ANATOMY DEPARTMENT

PRACTIAL EXAM
MUSCULOSKELETAL BLOCK

Q1

A 23-year-oldsoldier presents with shrapnel wound in the lateral wall of his chest. Few months later, his physical therapist observed his scapula moves away from the chest.

Which nerve is likely damaged?

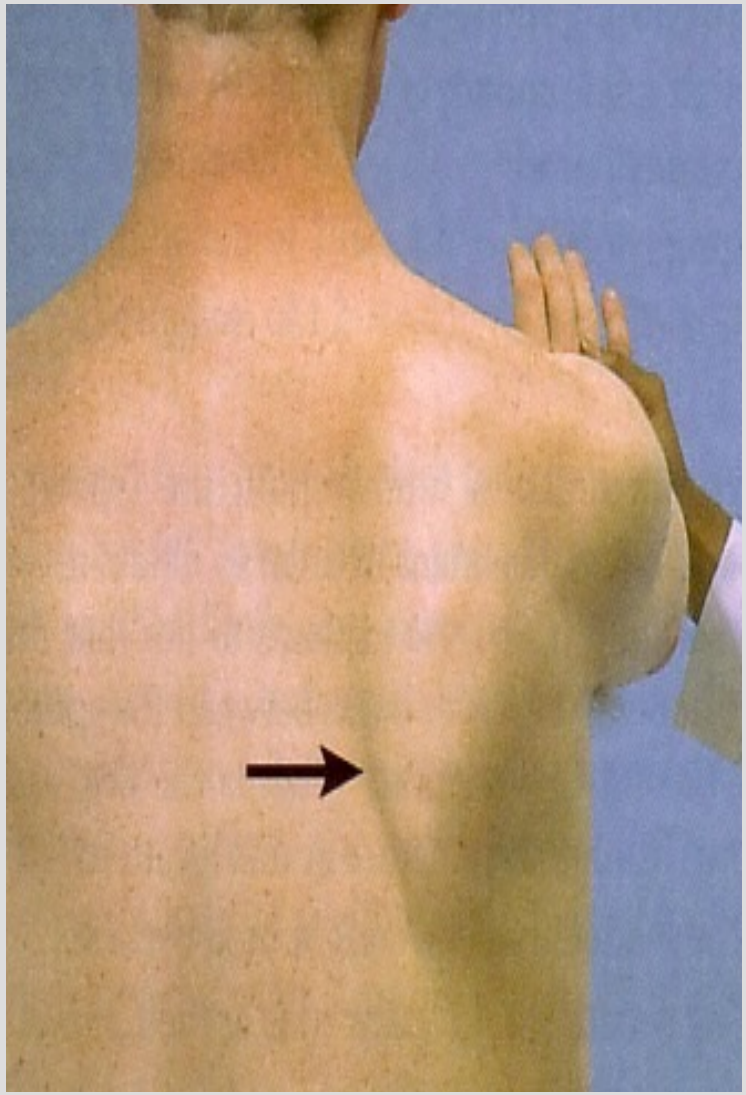
.....

What is the root value of this nerve?

.....

Which muscle is probably affected?

.....



Q1

A 23-year-oldsoldier presents with shrapnel wound in the lateral wall of his chest. Few months later, his physical therapist observed his scapula moves away from the chest.

Which nerve is likely damaged?

Long thoracic nerve or nerve to serratus anterior or nerve of bell.

What is the root value of this nerve?

-C5,C6 and C7 (root of brachial plexus)

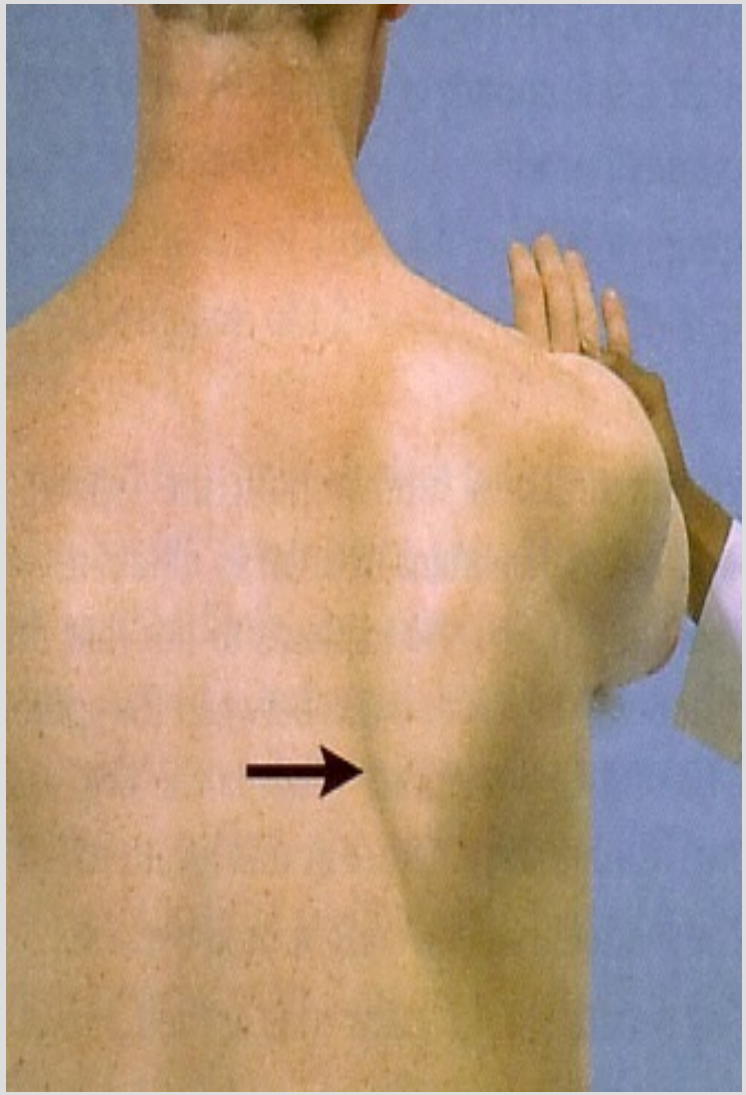
Which muscle is probably affected?

serratus anterior

Action: which called the boxer muscle because it rotate scapula forward, and it rotate scapula outward (when raising the arm above 90 degree)

Origin: Upper eight ribs.

Insertion: Medial border of scapula



Q 2

- A 17-years old student examined by his family physician as he has sever pain in the root of his left thumb, after a basket ball game.
- The physician exacerbates his pain as he applied pressure on the anatomical snuff box as shown in the next photo.
- **Which bones the physician suspect injury?**

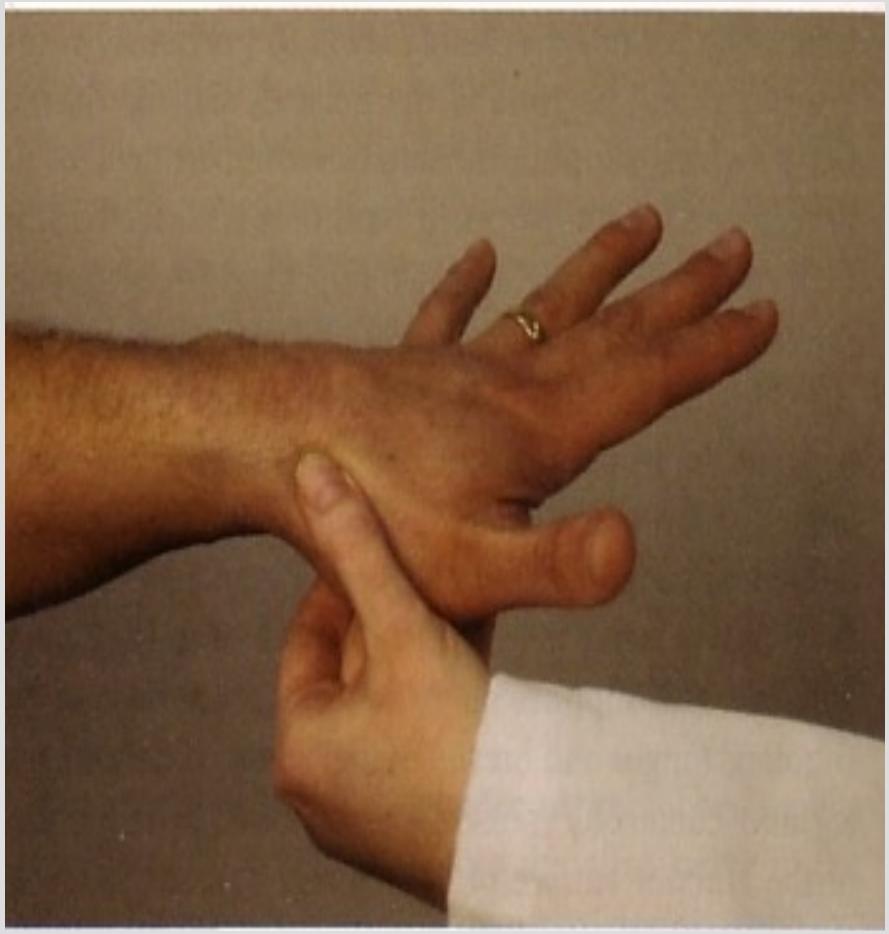
.....

- .....
- **Which artery runs in the floor of this area?**

.....

- **there are two tendons in the snuff box:**

.....



Q 2

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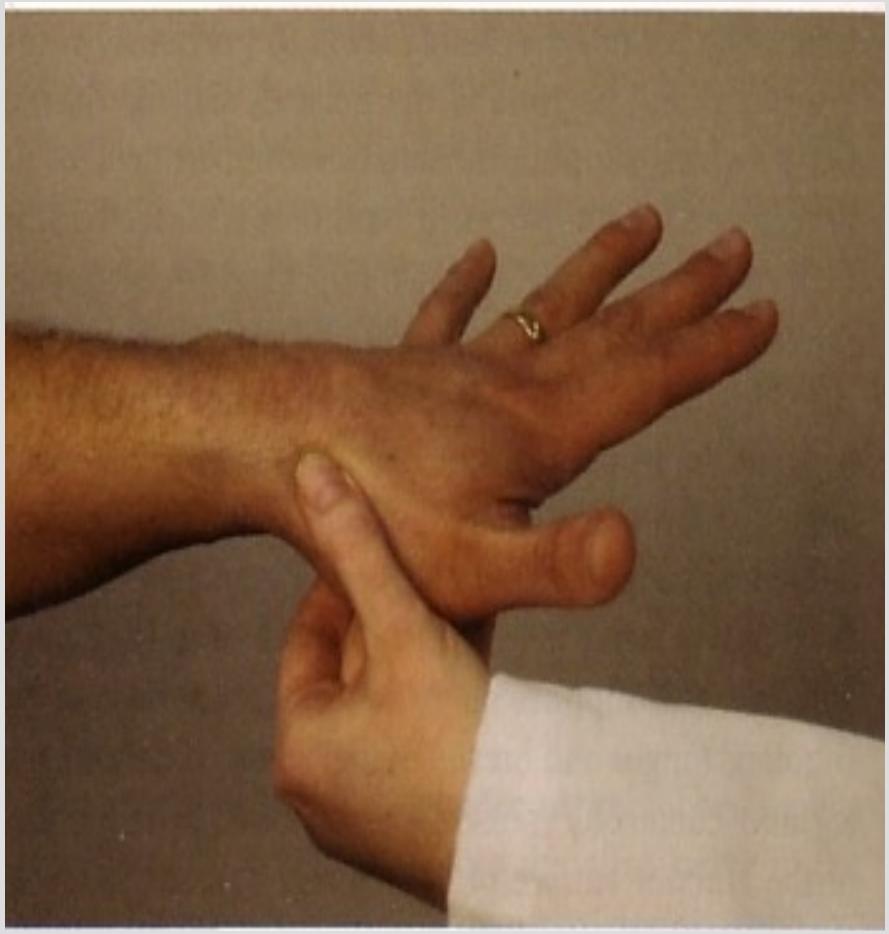
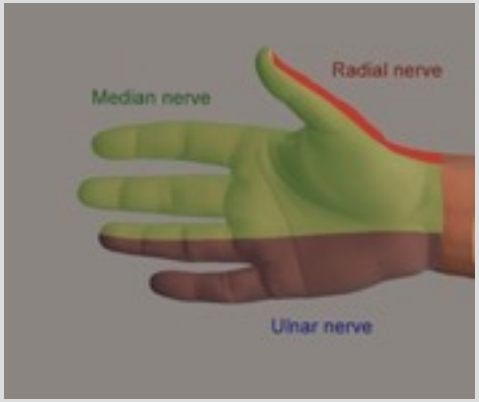
- The physician exacerbates his pain as he applied pressure on the anatomical snuff box as shown in the next photo.
- **Which bones the physician suspect injury?**
- Styloid process of radius. (proximal)
- Scaphoid.(distal)
- **Which artery runs in the floor of this area?**
- Radial artery.
- **there are two tendons in the snuff box:**
- Medial: extensor pollicis longus, Lateral: extensor pollicis brives, abductor pollicis longus.



Q3

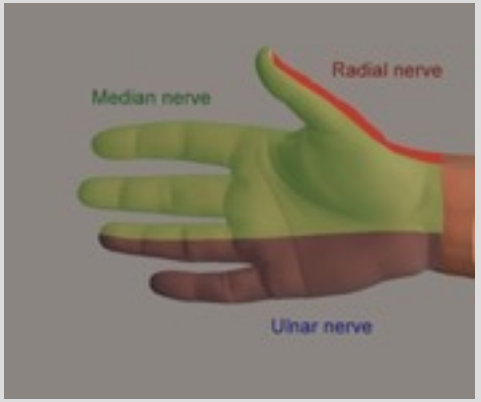
- On evaluation of the hand function the physician holds 3 fingers in extended position and asked the patient to flex the proximal interphalangeal joint of the middle finger.
- **Which muscle is the doctor testing?**
- .....
- .
- **Which nerve is supplying this muscle?**

» .....



Q3

- On evaluation of the hand function the physician holds 3 fingers in extended position and asked the patient to flex the proximal interphalangeal joint of the middle finger.
- **Which muscle is the doctor testing?**
- Flexor digitorum superficialis.
- **Which nerve is supplying this muscle?**
- Median nerve.(c5,6,7,8 ,T1)
- All the Flexor muscle are supplied by Median nerve , Except: Flexor carpi ulnaris and medial 1 and 1/2 of flexor digitorum profundus



Q 4

- A 33-year-old male had a fracture of his left humerus at the level of the spiral groove. 2 months later he cannot extends his left wrist or the left fingers.

- **Which nerve is most likely injured?**
  (5 marks).

» .....

- **Describe the area of cutaneous loss?**

» .....

Q 4

- A 33-year-old male had a fracture of his left humerus at the level of the spiral groove. 2 months later he cannot extends his left wrist or the left fingers.

- **Which nerve is most likely injured?**

  (5 marks).
- Radial nerve (posterior cord)
- **Describe the area of cutaneous loss?**
- Lateral 2/3 of dorsal aspect of the hand and lateral 3 and 1/2 fingers up to the middle phalanges.

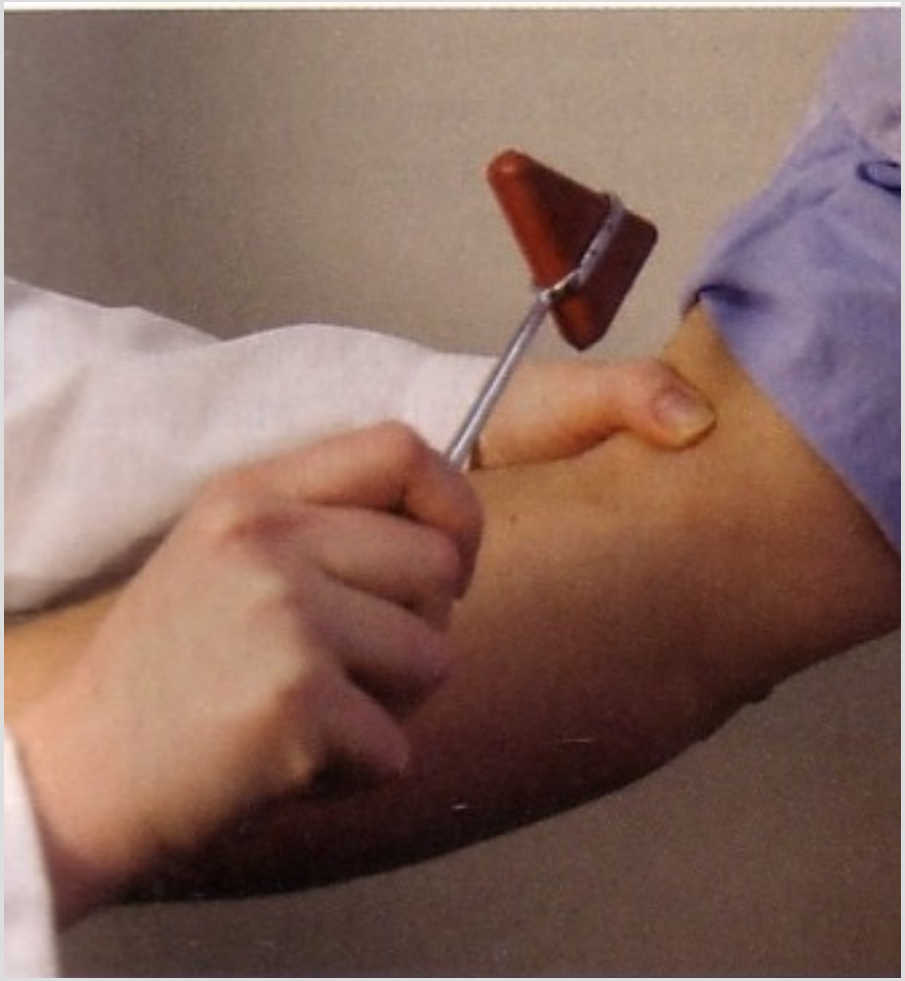
Q 5

- **A physician performs a tendon reflex.**
- **Which tendon reflex he is testing?**

» .....

