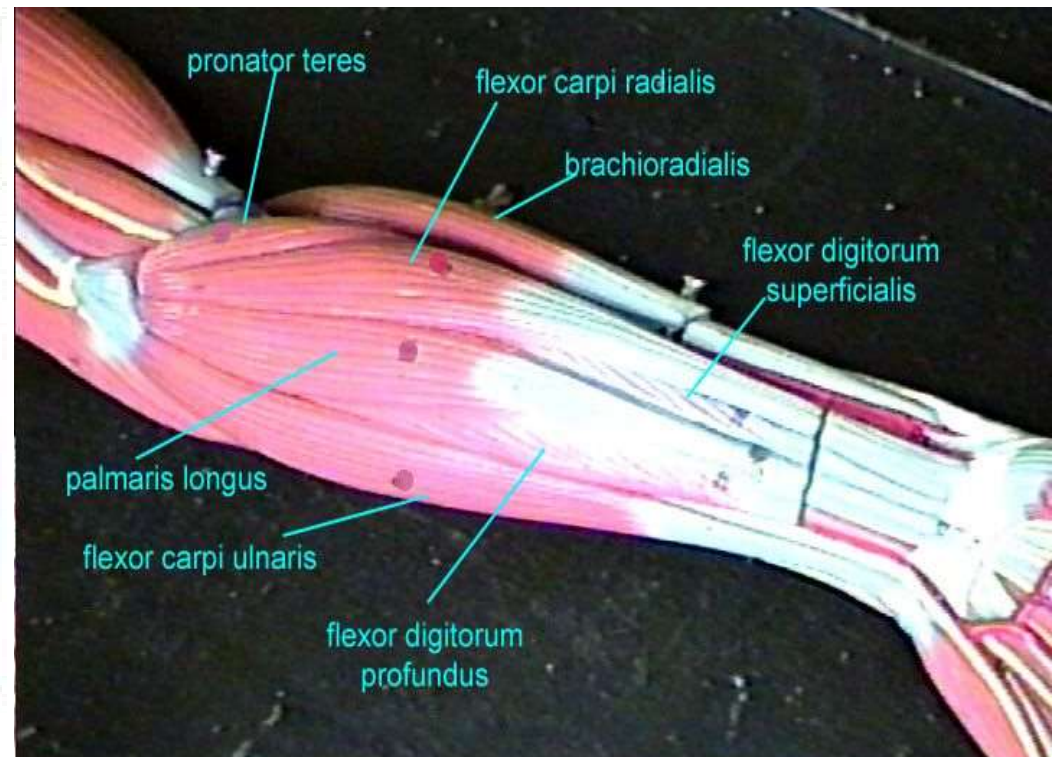
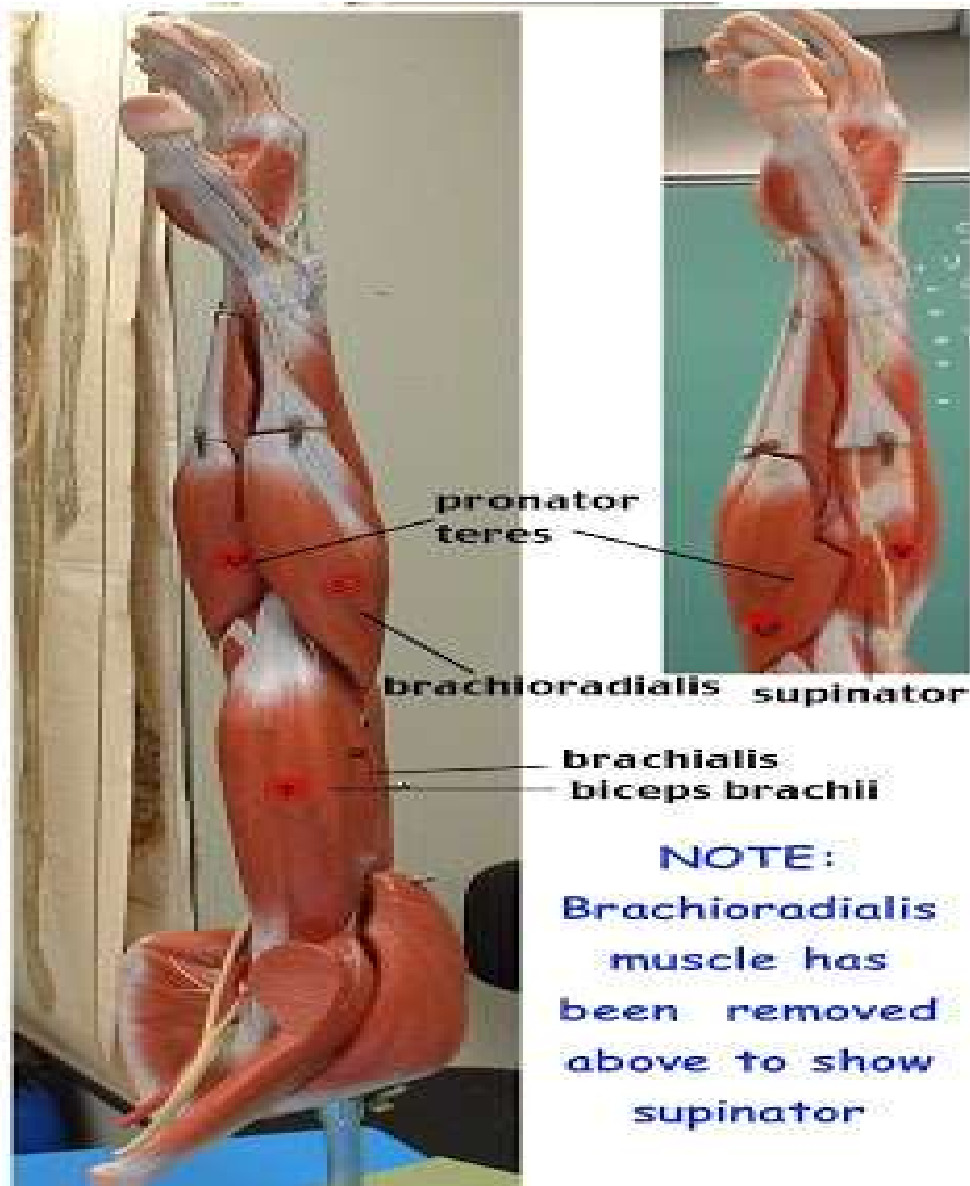
Supinator. The primary action of this _____ muscle is to supinate the forearm.

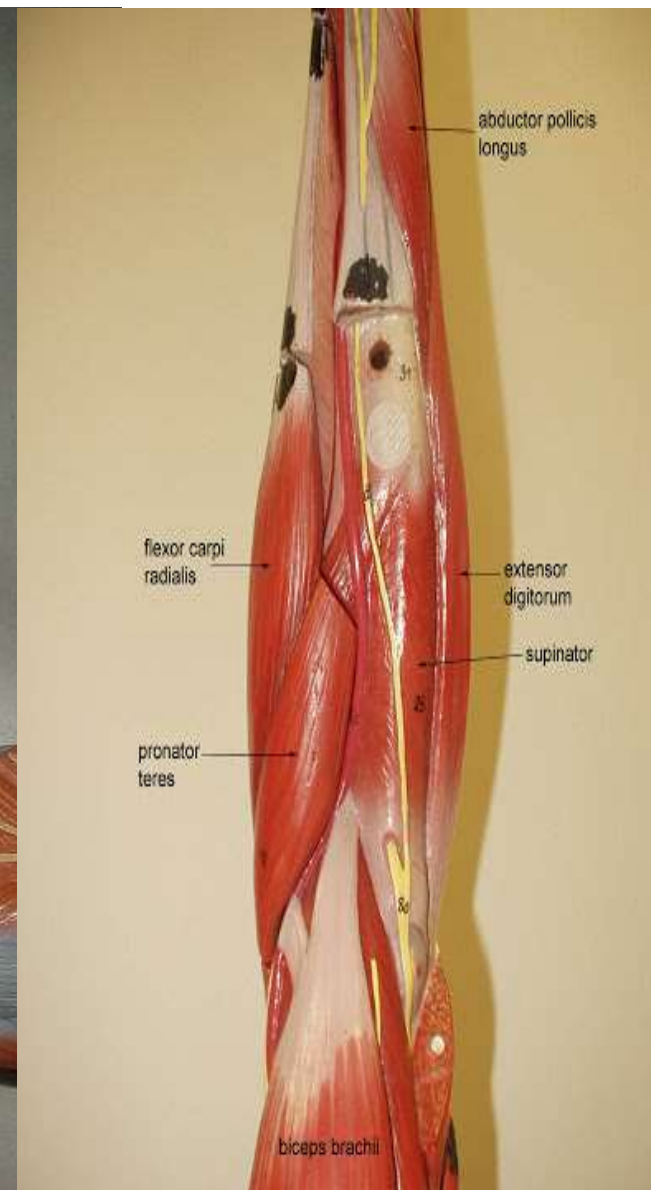
Pronator teres. The primary action of this muscle is to pronate the forearm.

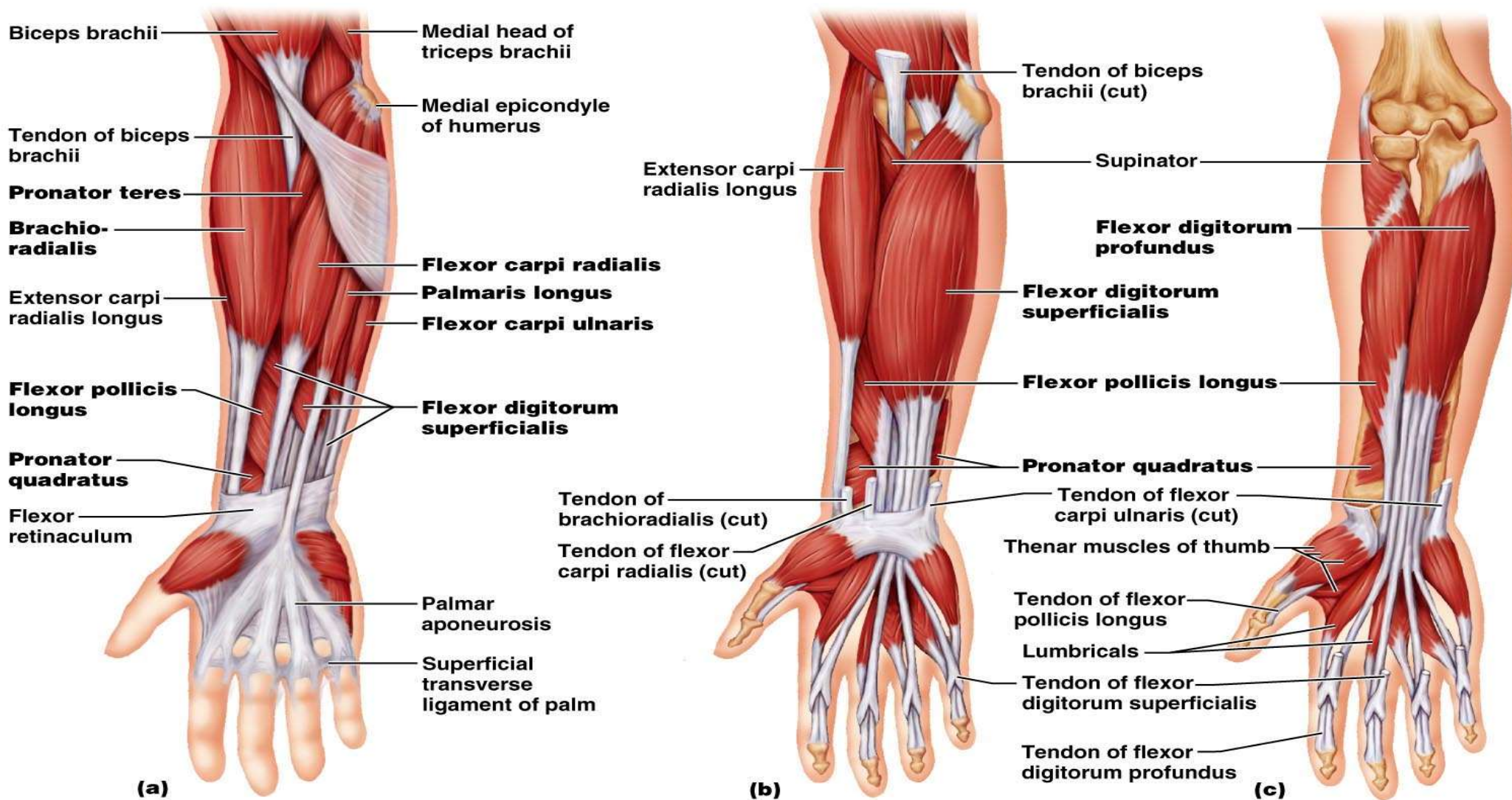






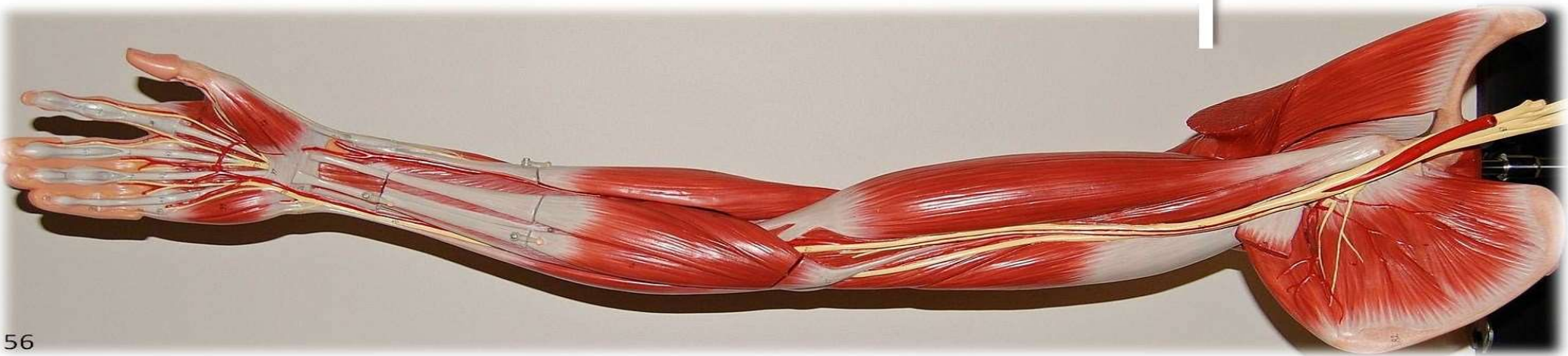
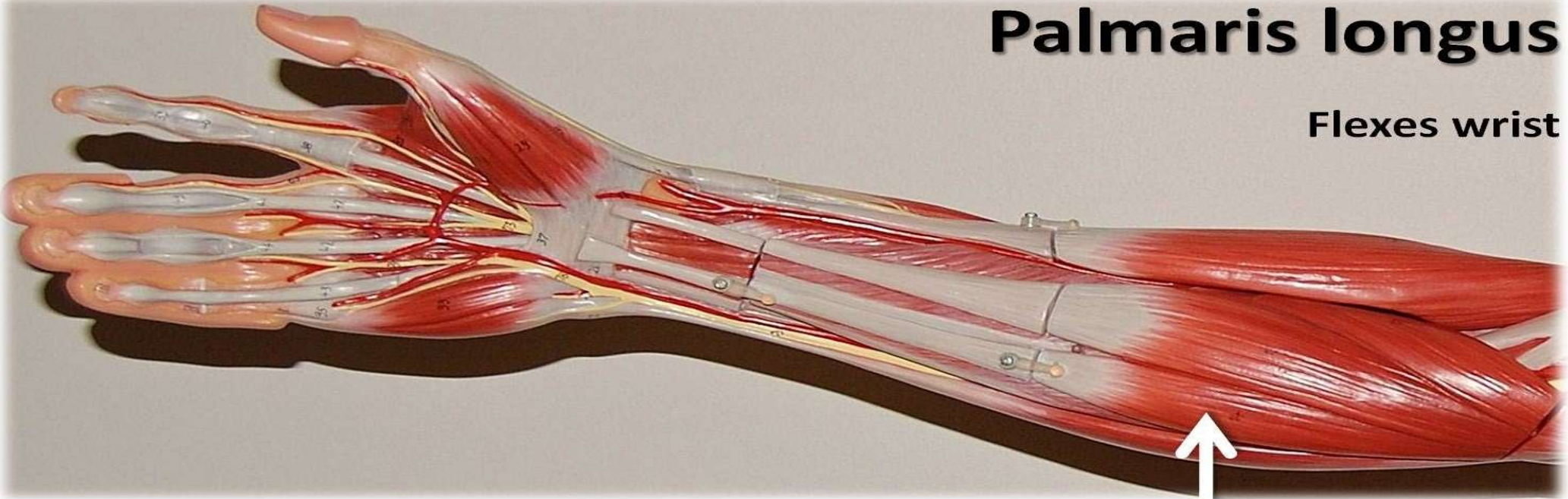