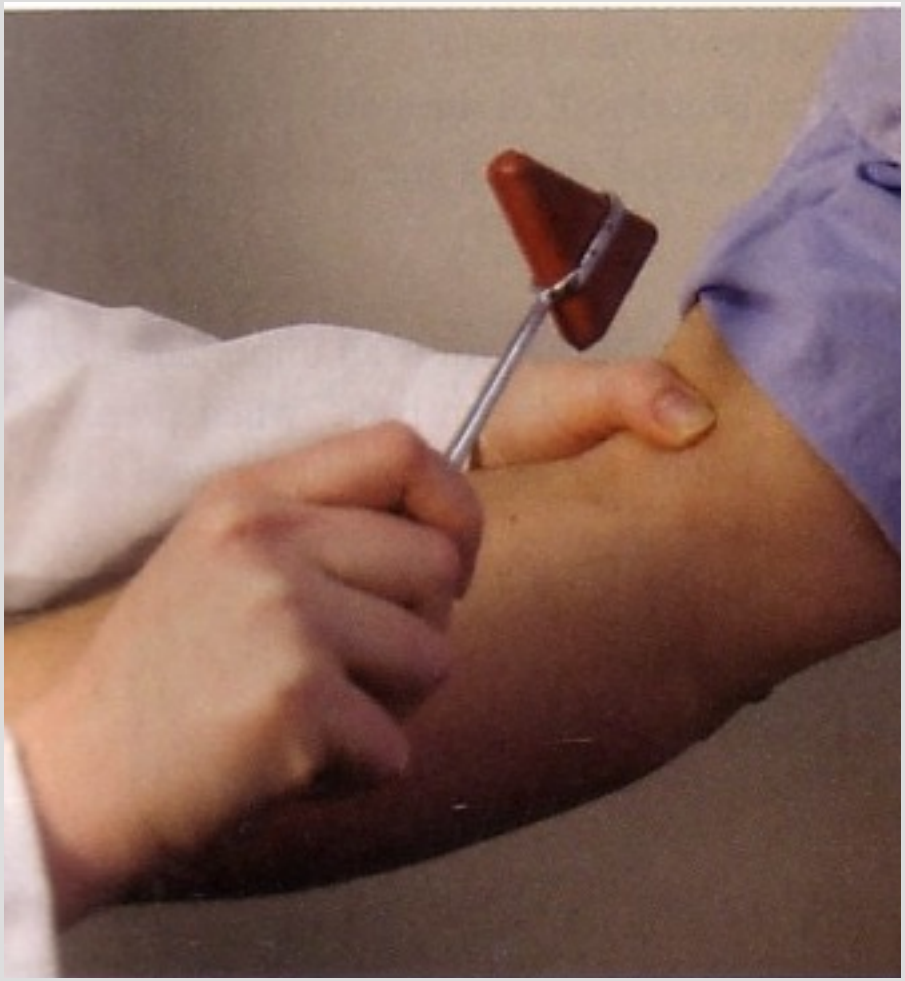
- **What is the nerve supply of the tested muscle?**
- .....
- **Which cord gives this nerve?**

» .....



Q 5

- **A physician performs a tendon reflex.**
- **Which tendon reflex he is testing?**
- Biceps reflex.
- **What is the nerve supply of the tested muscle?**
- Musculocutaneous nerve.
- **Which cord gives this nerve?**
- Lateral cord. (C5, C6 and C7)



Q 6

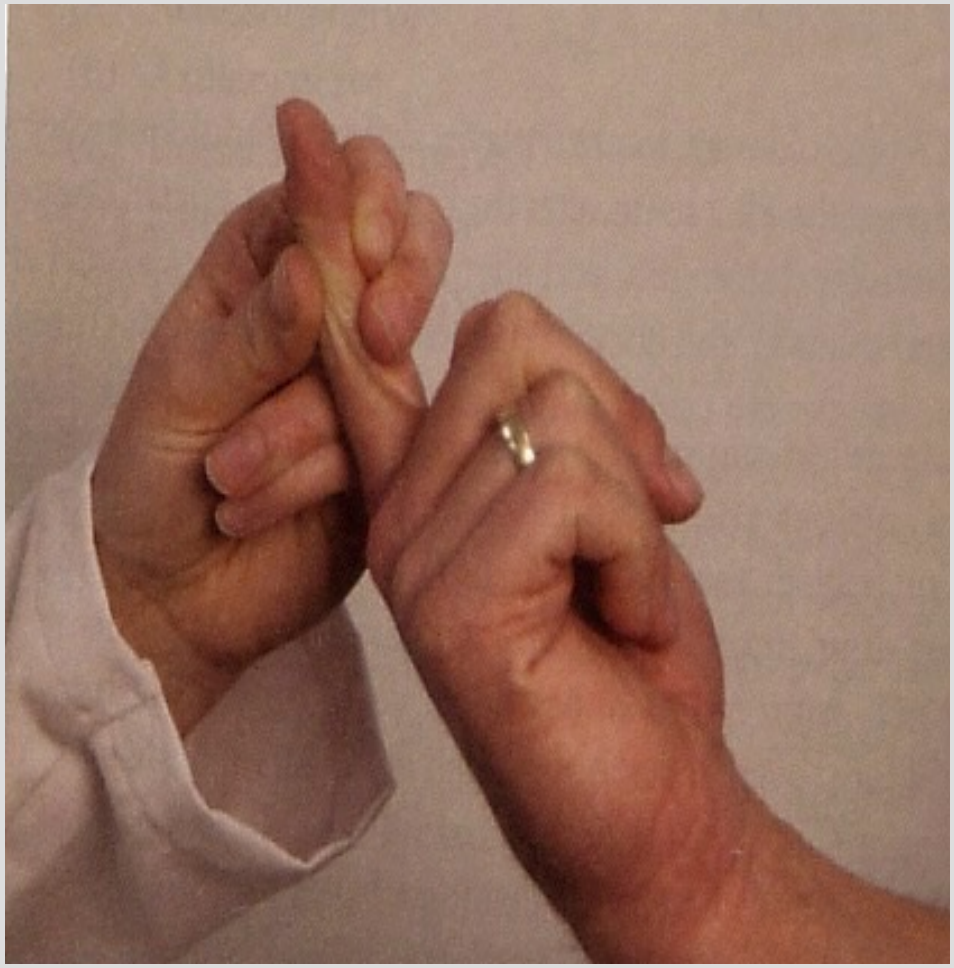
On evaluation of the hand function, the physician asked the patient to flex the terminal phalanx of the right index finger.

Which muscle the physician is testing?

.....

What is the nerve supply he is testing?

.....



Q 6

On evaluation of the hand function, the physician asked the patient to flex the terminal phalanx of the right index finger.

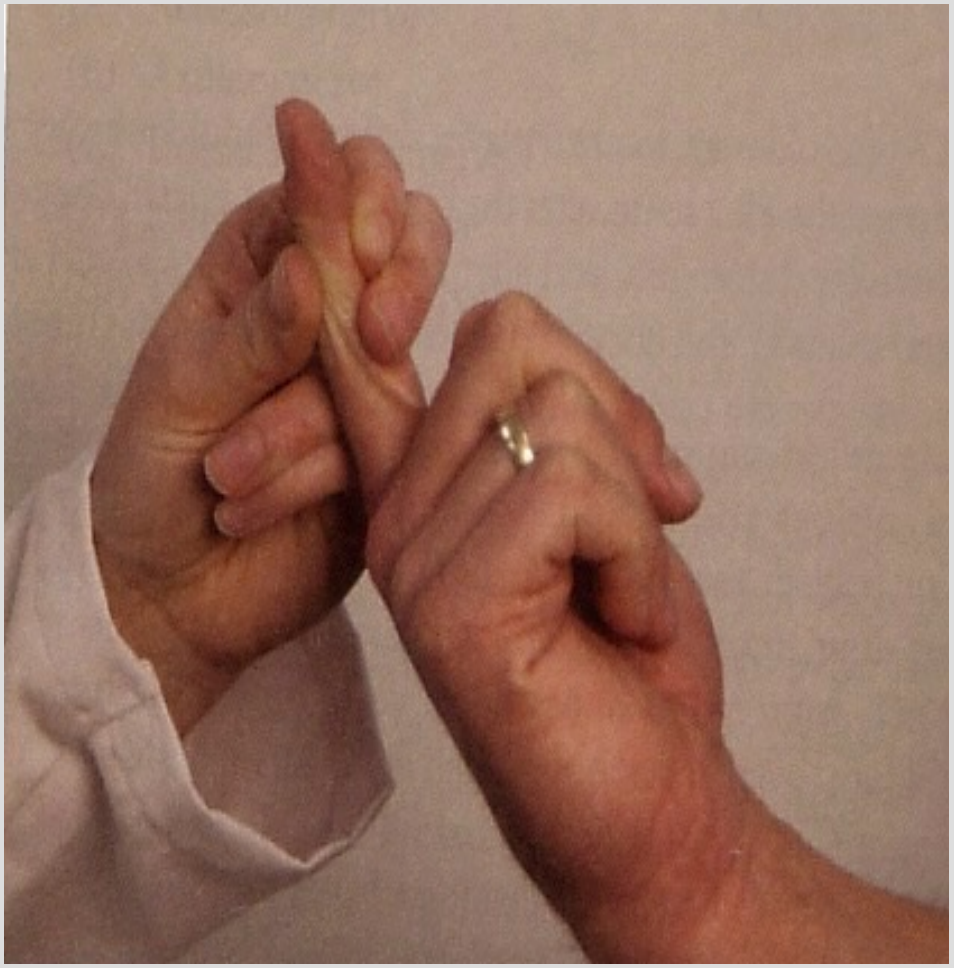
Which muscle the physician is testing?

Flexor digitorum profundus.

What is the nerve supply he is testing?

Median nerve.

FDP inserted into the base of the distal medial four fingers -> the medial one and half finger is supplied by Ulnar nerve , the rest by median nerve



Station "1"

- **Identify each of the following muscles and its nerve supply:**

1-……

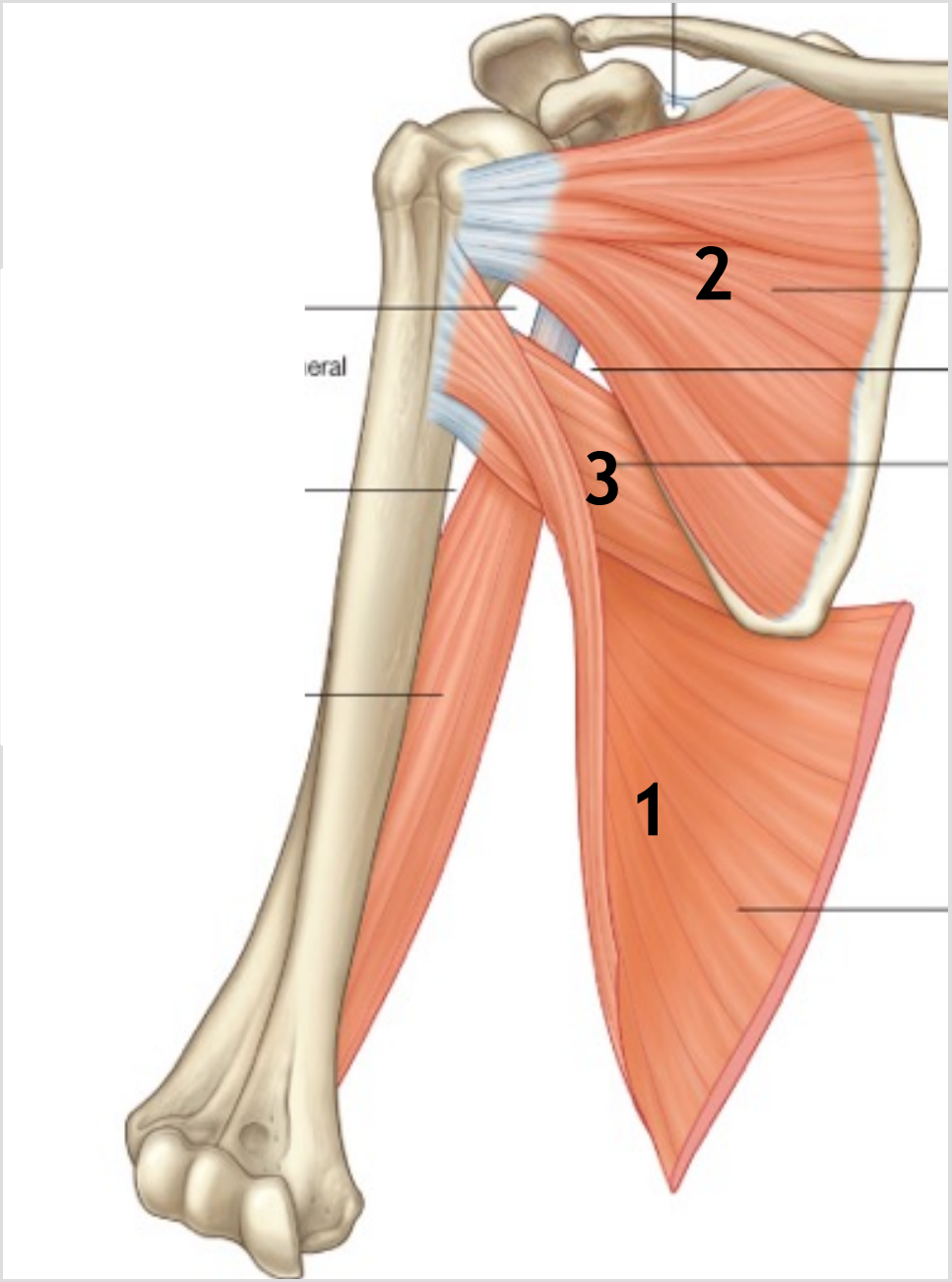
» **Its nerve: ……**

2- Subscapularis.

Its nerve: ……..

2- ……

Its nerve: ……



Station "1"

- **Identify each of the following muscles and its nerve supply:**

1-latissimus dorsi.

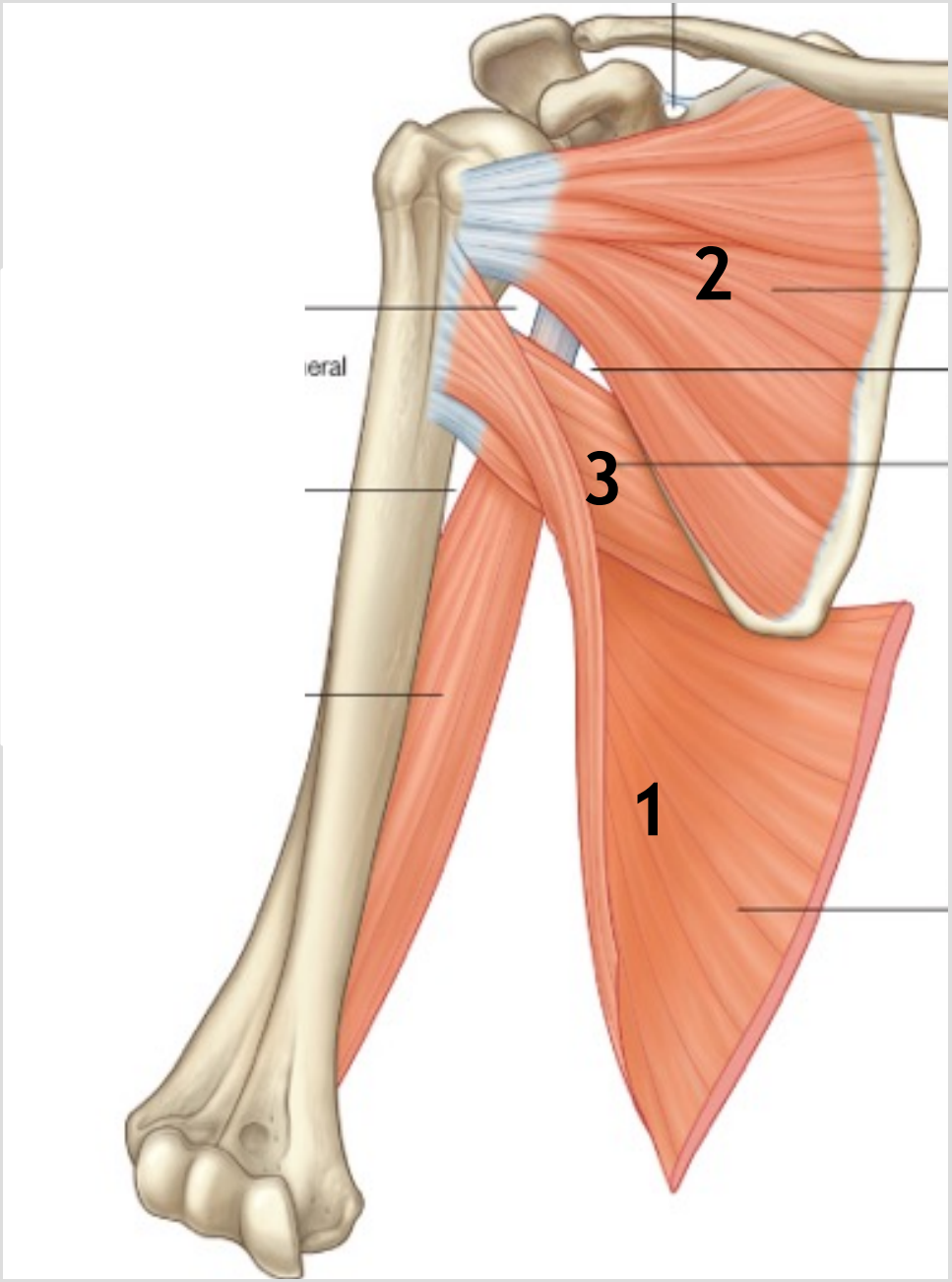
Its nerve: Thoracodorsal nerve or nerve to latissimus dorsi.

2- Subscapularis.

Its nerve: upper and lower subscapular nerves.

2- teres major.

Its nerve: lower subscapular.



- On evaluation of the peripheral circulation of diabetic patient, the physician put his fingers as shown in the next photo.
- **Which artery he is trying to feel?**

» .....

- **Which tendons descends on both sides of the artery in this area?**

» .....
.....

- On evaluation of the peripheral circulation of diabetic patient, the physician put his fingers as shown in the next photo.
- **Which artery he is trying to feel?**
- Dorsalis pedis artery
- (main blood supply for the toes)
- **Which tendons descends on both sides of the artery in this area?**
- Extensor hallucis longus. (medial)
- Extensor digitorum longus. (lateral)

- On evaluation of the foot function, the physician asked the patient to raise his heel from the ground as shown in the next photo.
- **Enumerate 2 muscles perform this action?**

» .....

» .....

» .....

» .....

» .....

- **What is the nerve supply of each?**

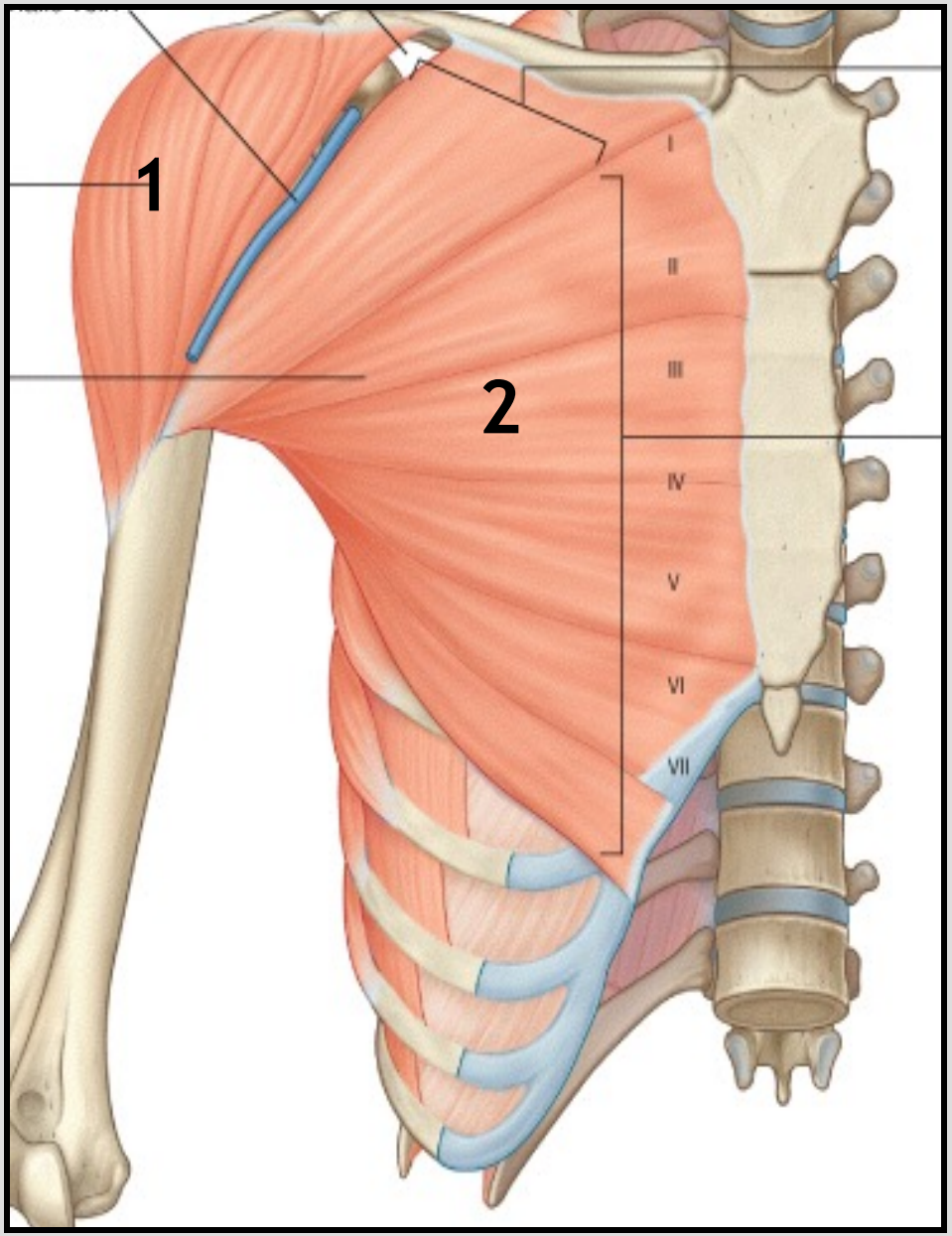
» .....