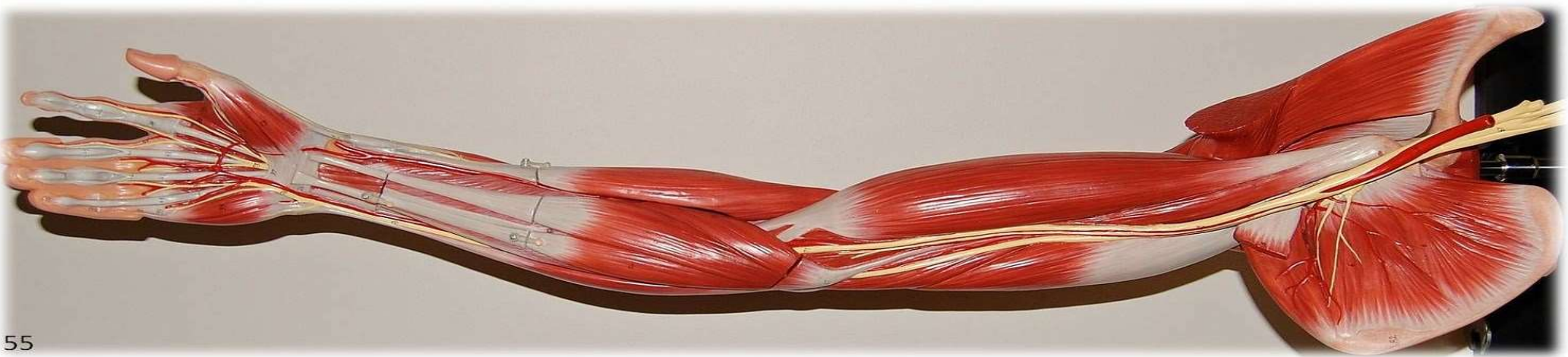
Palmaris longus

Flexes wrist



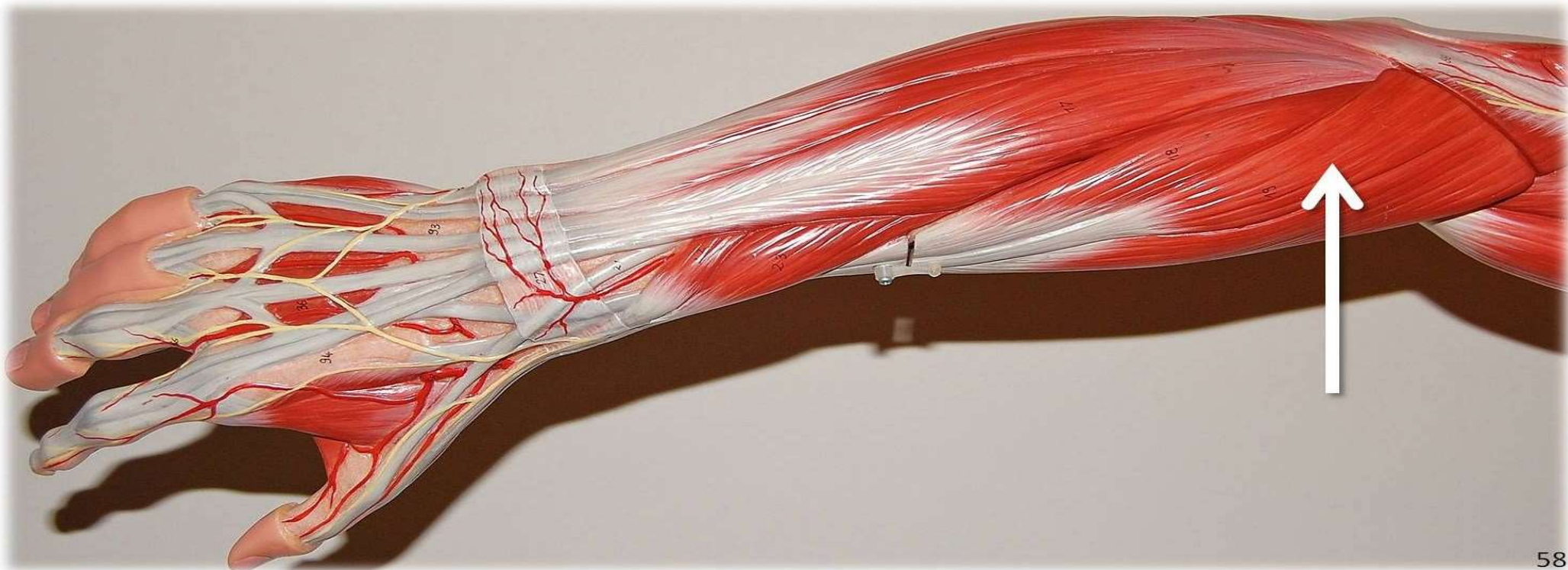
Flexor carpi radialis

Flexes wrist and abducts hand



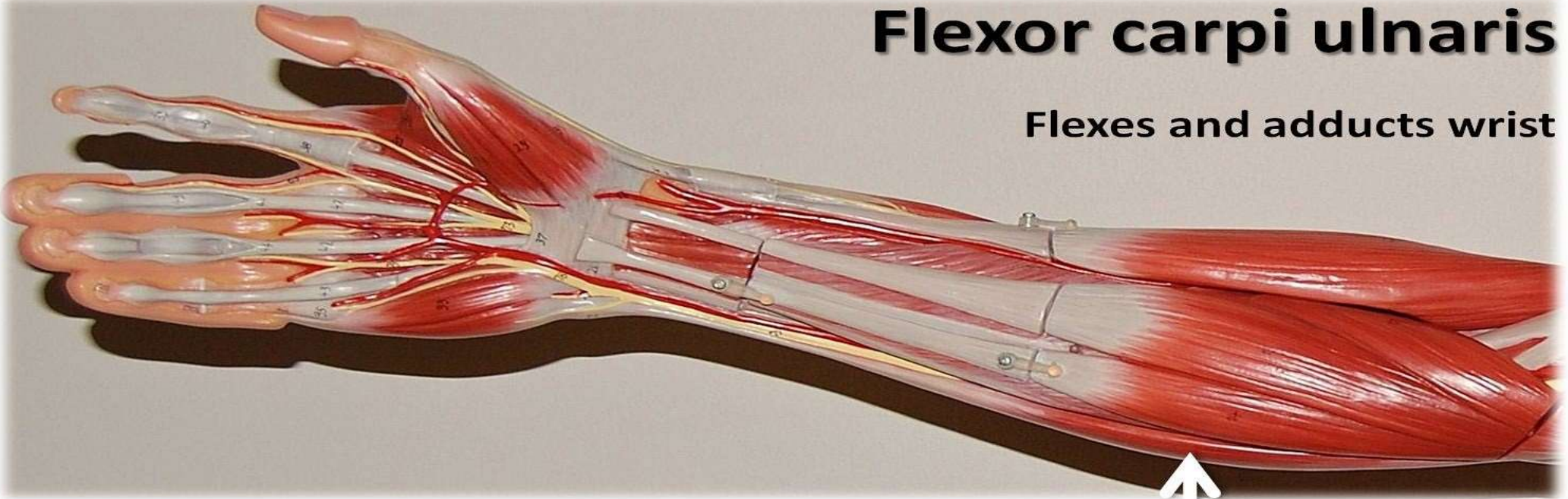
Extensor carpi radialis longus

Extends wrist and abducts hand



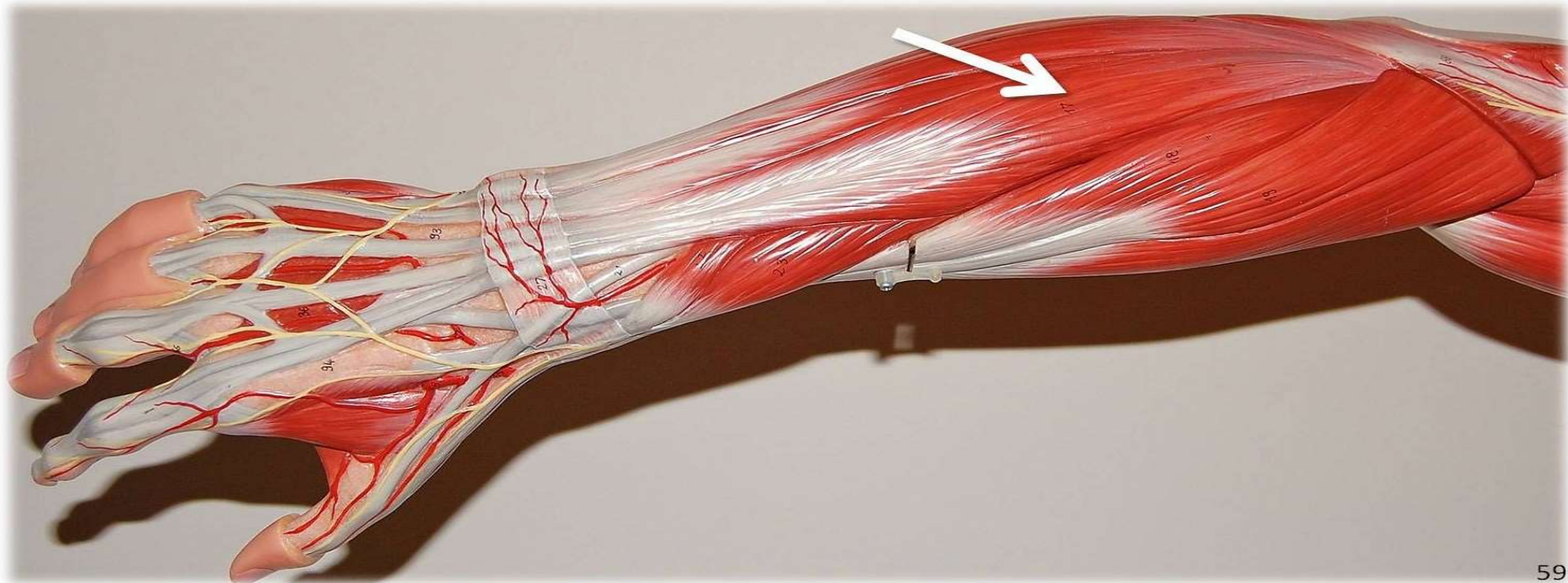
Flexor carpi ulnaris

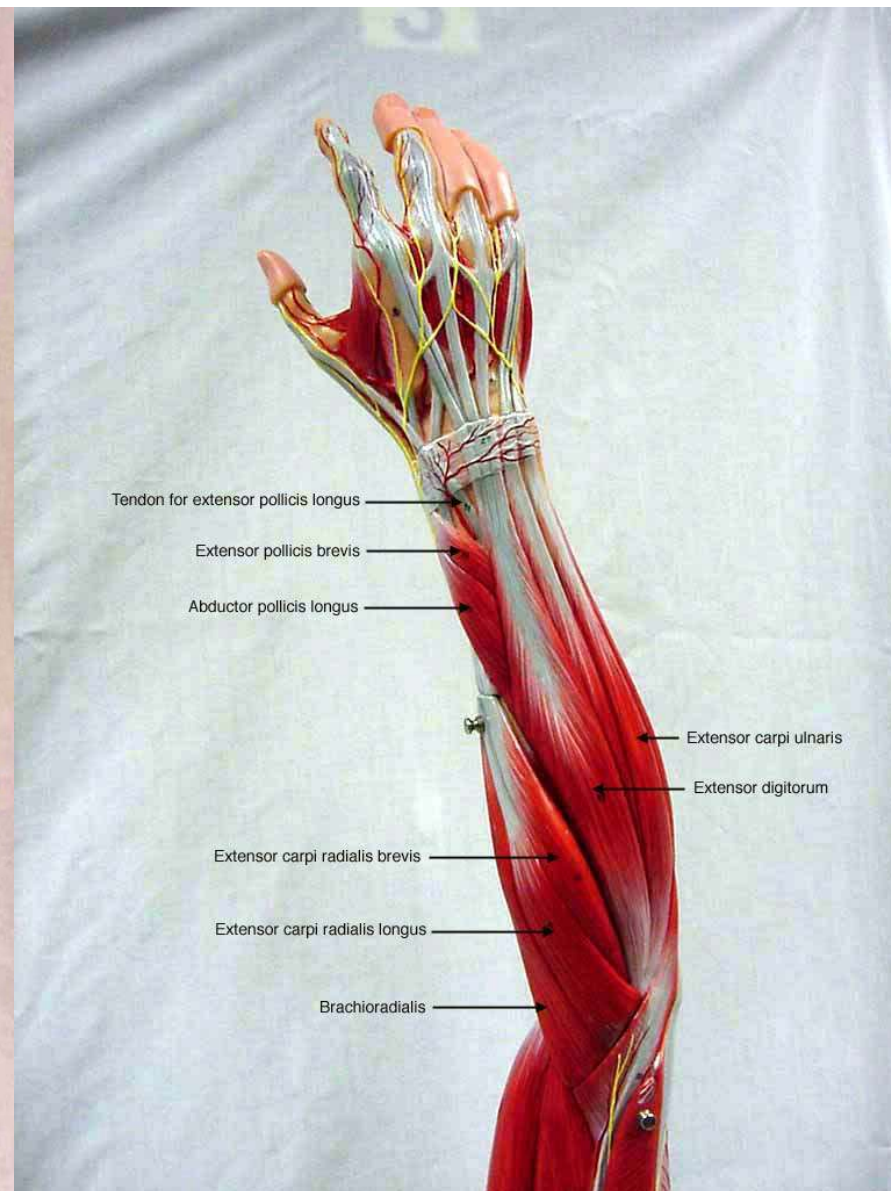
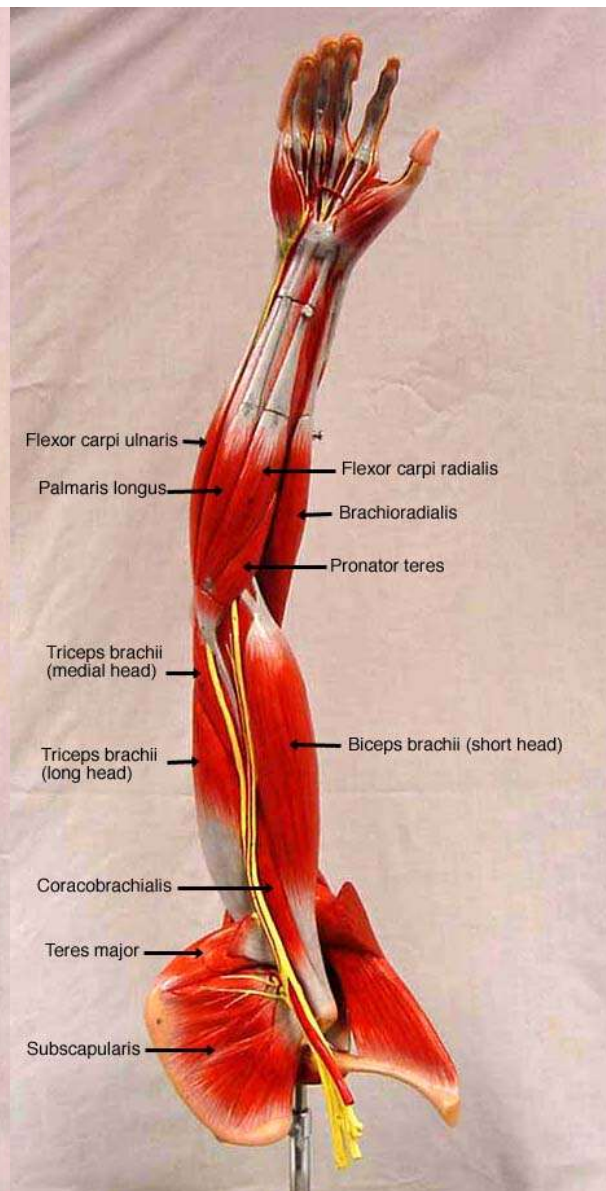
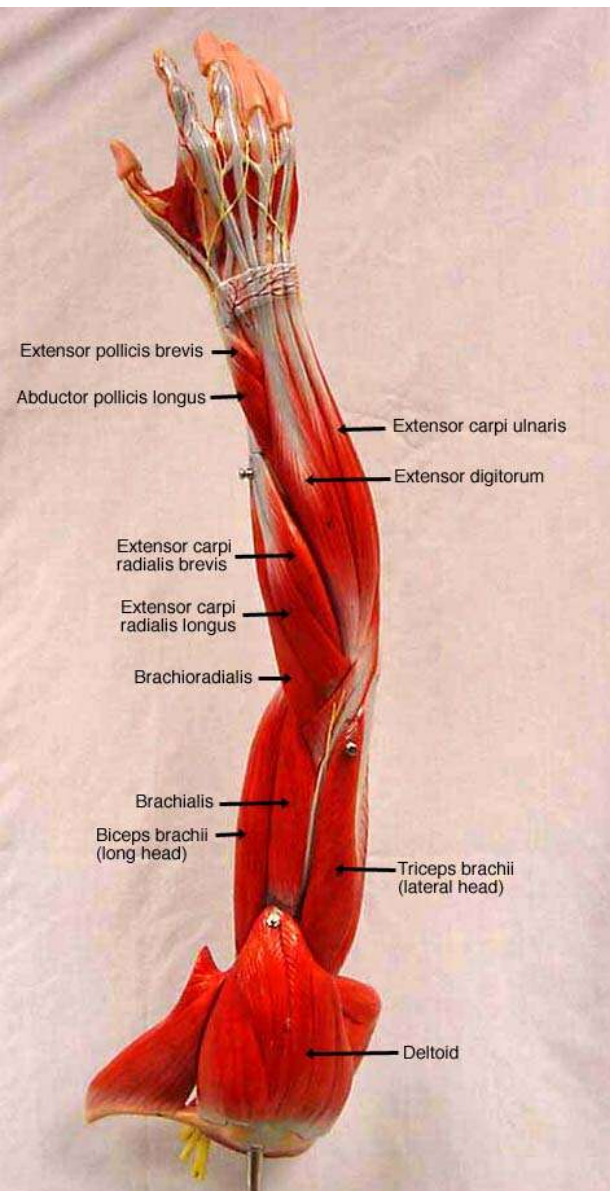
Flexes and adducts wrist