- On evaluation of the foot function, the physician asked the patient to raise his heel from the ground as shown in the next photo.
- **Enumerate 2 muscles perform this action?**
- 1-Gastrocnemus .
- 2-Soleus.
- 3-Plantaris.
- 4-tibialis posterior.
- 5-flexor digiturm longus.
- **What is the nerve supply of each?**
- Tibial nerve.(for gastrocnemus and Soleus)

Station "2"

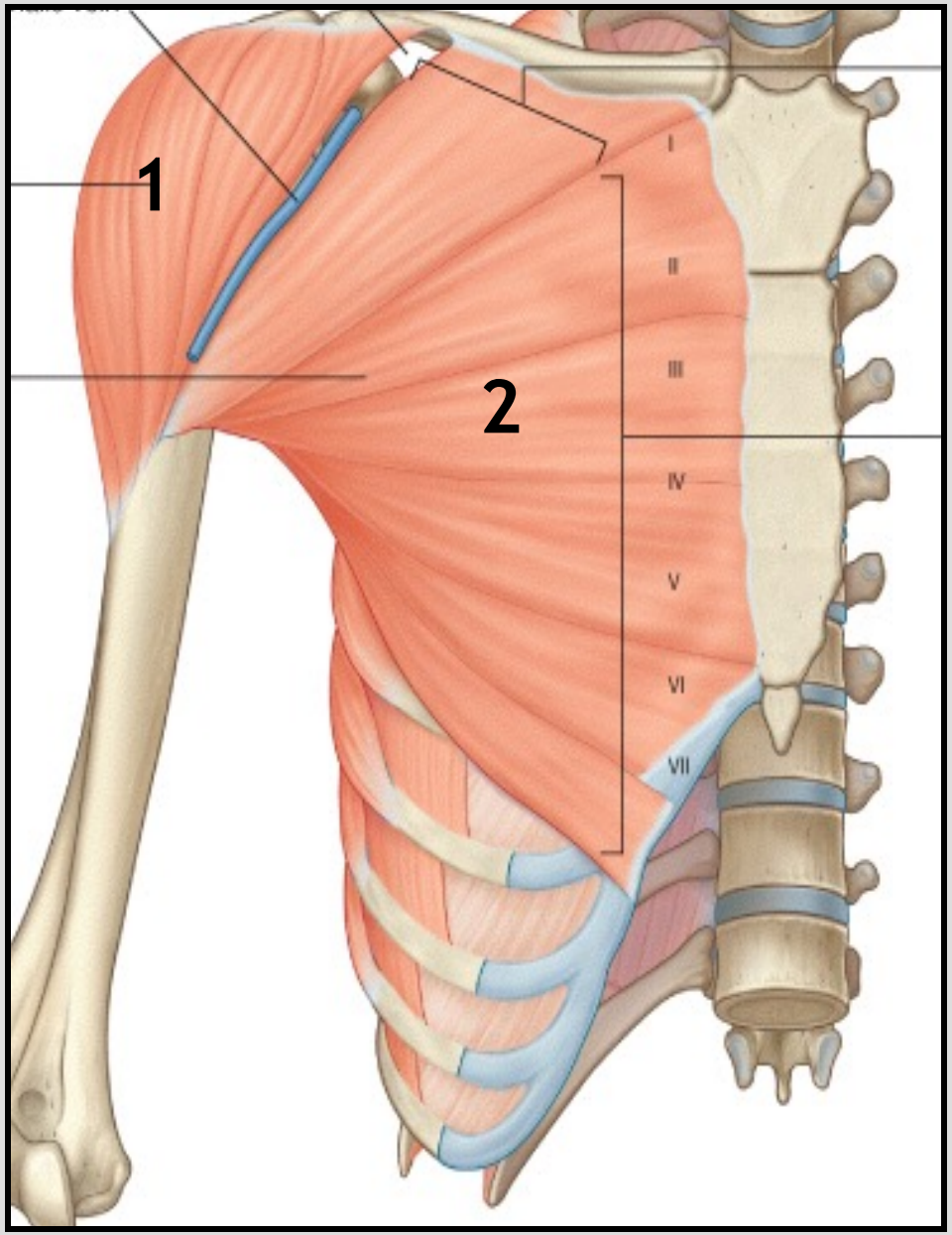
- **Identify each of the following muscles and its nerve supply:**
- **1-……..**
- **Its nerve:-……..**
- 2-……..
- **Its nerve:-**

  ……..



Station "2"

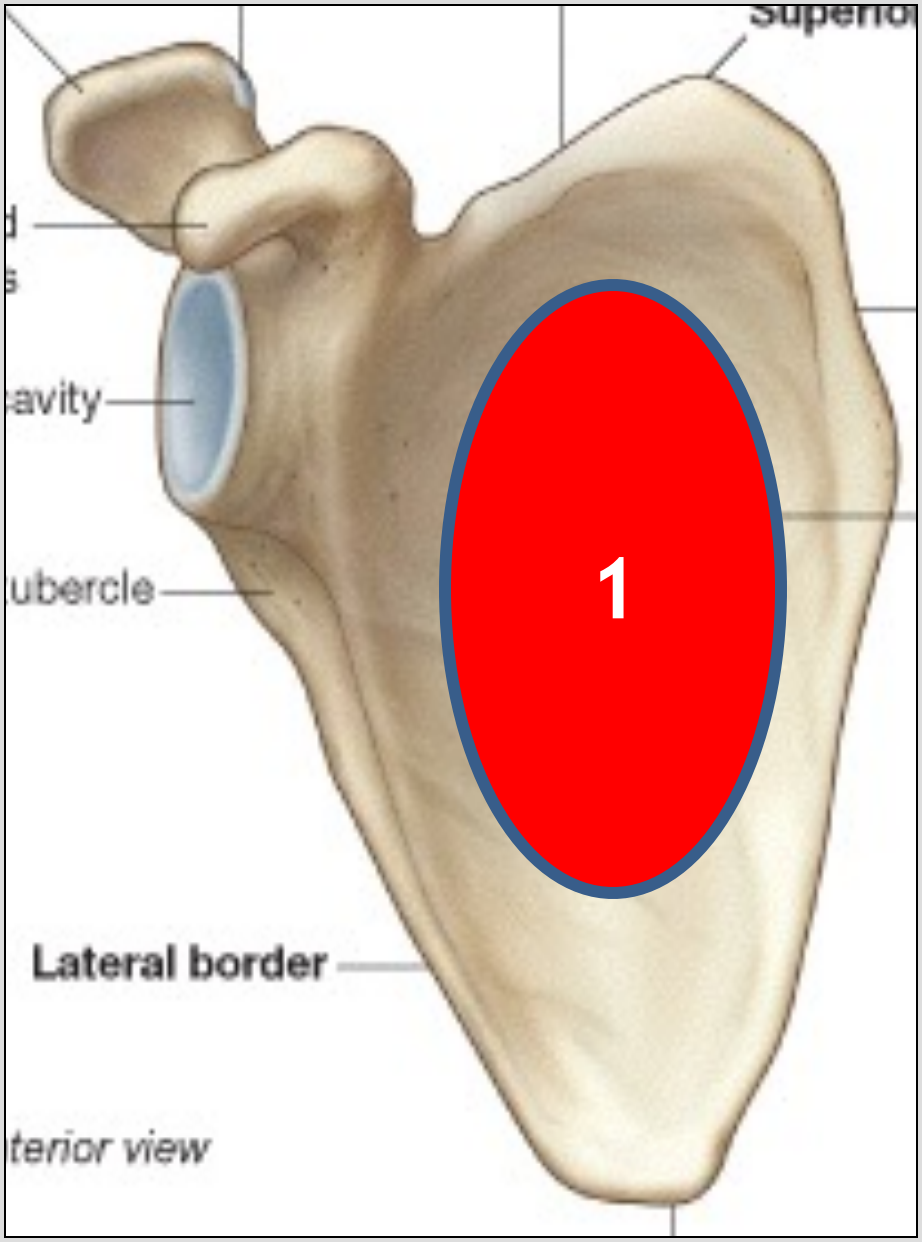
- Identify each of the following muscles and its nerve supply:
- **1-Deltoid.**
- **Its nerve:**-Axillary. (it also supplies teres minor)
- **2-Pectoralis major.**
- **Its nerve:**-Lateral and medial pectoral nerves.



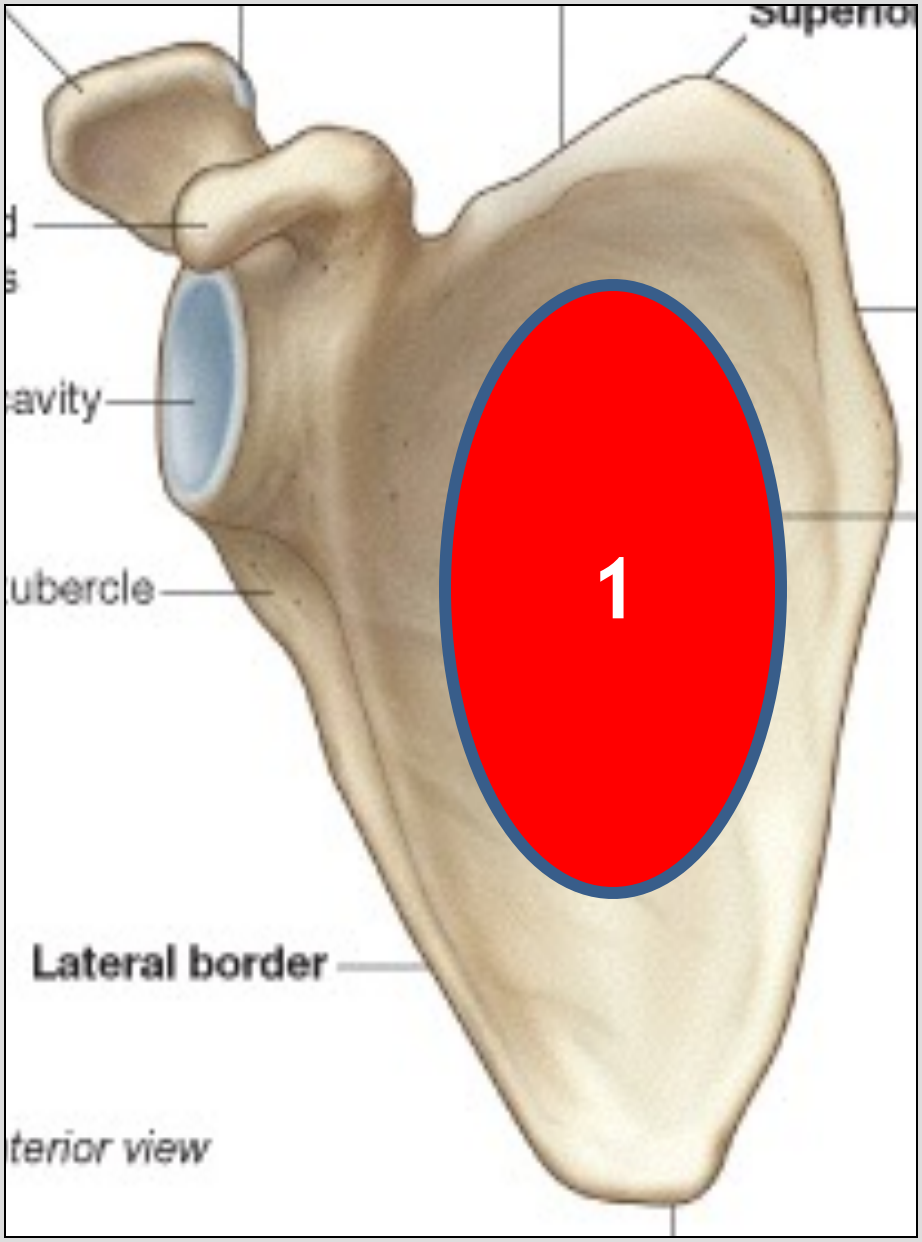
- On evaluation of the knee function, the physician asked the patient to flex the knee against resistance as shown in the next photo.
- **Which group of muscles produces this function?**
- ……
- **What is the nerve supply of this group?**
- ……
  ……

- On evaluation of the knee function, the physician asked the patient to flex the knee against resistance as shown in the next photo.
- **Which group of muscles produces this function?**
- -Hamstring muscles.
- **What is the nerve supply of this group?**
- Sciatic nerve (tibial branch)
- except the short head of biceps: Common pernoeal nerve

- Identify the muscle attached to the marked area “1”
- ……..
- What is its nerve supply?
- ……..
- Where it is inserted?
- ……
  ……



- **Identify the muscle attached to the marked area "1"**
- **1**-Subscapularis
- **What is its nerve supply?**
- Upper and lower subscapular nerves.
- **Where it is inserted?**
- **Lesser tuberosity of humerus.**
- **Action: Medial rotation.**

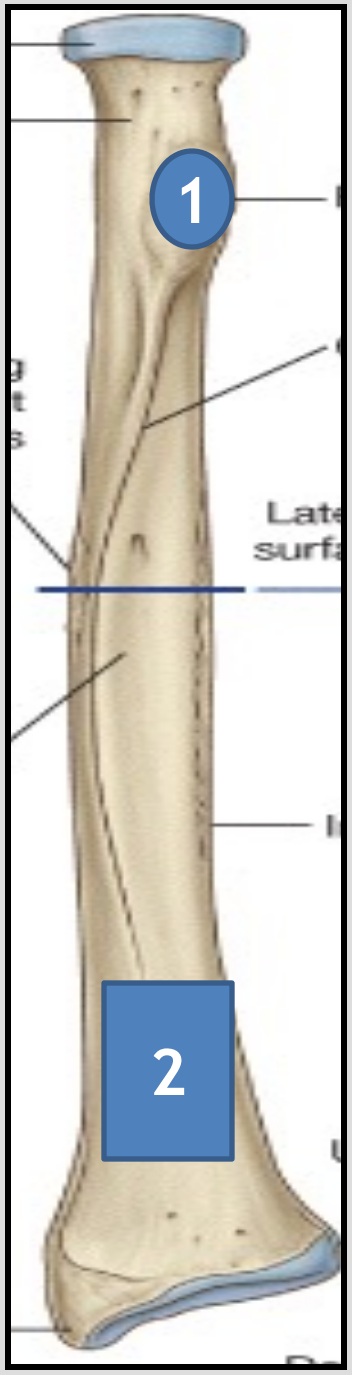


- A 67 –year- old man recently underwent a coronary bypass operation, after he recovered he experienced burning sensation in the marked area in the next photo.
- **Which nerve supply this area?**
- ……
- **From which nerve this nerve originates?**
- ……
- **Which vein is used in the bypass operation?**
- ……

- A 67 –year- old man recently underwent a coronary bypass operation, after he recovered he experienced burning sensation in the marked area in the next photo.
- **Which nerve supply this area?**
- Saphenous nerve.
- **From which nerve this nerve originates?**
- Femoral nerve.
- **Which vein is used in the bypass operation?**
- Great saphenous vein (long saphenous vein)

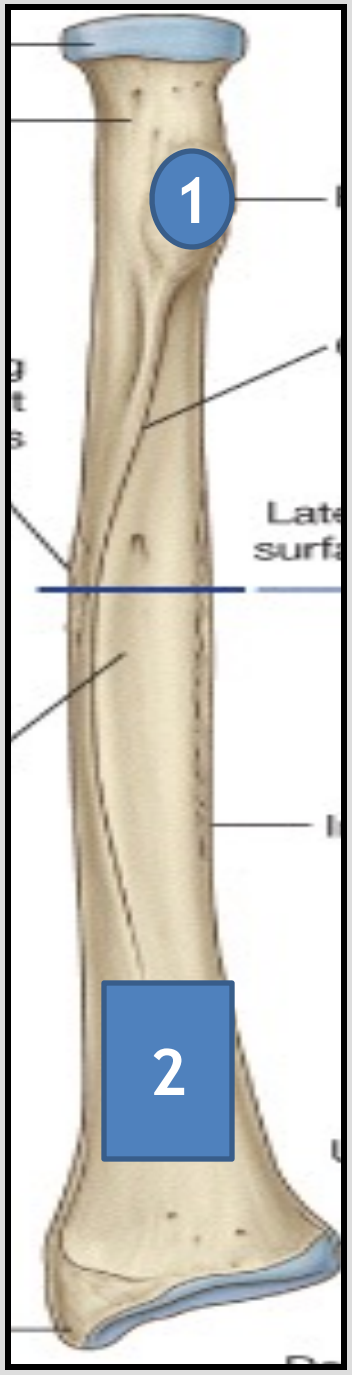
Station "4"

- **Identify the muscles attached to the marked area and what is its nerve supply:**
- **1-……..**
- **Its nerve:-……**
- **2-……..**
- **Its nerve: ……..**



Station "4"

- **Identify the muscles attached to the marked area and what is its nerve supply:**
- **1-Biceps brachii.**
- **Its nerve:**-Musculocutanous nerve.
- **2—Pronator quadratus.**
- **Its nerve:** anterior interosseus nerve from Median nerve.