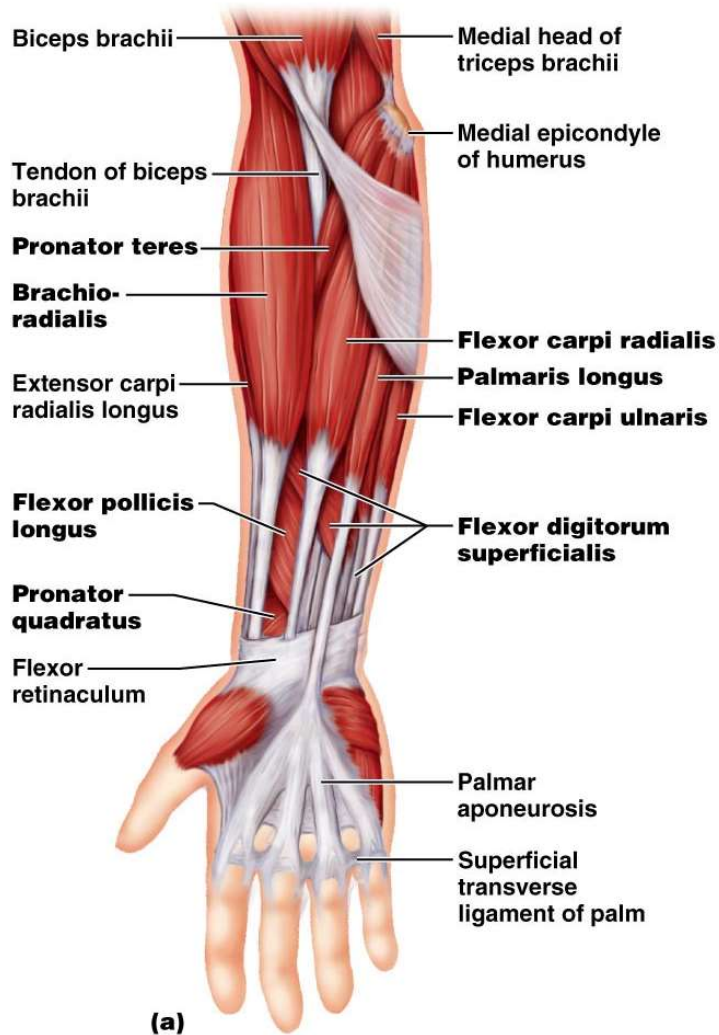


Extensor digitorum

Extends fingers and wrist





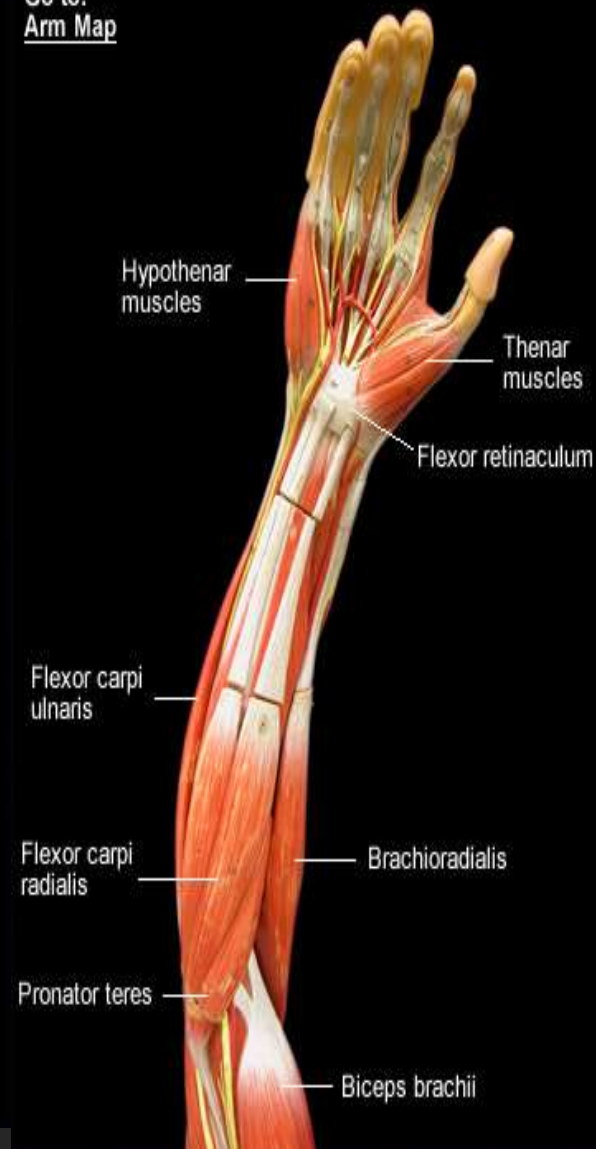


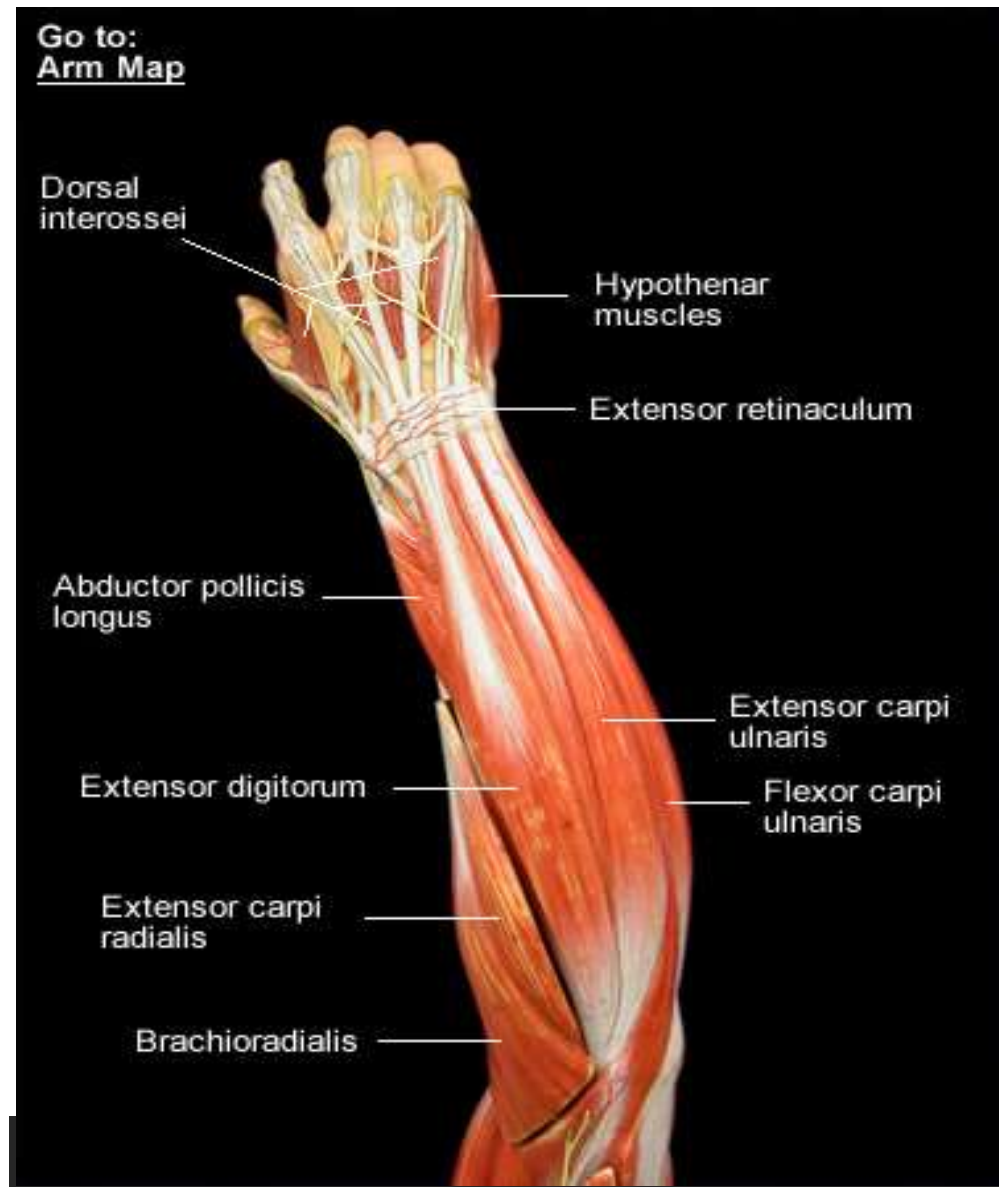
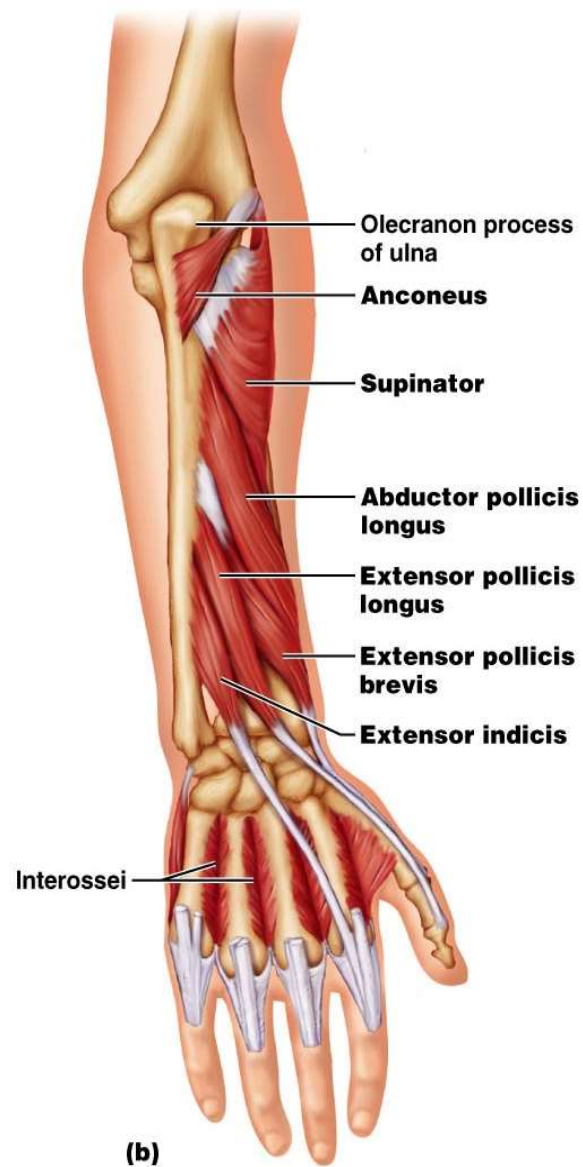
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Arm Map