- A 75-year- old man recently has coronary bypass. After recovery he noticed numbness and paraesthesia in the marked area in the given photo.
- **Which vein is used in the bypass operation?**
- ……
- **Which nerve supply the skin in the marked area?**
- ……

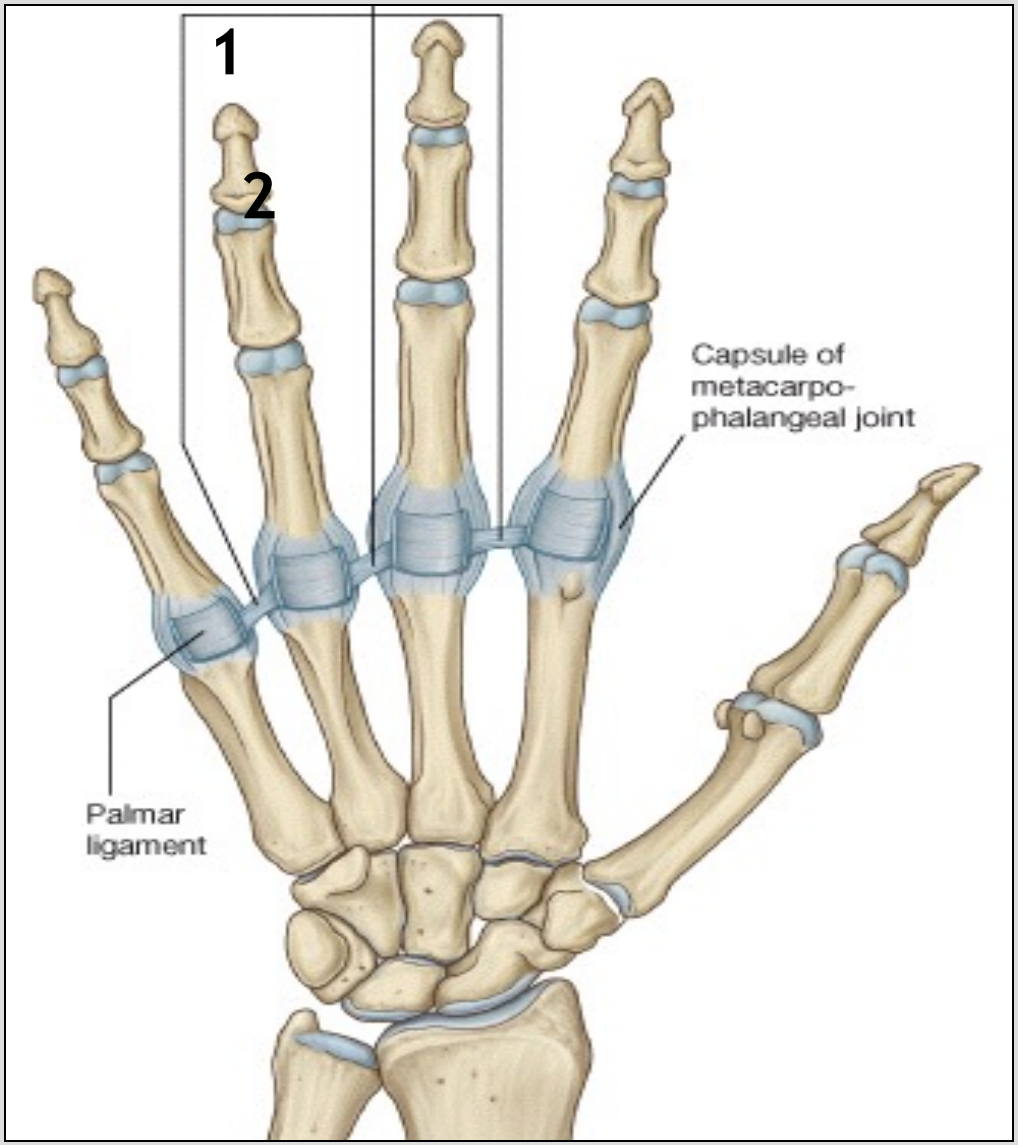
- A 75-year- old man recently has coronary bypass. After recovery he noticed numbness and paraesthesia in the marked area in the given photo.
- **Which vein is used in the bypass operation?**
- Small saphenous vein.
- **Which nerve supply the skin in the marked area?**
- Sural nerve. (from the tibial nerve)

Station "5"

- **Identify the muscles attached to the marked areas"1 & 2"And its nerve supply**
- **1- ……..**

Its nerve:- ……

- **2-……..**
- **Its nerve: ……..**



Station "5"

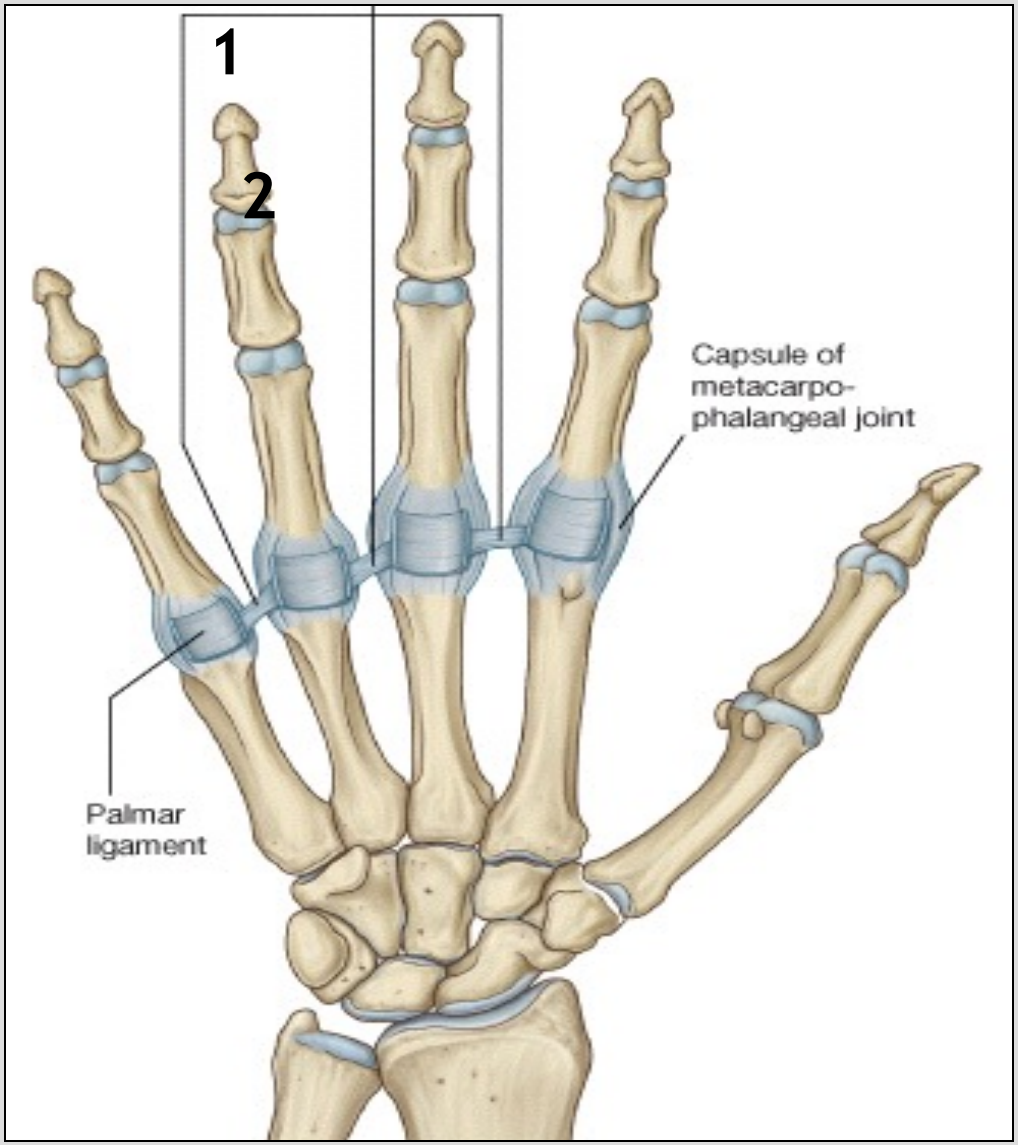
- **Identify the muscles attached to the marked areas"1 & 2"And its nerve supply**
- **1- Flexor digitorum profundus.**

Its nerve:- Medial 2 fingers Ulnar nerve.

Lateral 2 fingers median nerve.

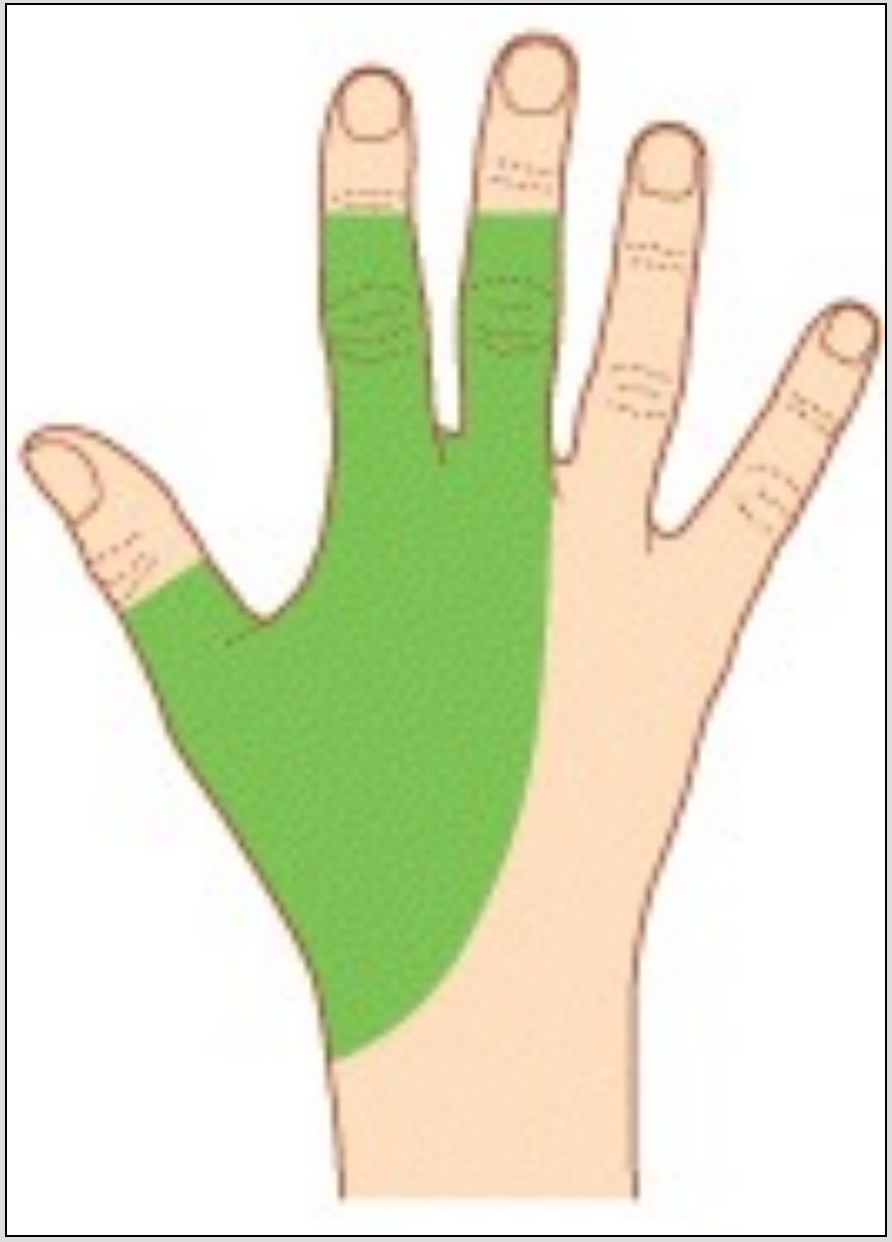
- **2-Flexor digitorum superficialis.**

Its nerve: Median nerve.



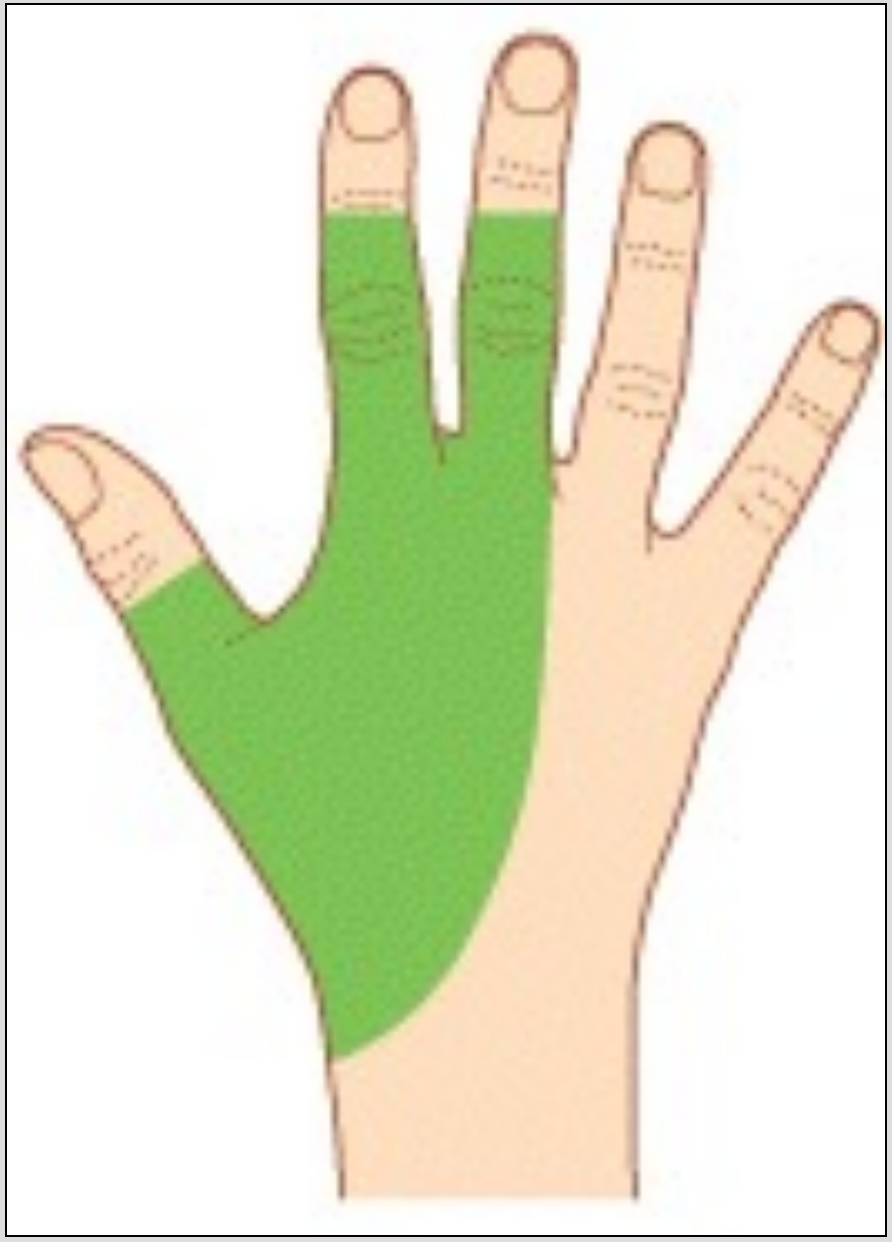
Station “6”

- 1-What is the nerve supply of the green area.
- ……
  ……



Station “6”

- 1-What is the nerve supply of the green area.
- 1-Radial nerve.
- Root value: (c5,6,7,8,T1)



Station "7"

1- Identify the muscle attached to red area.

.....

.....

2-Where it is inserted?

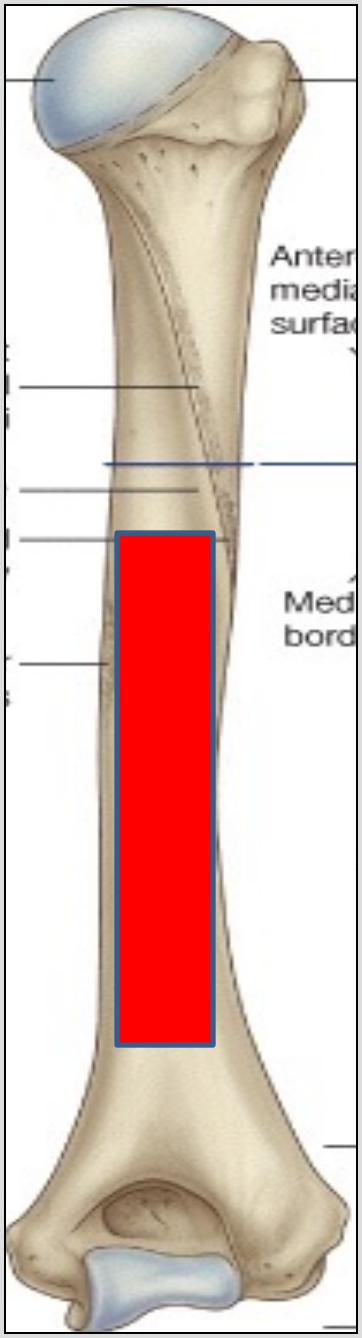
.....

3- What is its nerve supply?

.....

4- Its main action:

.....



Station "7"

1- Identify the muscle attached to red area.

1- Medial head of triceps.

Lateral head: above the spiral groove.

Long head: from infraglenoid tubercle.

Brachialis: corresponding to the media head from the anterior aspect, it's inserted in the coronoid process of the ulna.

2-Where it is inserted?

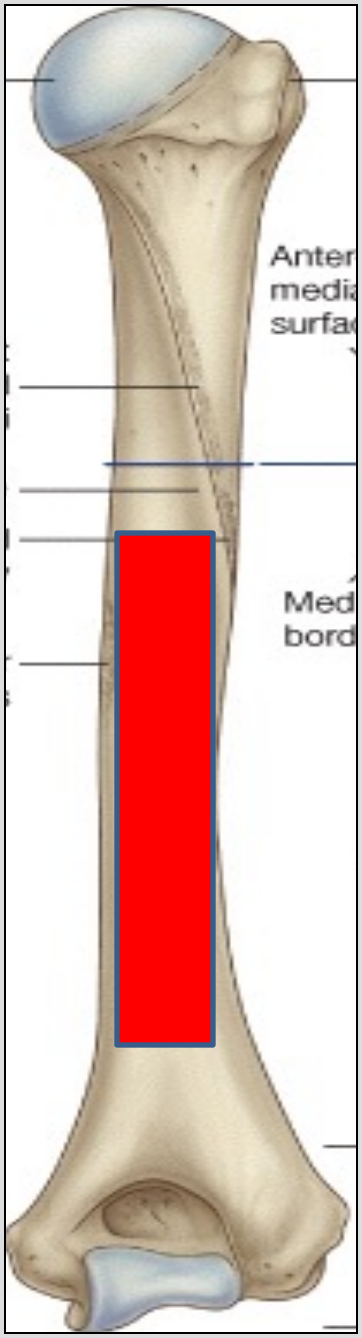
2-Olecranon process.

3- What is its nerve supply?

Radial nerve.