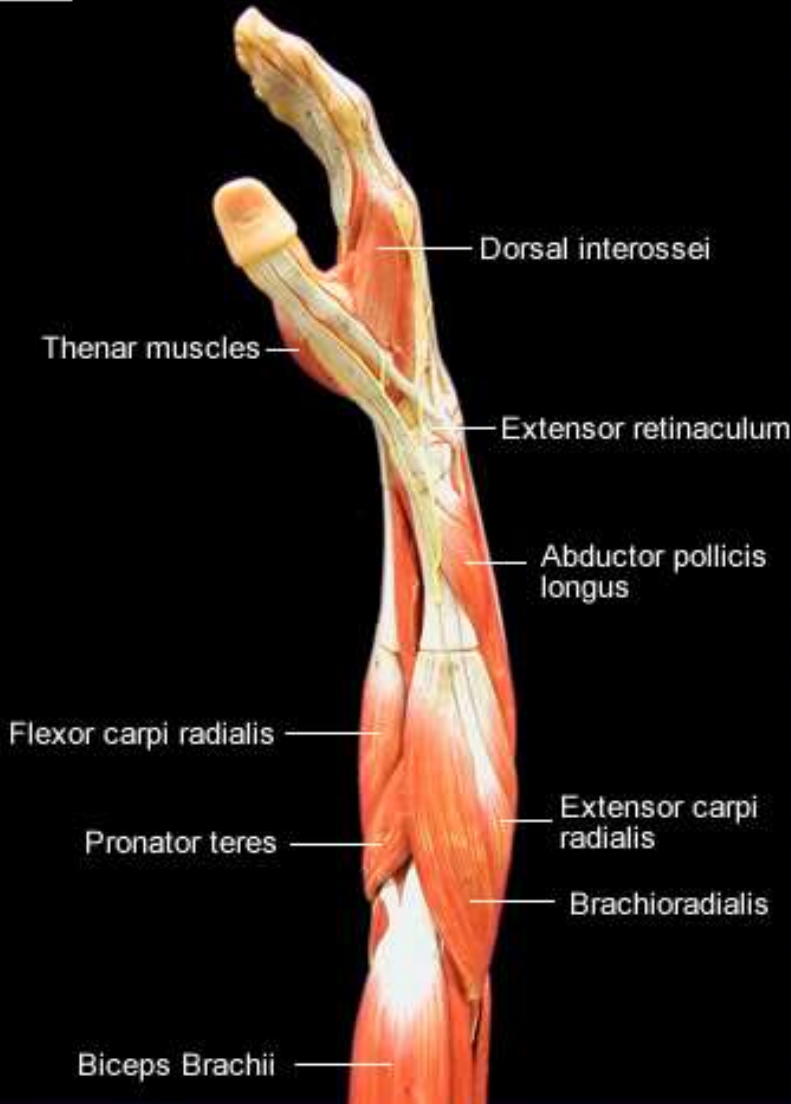


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Arm Map

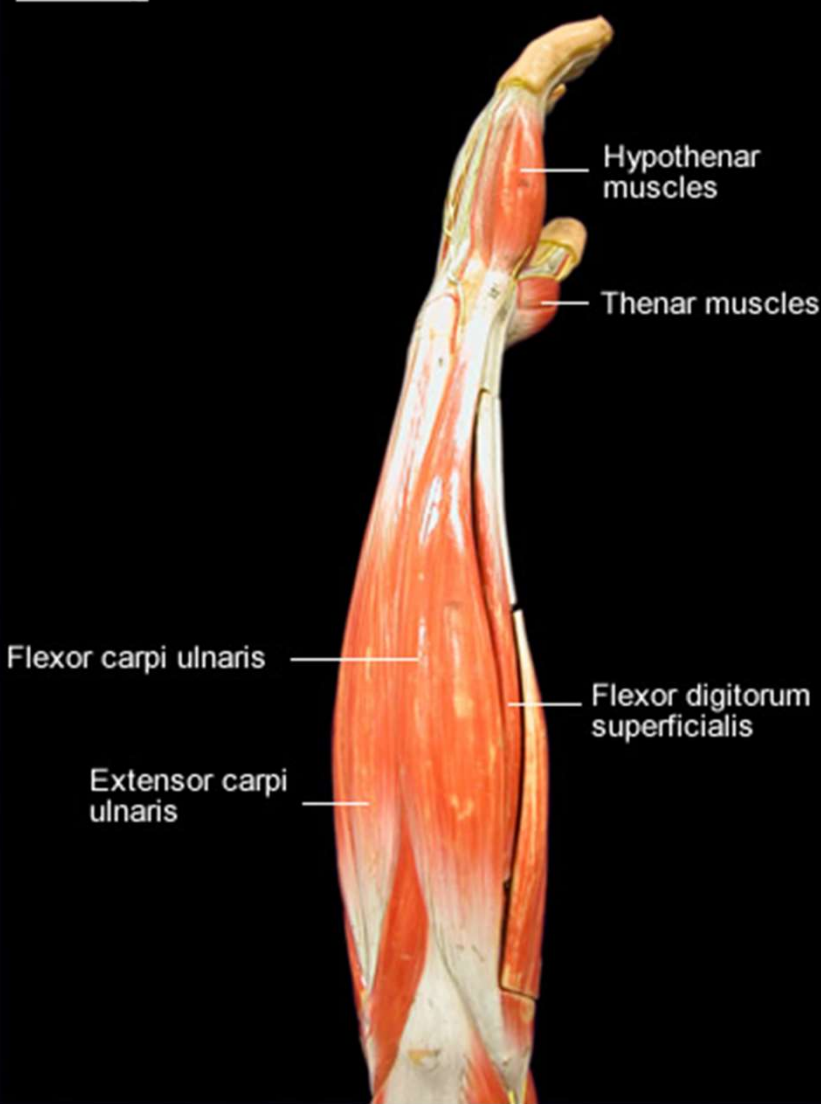


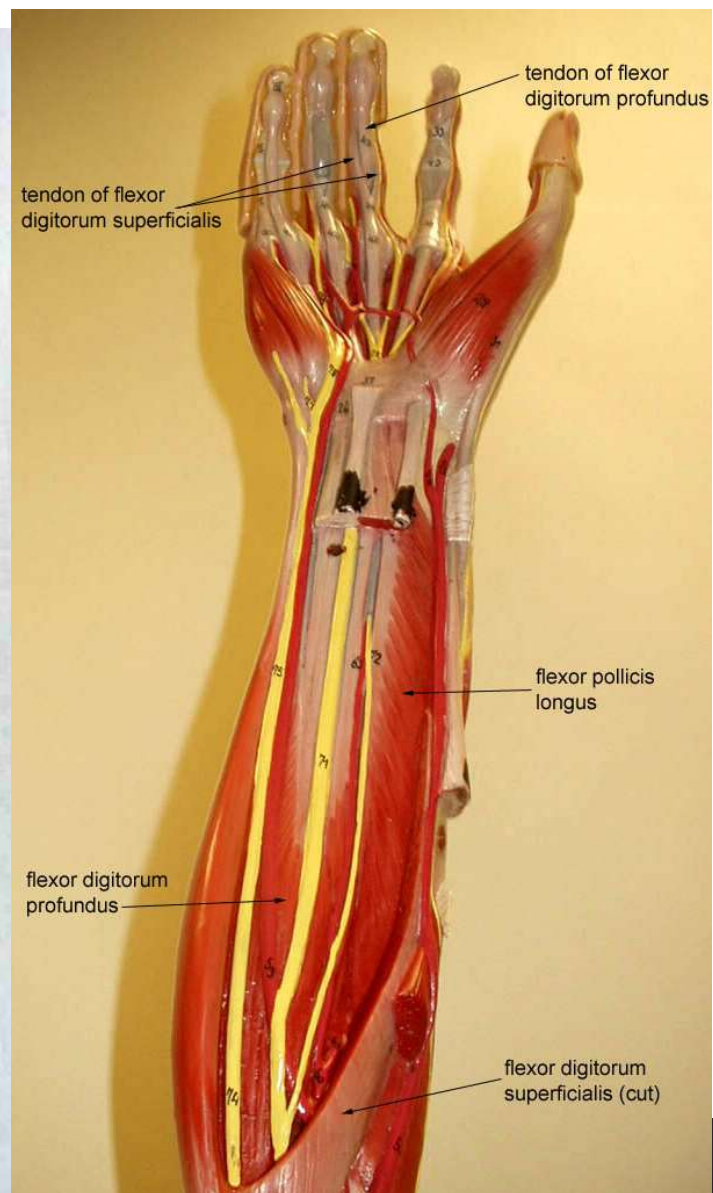
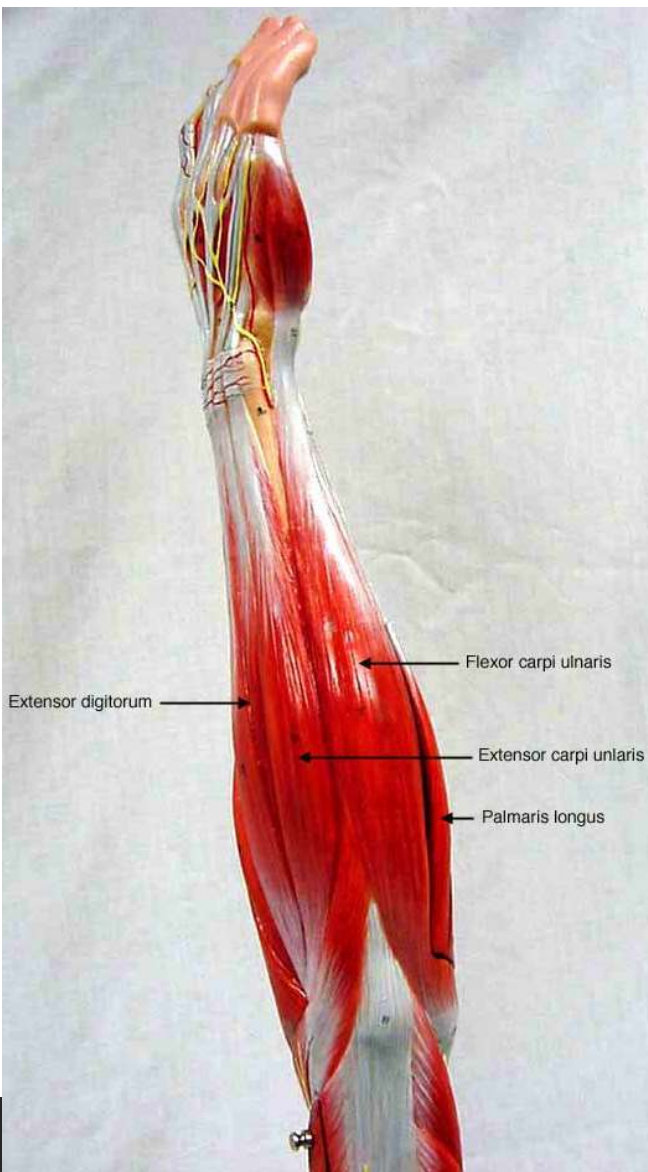