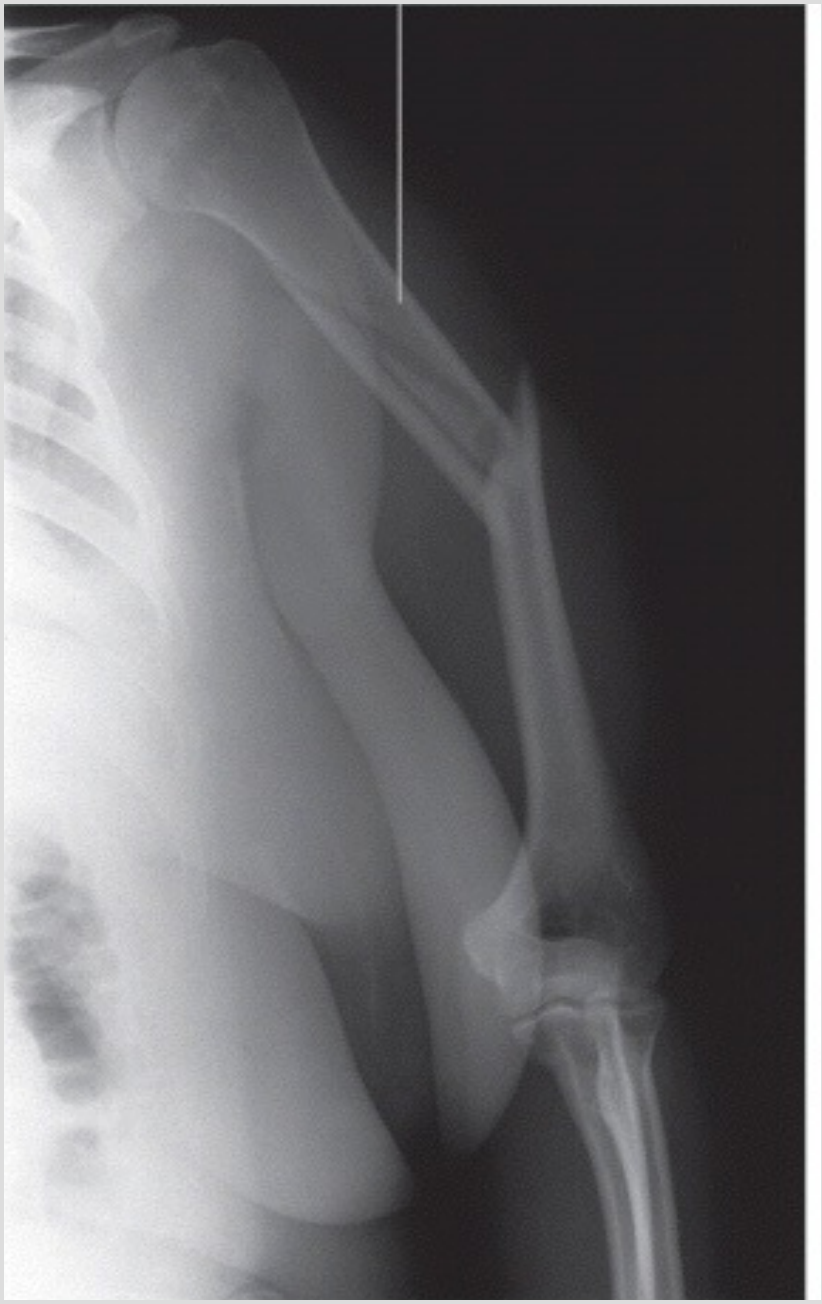
4- Its main action:

Extension of the forearm or elbow.



Station “8”

- **What is the nerve in danger in case of this fracture?**
- ……
  ……

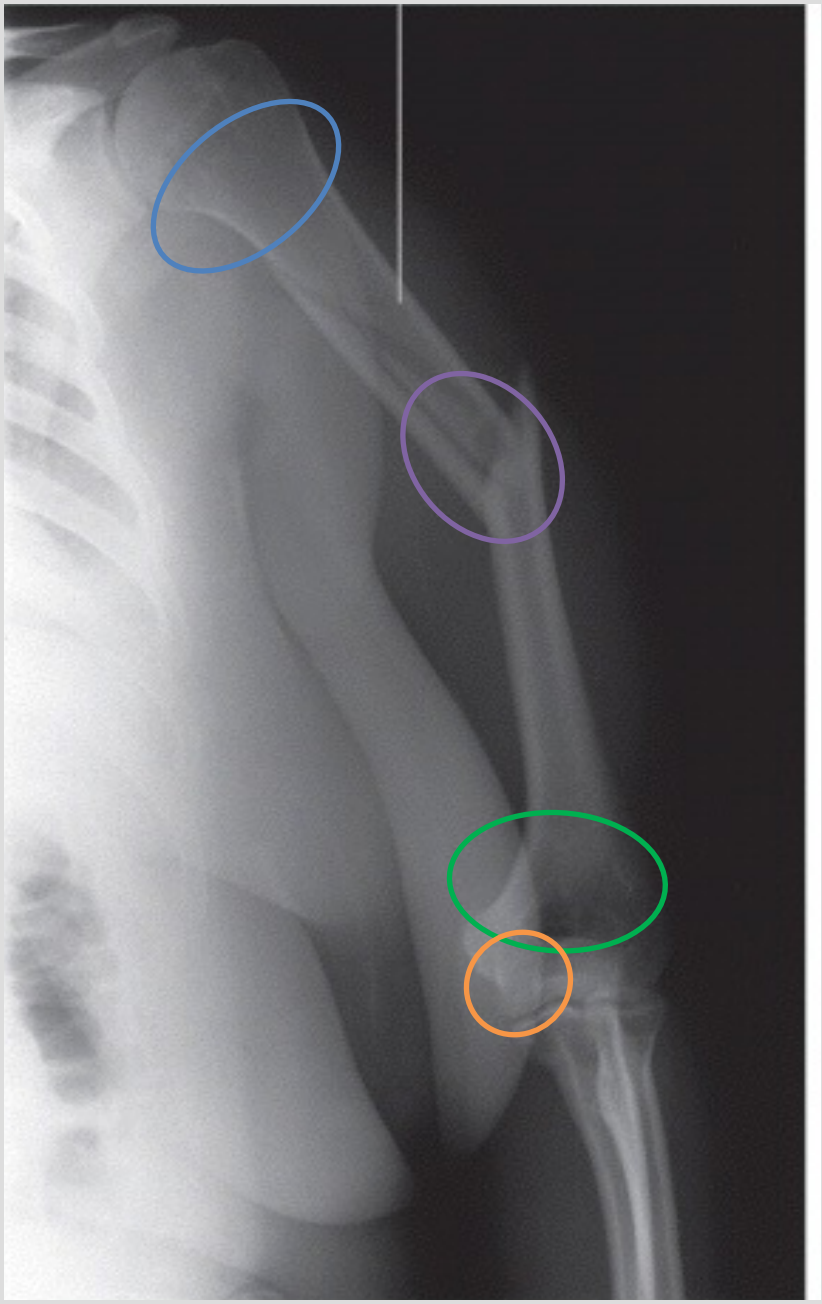


Station “8”

- **What is the nerve in danger in case of this fracture?**
- Radial nerve (in the spiral groove)
- Also the profundal artery

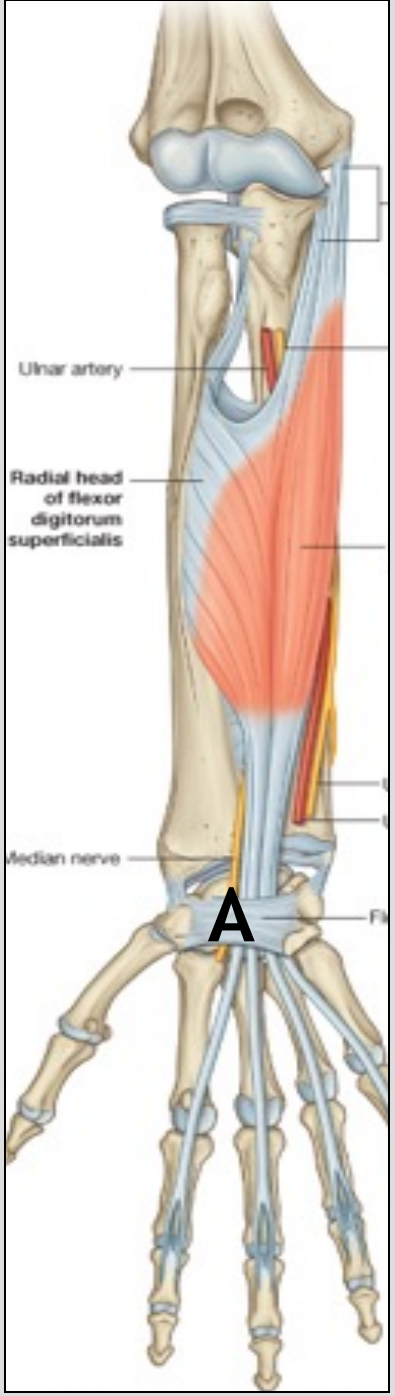
Common fractures of the humerus :

- Surgical neck: axillary nerve.
- Medial epicondyle: ulnar nerve.
- Spiral groove: radial nerve.
- Distal end (supracondyler fracture) : median nerve.



Station "9"

- 1- Identify the structure "A"
- ……..
- 2-Enumerate 2 nerves passing superficial & 2 tendon deep to it.
- ……
  ……
  ……
  ……



Station "9"

- **1- Identify the structure "A"**
- **Flexor retinaculum**
- **2-Enumerate 2 nerves passing superficial & 2 tendon deep to it.**
- **Superficial:**

1-Ulnar nerve.(also the ulnar artery)

2-Palmar cutaneous branch of ulnar and median nerves.

(also the tendon of palmaris longus)

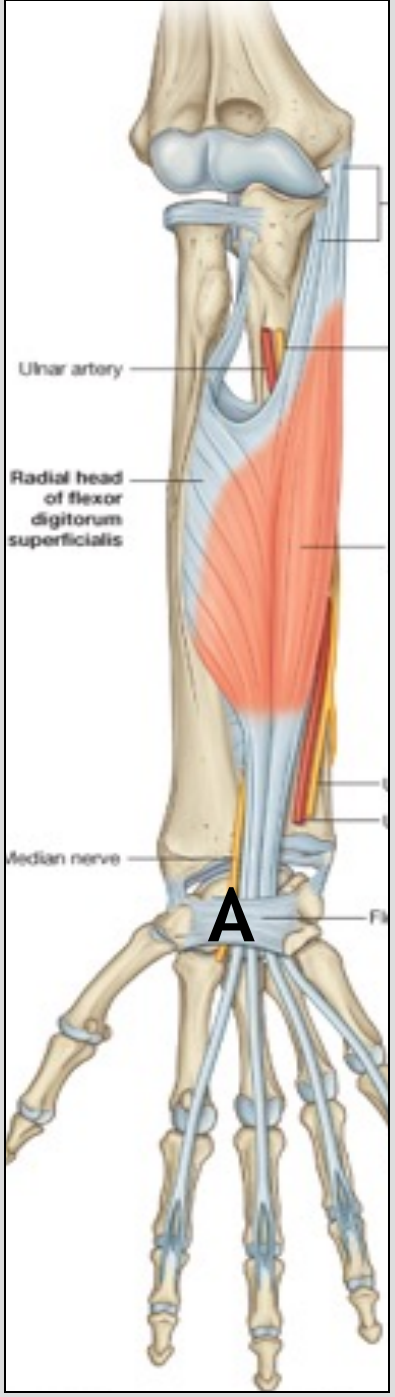
- **Deep:**

1-Flexor digitorum superficialis and profundus.

2-Flexor pollicis longus.

(also median nerve)

Flexor carpi ulnaris : is not superficial to flexor retinaculum.



- **Identify the marked areas.**
- **Identify one structure attached to each area.**

1- .....
.....

2- .....
.....

3- .....
.....

- **Identify the marked areas.**
- **Identify one structure attached to each area.**

1- Shaft of femur:

Muscle attached: vastus intermedius

Nerve supply : femoral nerve

2-Greater trochanter :

Muscles attached:

Anterior surface: gluteus minimus.

Lateral surface: gluteus medius.

Both supplied by: superior gluteal nerve.

Medial surface: Obturator internus.

Supplied by: nerve to obturator internus.

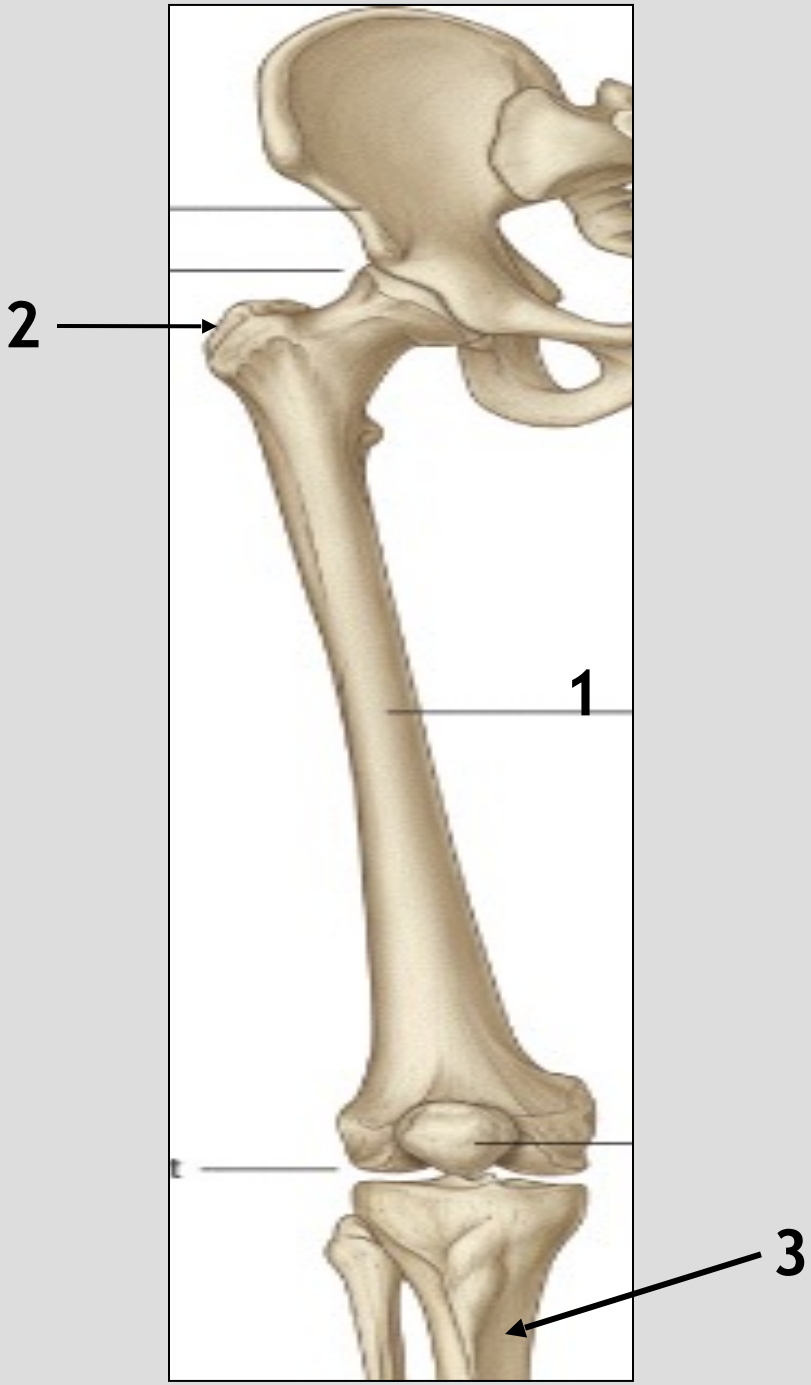
3-upper part of medial surface of Tibia :

(SGS)

Surtorries: femoral nerve

Gracillis: obturator nerve

Semitendinosus: tibial portion of sciatic nerve.



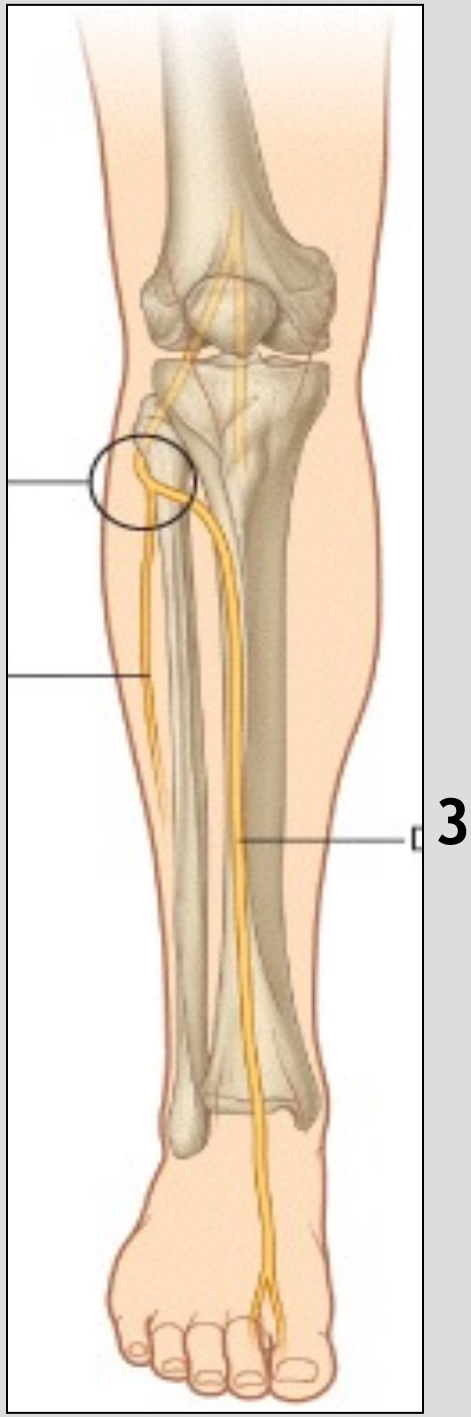
Station "11"

Identify these nerves:

1. .....
2. .....
3. .....

What is the nerve supply to the lateral side of the foot:

.....



Station "11"

Identify these nerves:

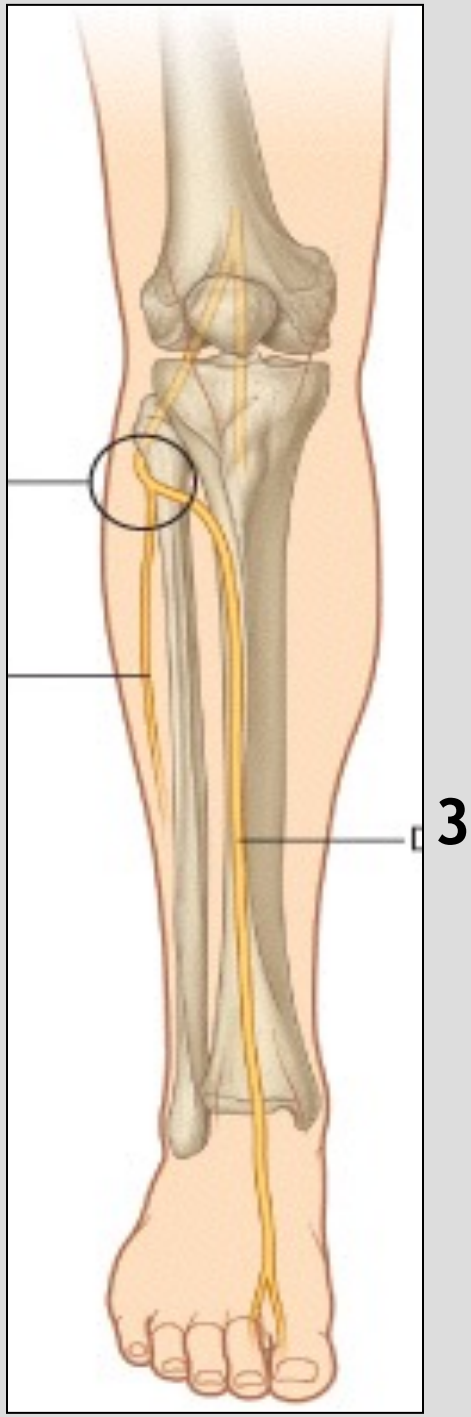
1-Common peroneal nerve.

2- Musculocutaenous, or superficial peroneal. (lateral)

3- Deep peroneal or anterior tibial. (medial)

What is the nerve supply to the lateral side of the foot:

Sural nerve.



Station "12"

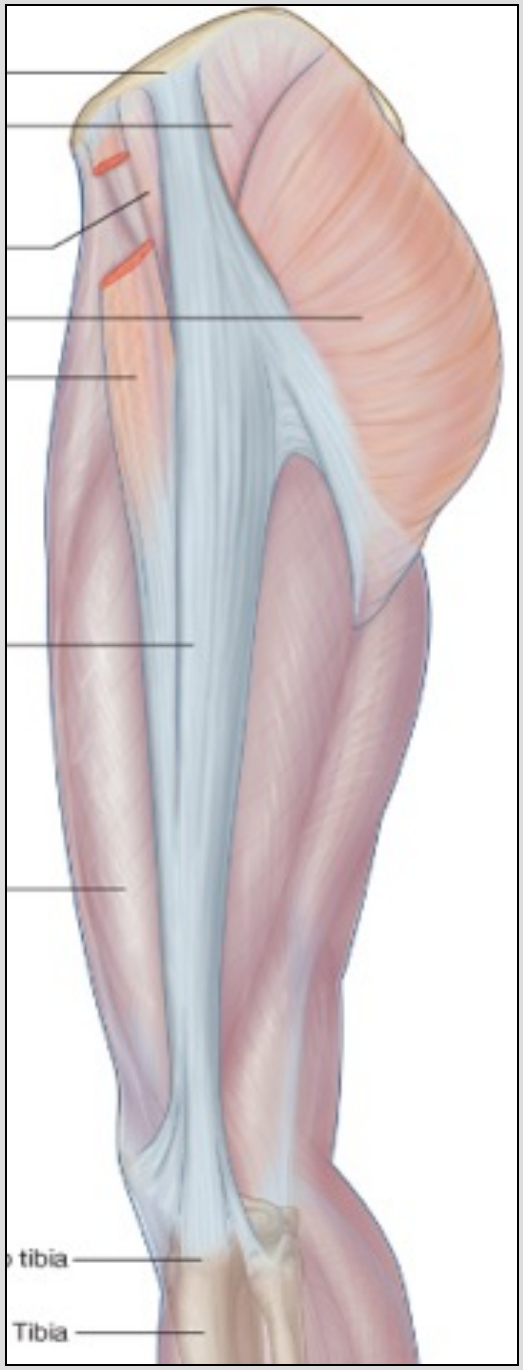
Identify these structures:

1. ……..
2. ……..
3. ……..

What is the nerve supply for 1 &2.

……

……..



Station "12"

Identify these structures:

1-Glutes maximus.

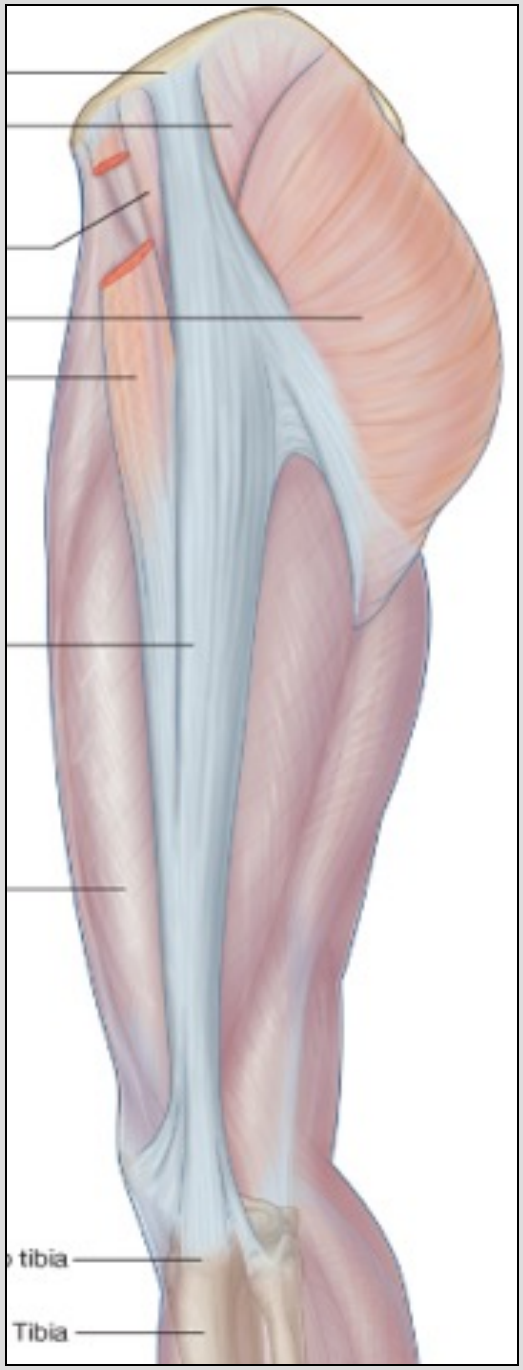
2-Tensor fascia lata.

3-Iliotibial tract.

What is the nerve supply for 1 &2.

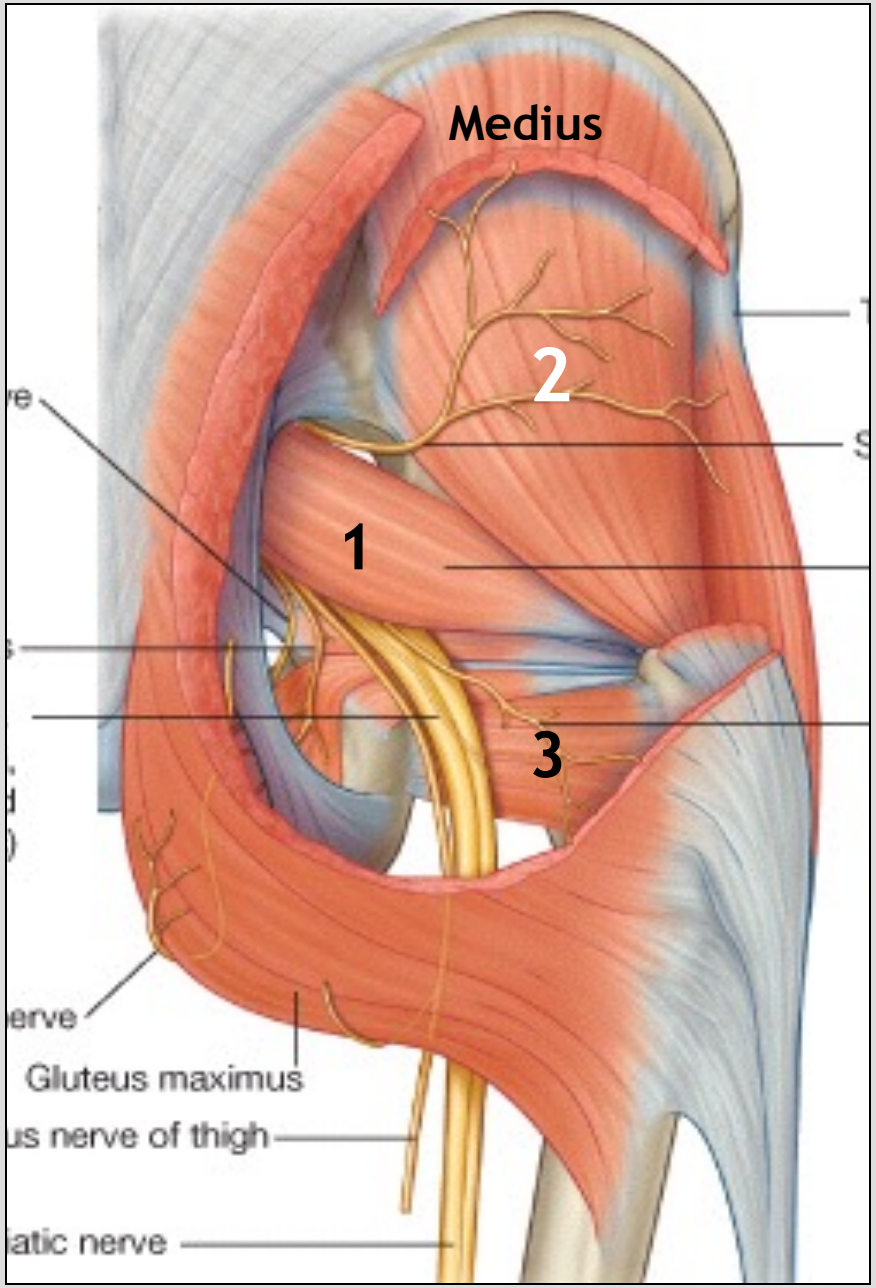
1. Inferior gluteal nerve.

2.Superior gluteal nerve.



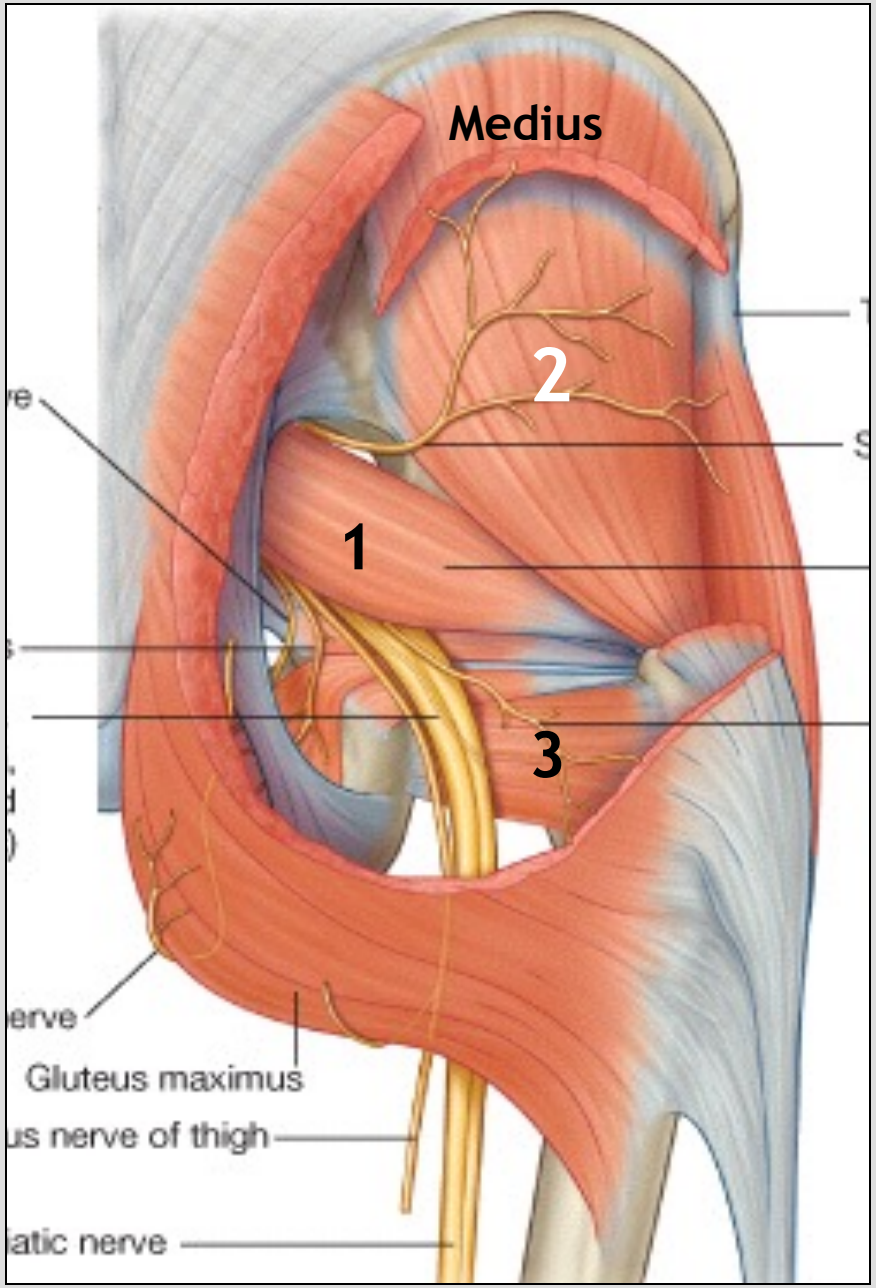
Station "13"

- **Identify the marked muscles and the nerve supply of each:**
- 1-……
- Nerve:-……
- 2-……..
- Nerve:-
  ……
- 3- ……..
- Nerve:- ……



Station "13"

- **Identify the marked muscles and the nerve supply of each:**
- 1-Piriformis muscle.
- Nerve:-S1 &2.
- 2-Gluteus minims.
- Nerve:-sup. Gluteal n.
- 3- Quadratus femoris.
- Nerve:- Nerve to quadratus femoris.



Identify:

a) .....

b) .....

c) .....

d) .....

e) .....

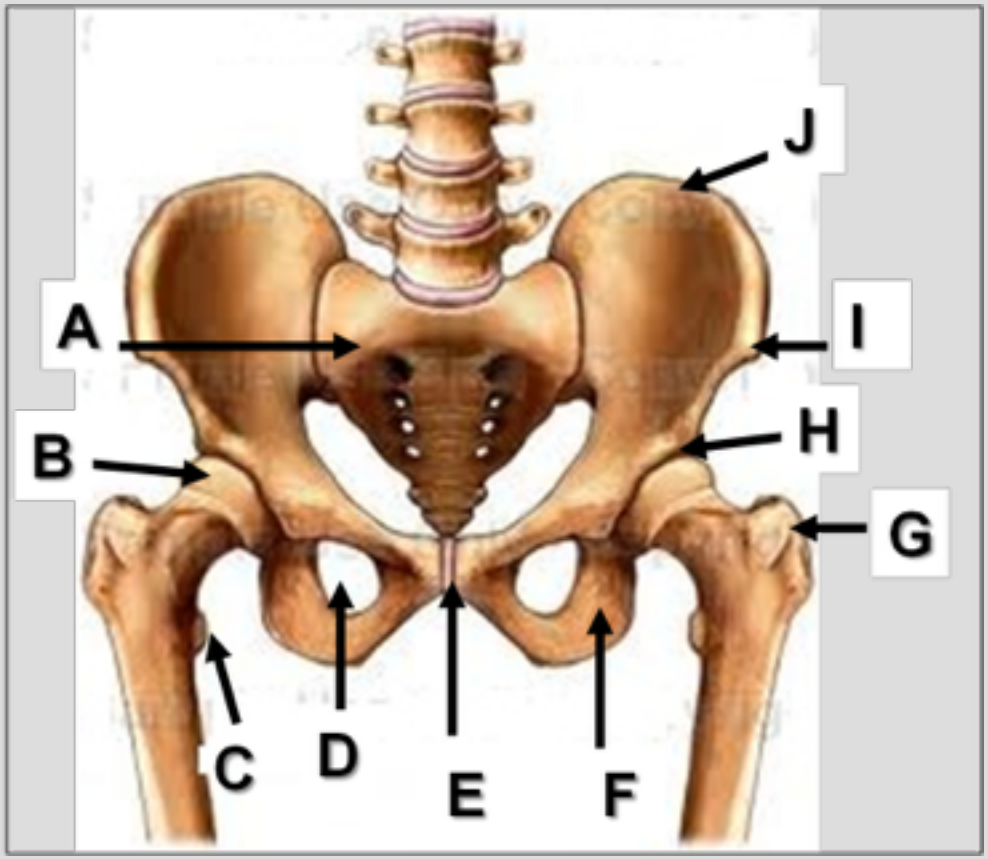
f) .....

g) .....

h) .....

i) .....

j) .....



Identify:

A: Sacrum

B: Head of femur

C: Lesser trochanter

D: Obturator foramen

E: Pubic symphysis

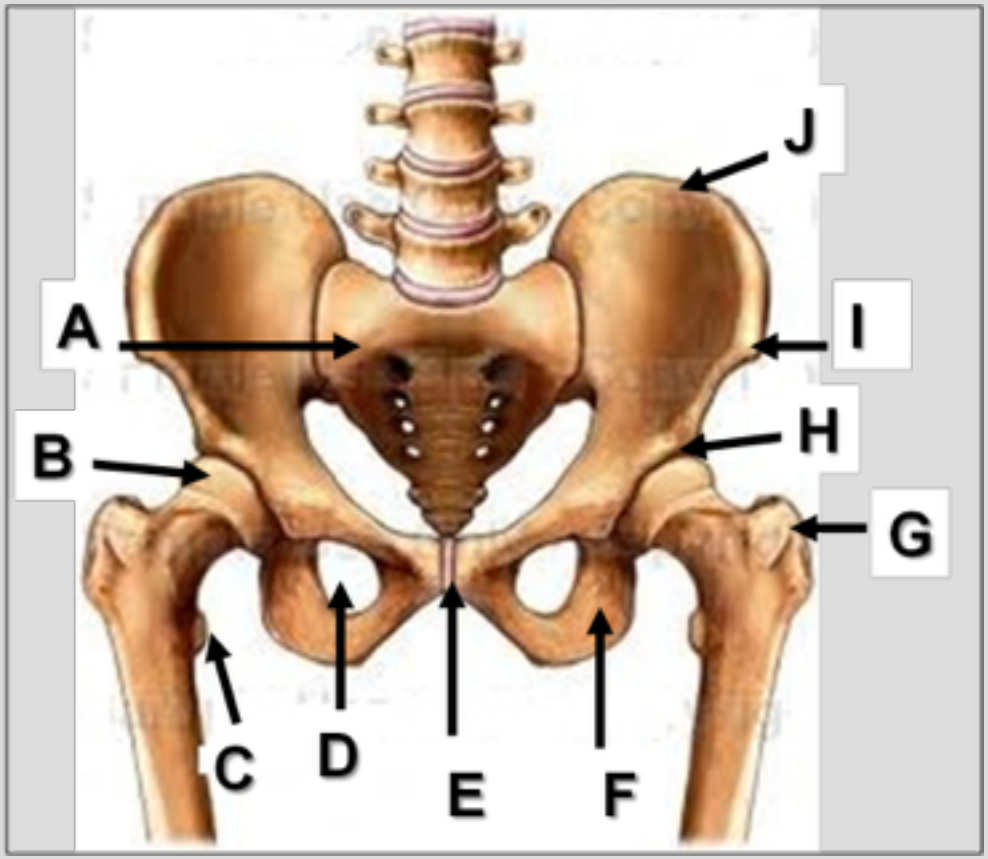
F: Ischial tuberosity

G: Greater trochanter

H: Acetabulum

I: Anterior superior iliac spine

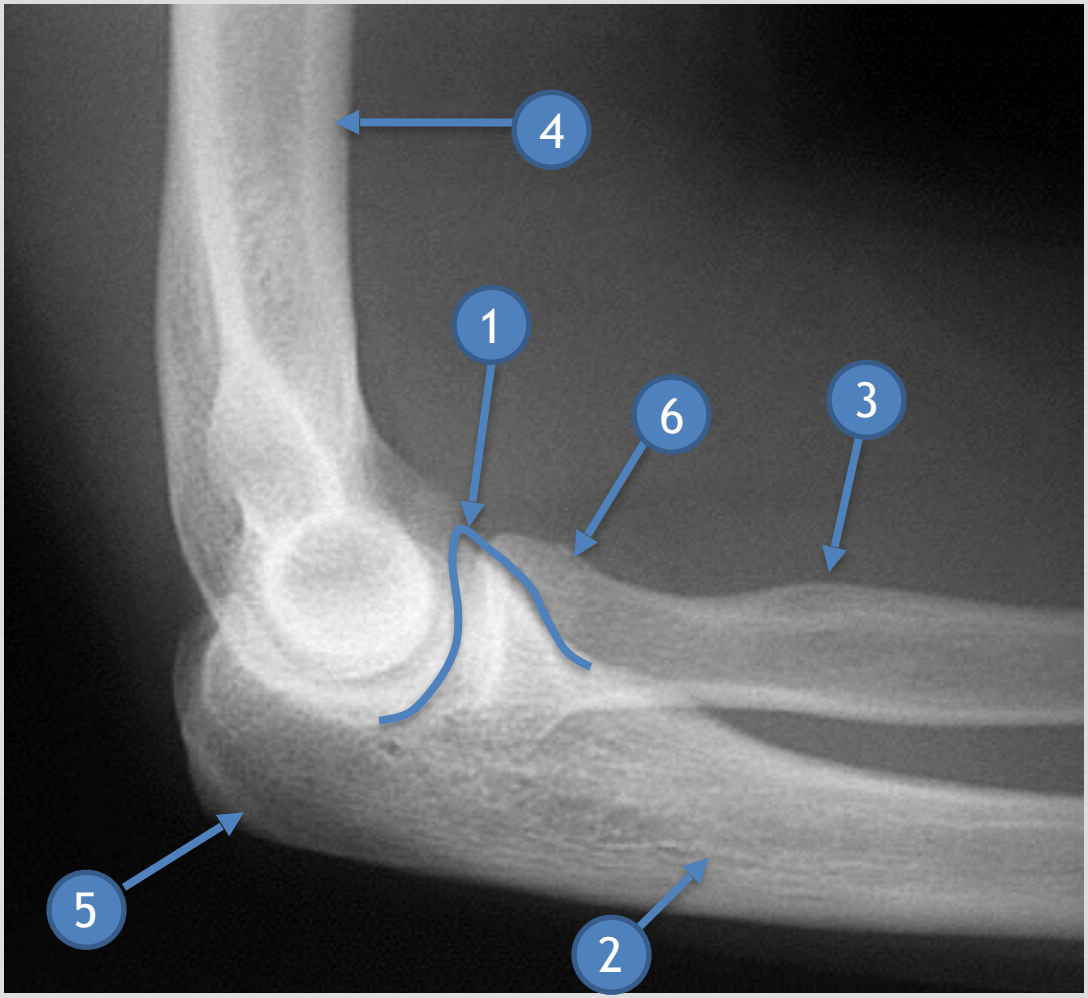
J: Iliac crest



Lateral elbow joint x-ray

Identify:

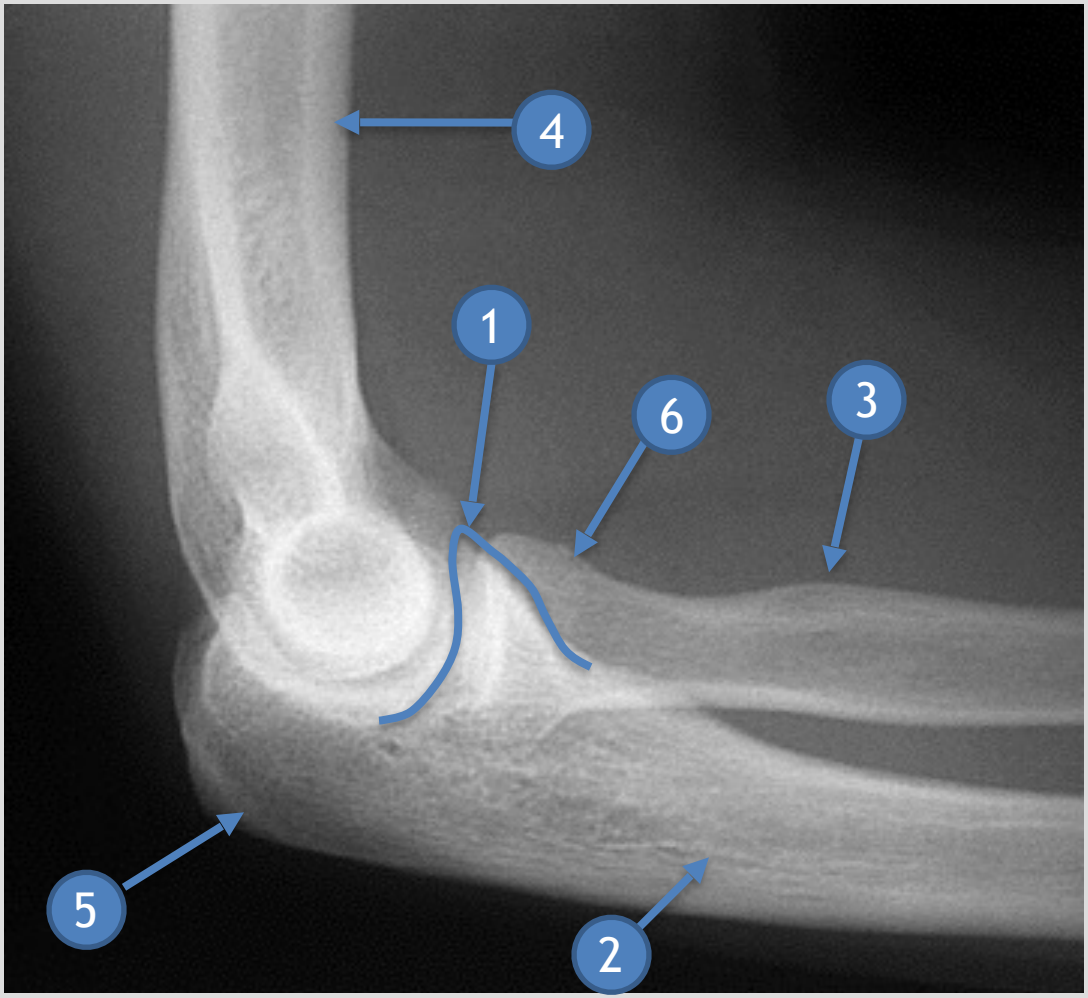
1. .....
2. .....
3. .....
4. .....
5. .....
6. .....



Lateral elbow joint x-ray

Identify:

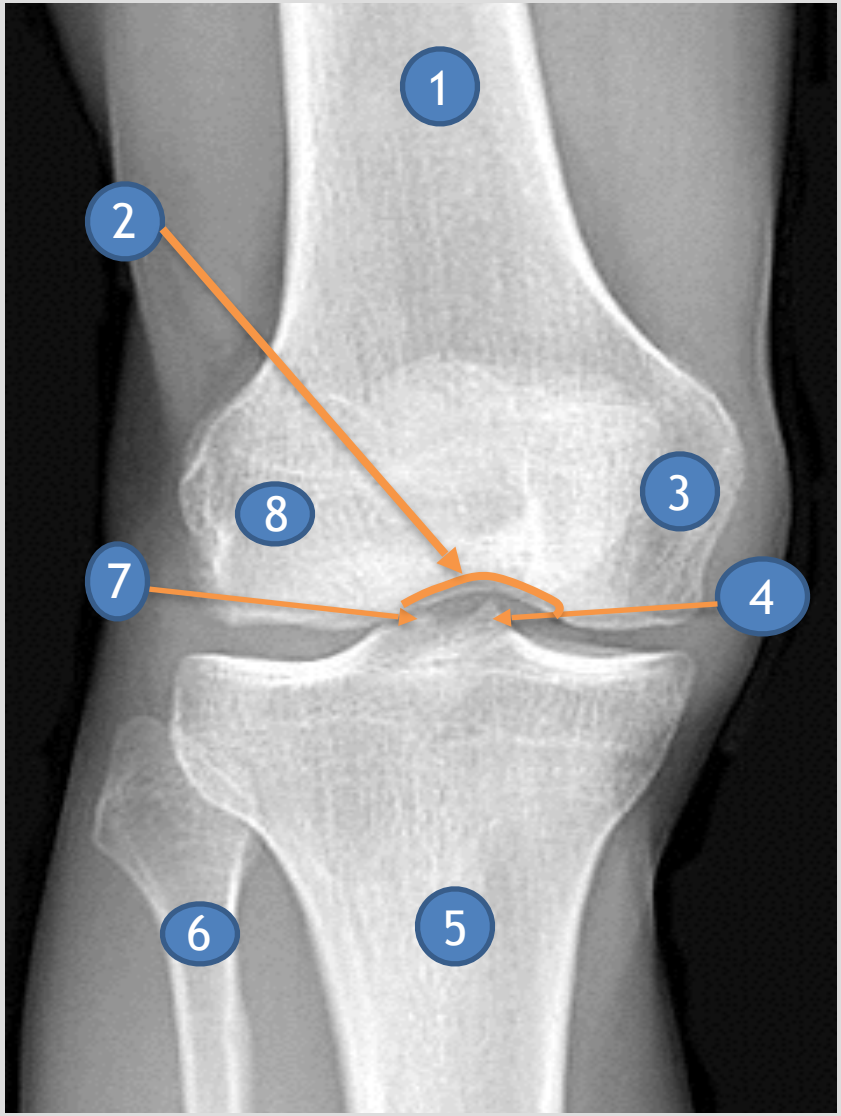
1) Coronoid process.
2) Ulna.
3) Radial (bicipital) tuberosity.
4) Humerus.
5) Olecranon
6) Radial head.



Frontal knee x-ray

Identify:

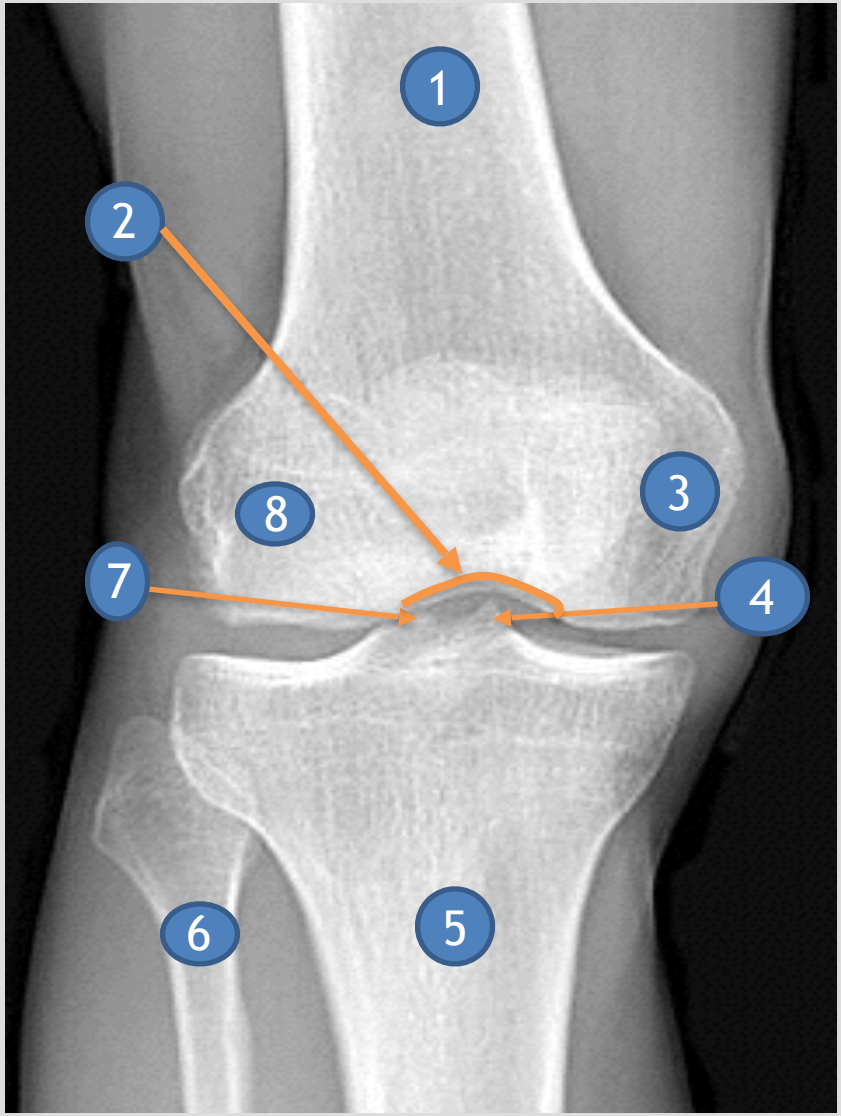
1) .....
2) .....
3) .....
4) .....
5) .....
6) .....
7) .....
8) .....



Frontal knee x-ray

Identify:

1) Femur.
2) Interchondylar notch.
3) Medial condyle
4) Medial tibial spine
   (medial tibial eminence)
5) Tibia
6) Fibula
7) Lateral tibial spine
   (lateral tibial eminence)
8) Lateral condyle.



Identify:

A. .....

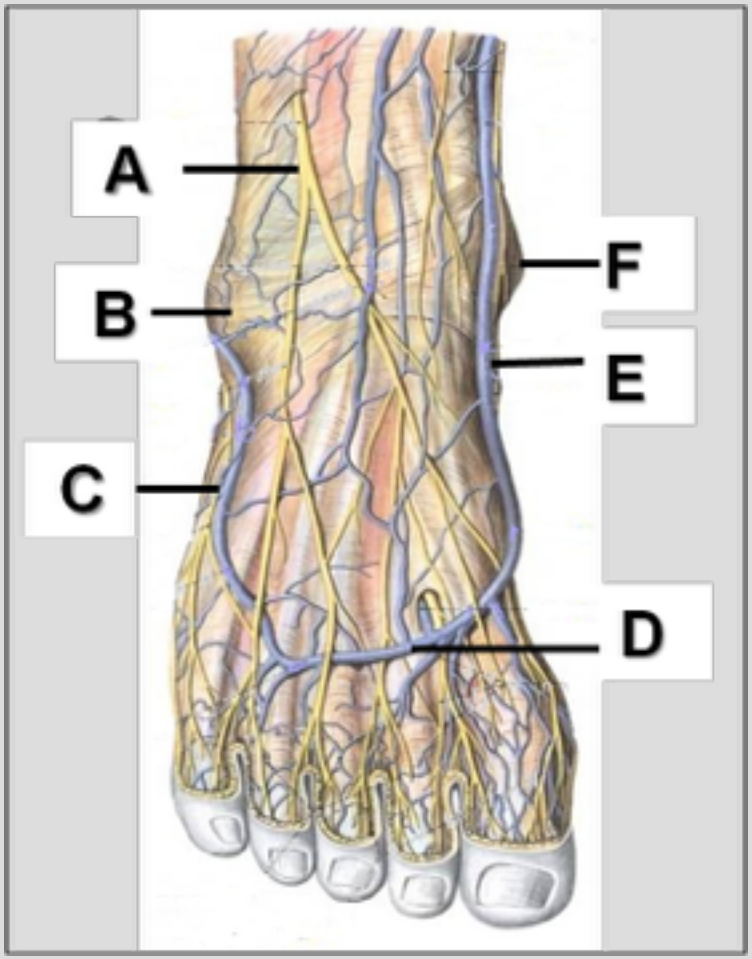
B. .....

C. .....

D. .....

E. .....

F. .....



Identify:

A: Superficial peroneal nerve

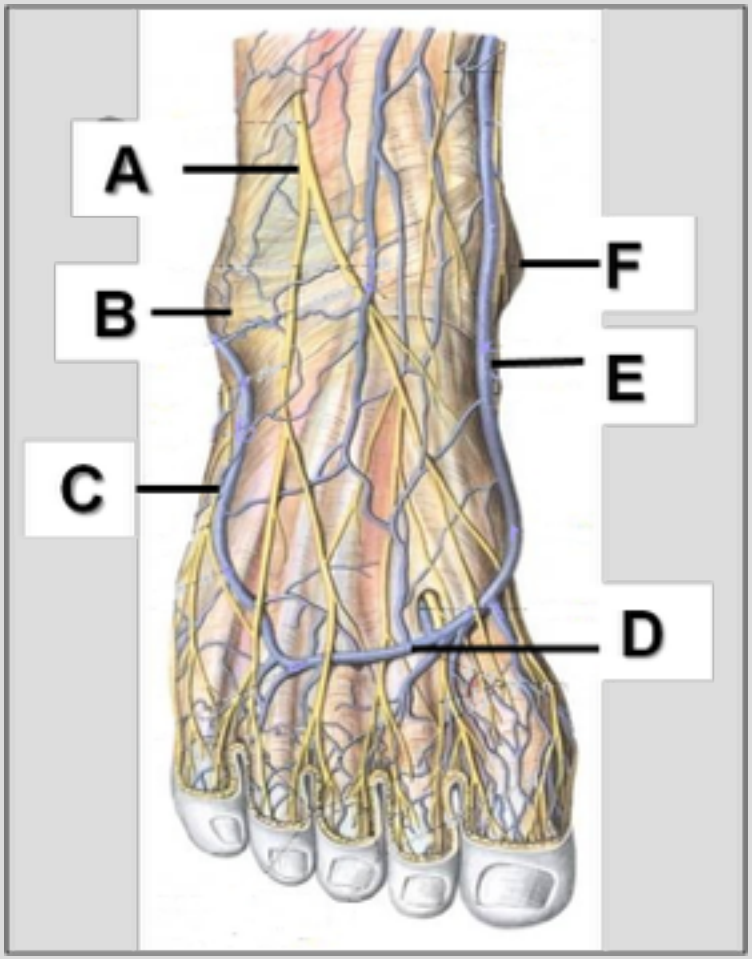
B: Lateral malleolus

C: Lesser saphenous vein

D: Dorsal venous arch

E: Great saphenous vein

F: Medial malleolus



Identify:

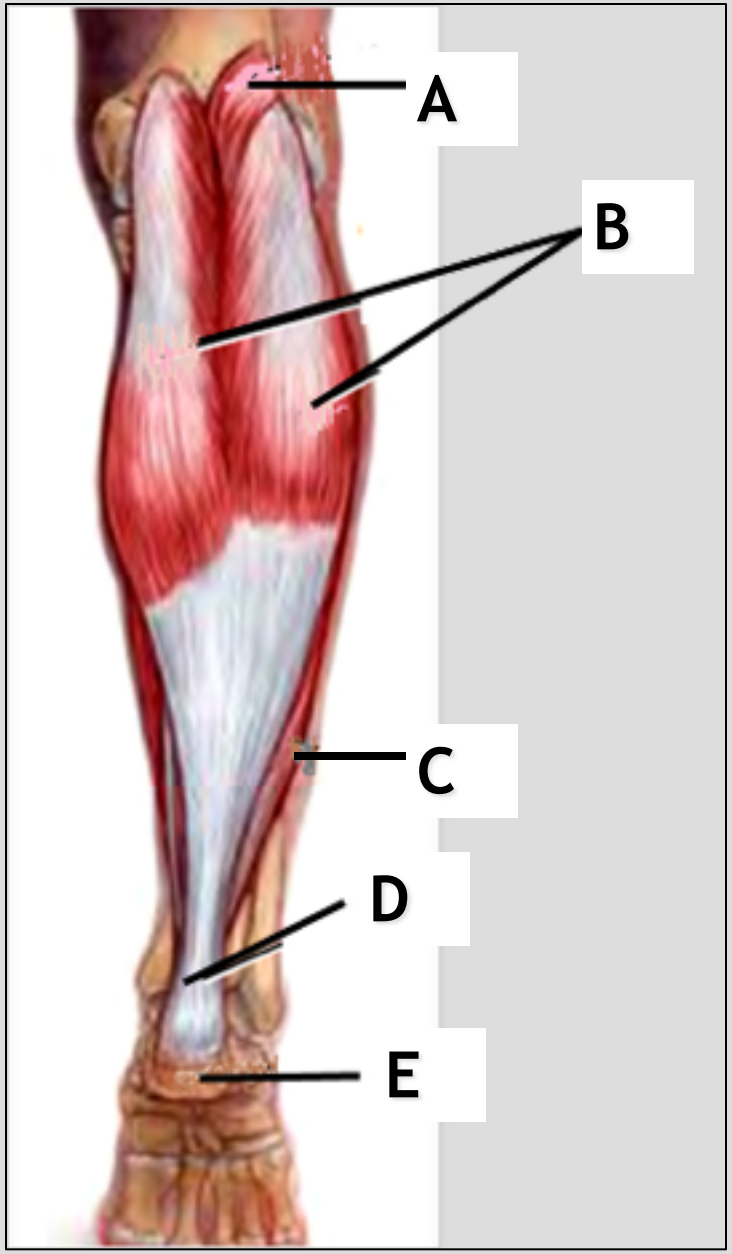
A. .....