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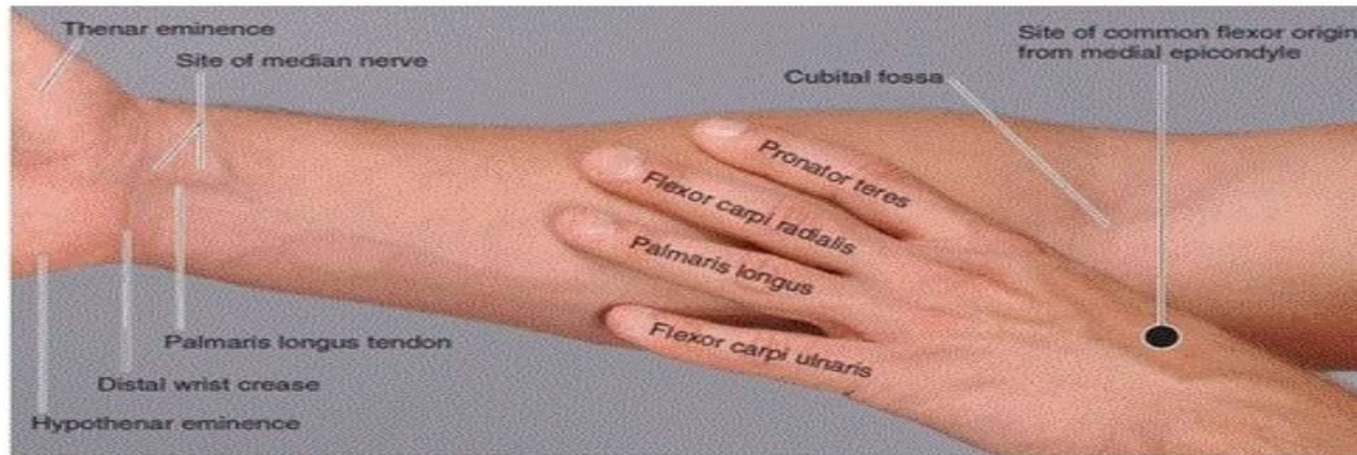


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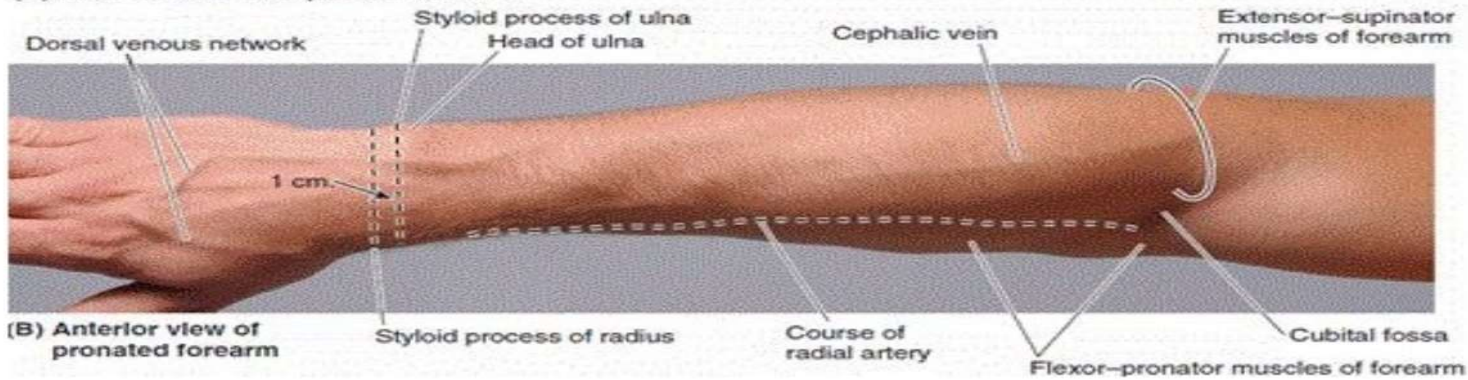




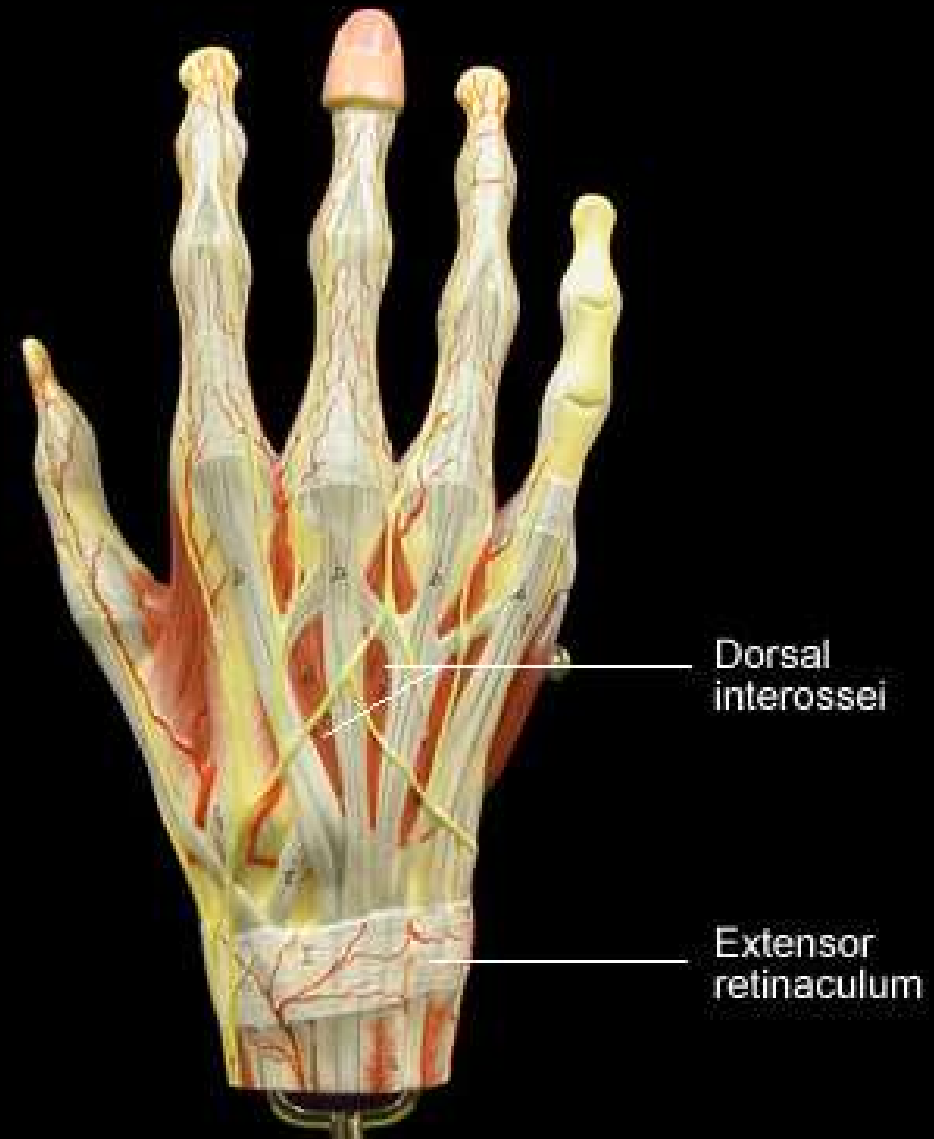
Surface Anatomy of Forearm Muscles



(A) Anterior view of supinated forearm



(B) Anterior view of pronated forearm



<http://www.exrx.net/Articulations/Scapula.html#anchor71475>