B. .....

C. .....

D. .....

E. .....



Identify:

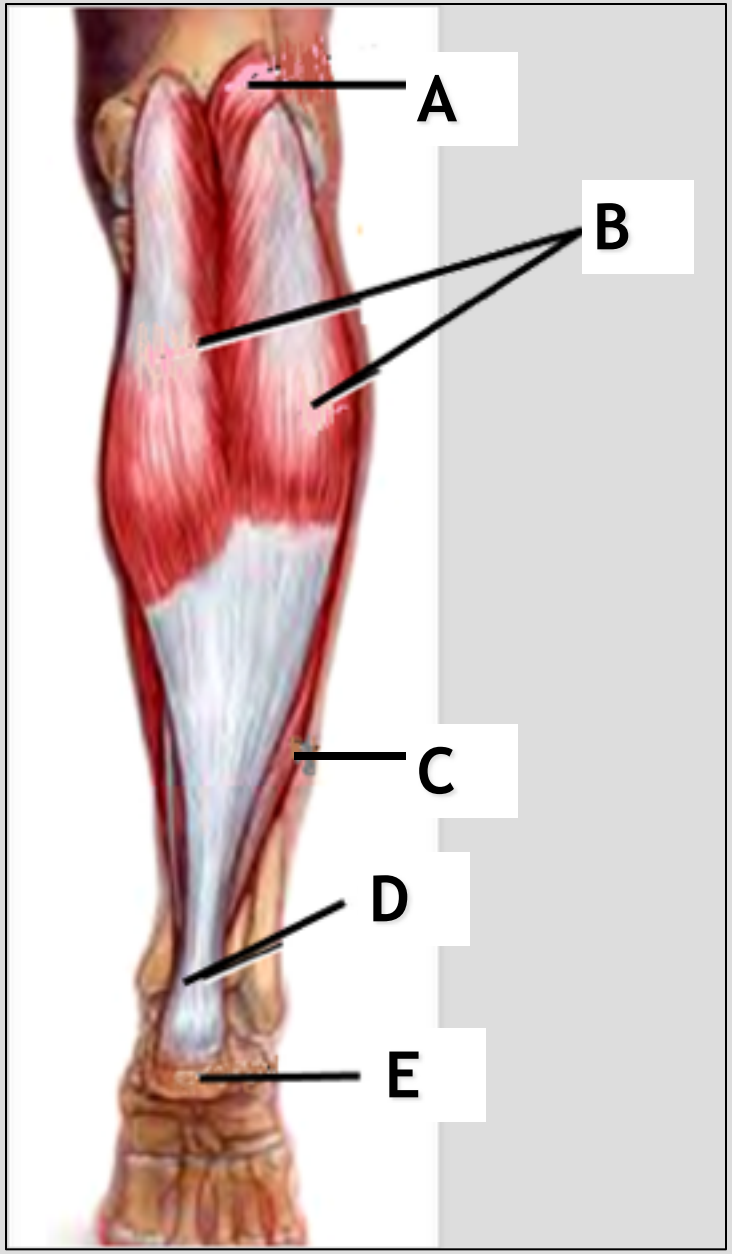
A: Plantaris

B: Gastrocnemius

C: Soleus

D: Achilles tendon

E: Calcaneum



Identify:

A.....

B.....

C.....

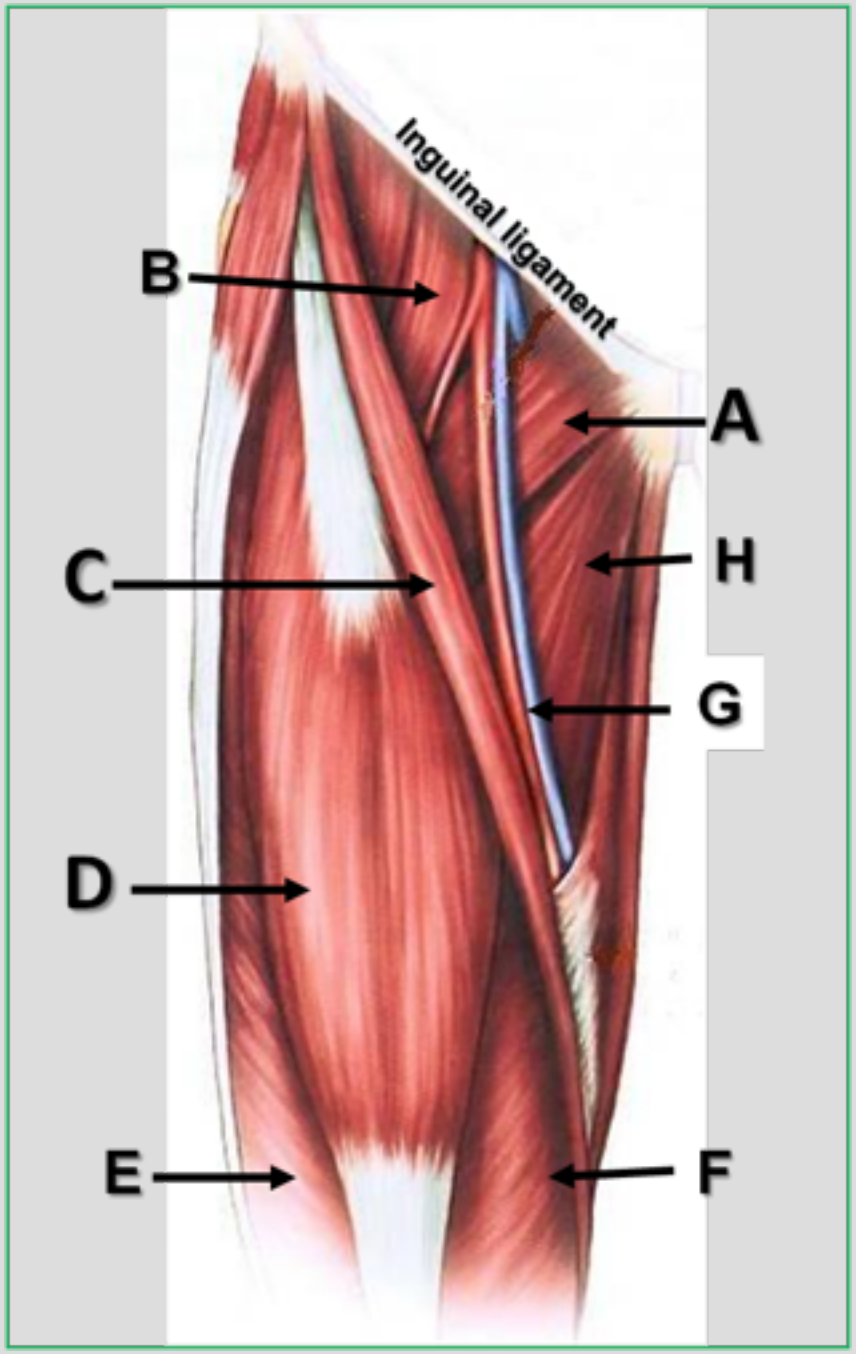
D.....

E.....

F. .....

G.....

H.....



Identify:

A: Pectineus

B: Psoas major

C: Sartorius

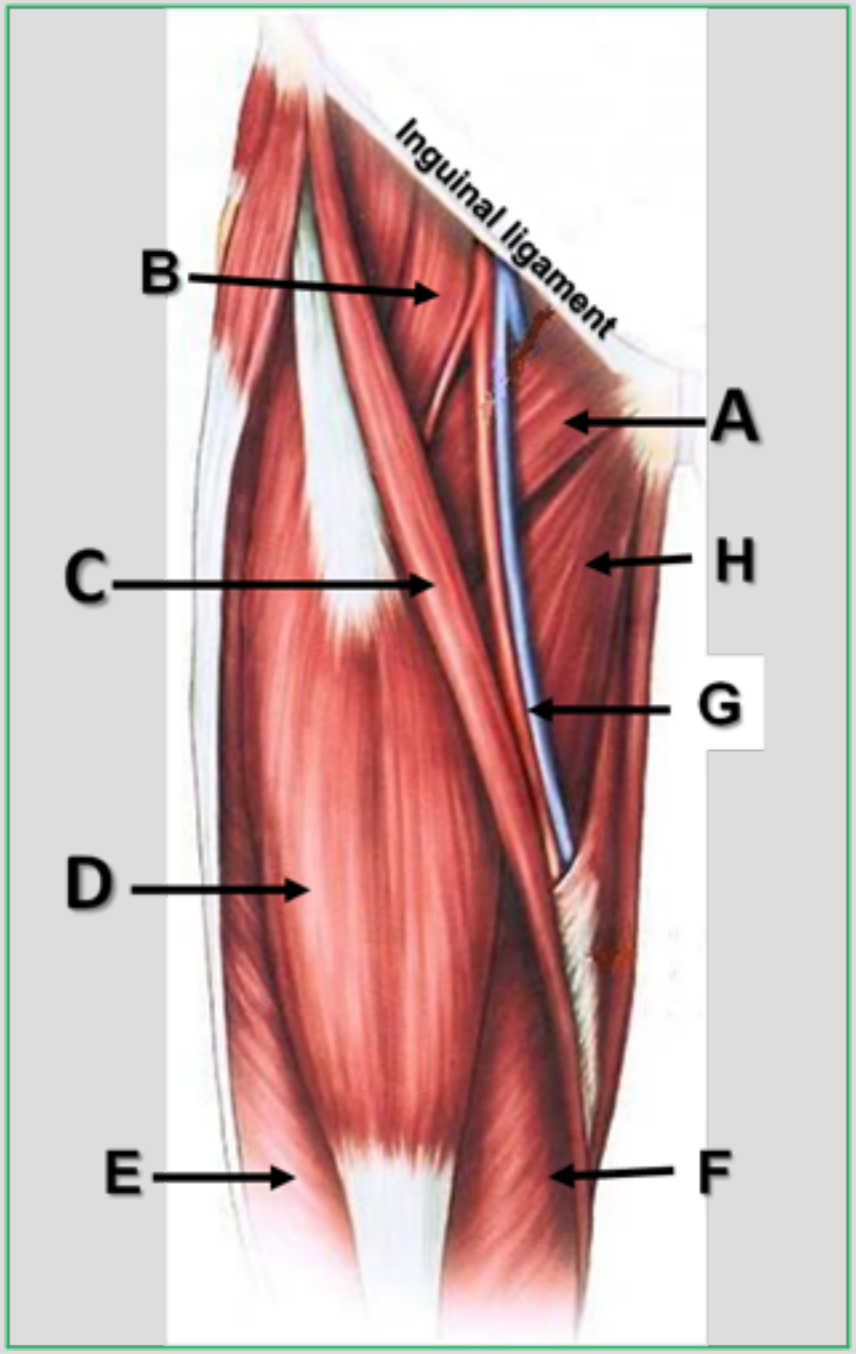
D: Rectus femoris

E: Vastus lateralis

F: Vastus Medialis

G: Femoral vessels

H: Adductor longus



Identify:

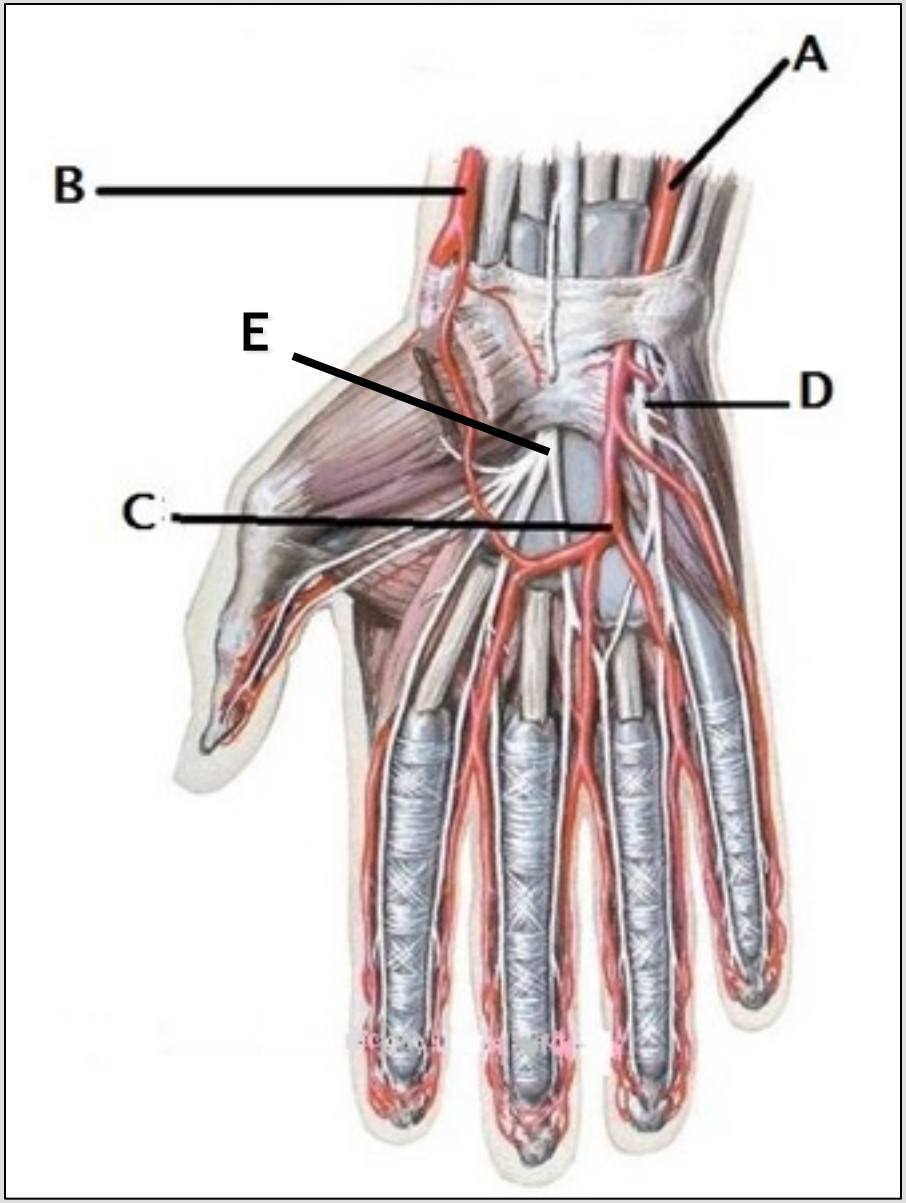
A. .....

B. .....

C. .....

D. .....

E. .....



Identify:

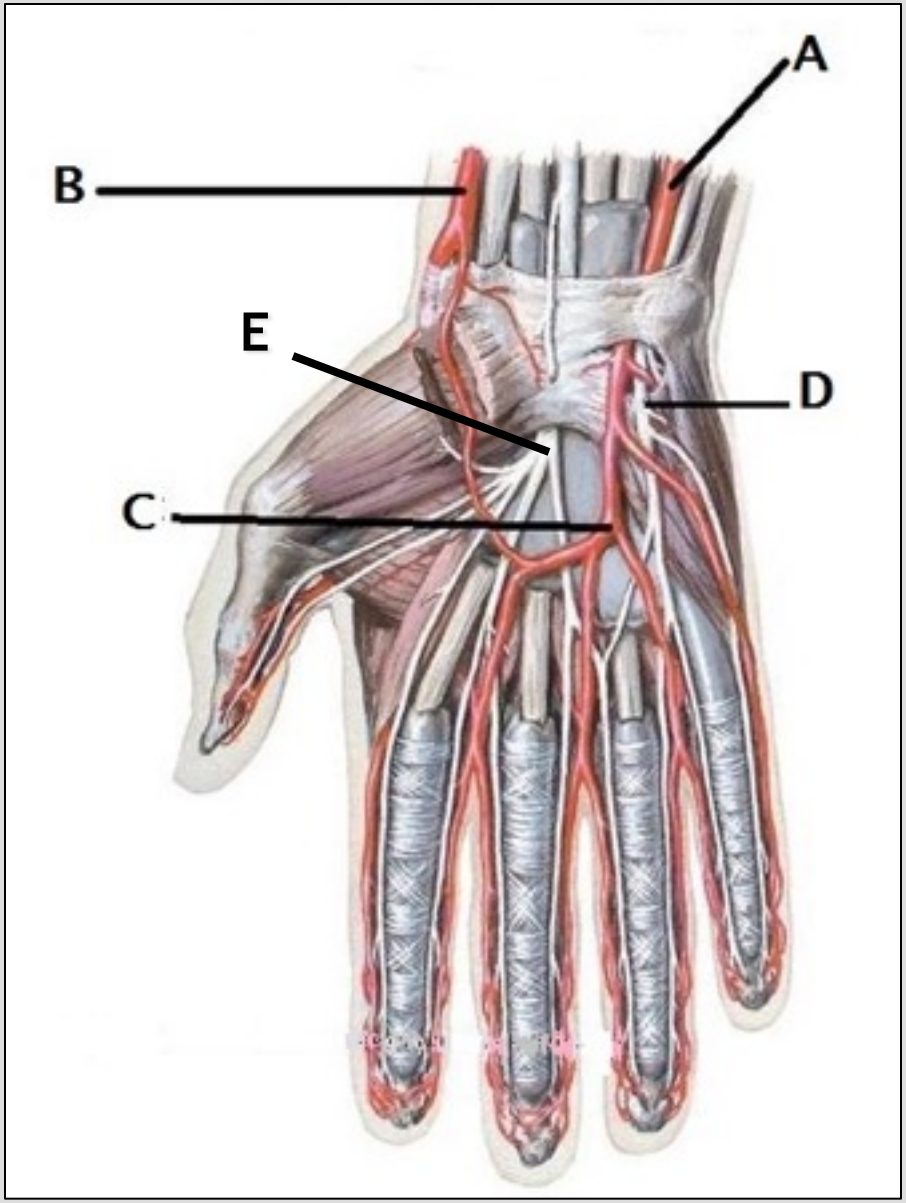
A: Ulnar artery

B: Radial artery

C: Superficial palmer arch

D: Ulnar nerve

E: Median nerve



Identify:

A. .....

B. .....

C. .....

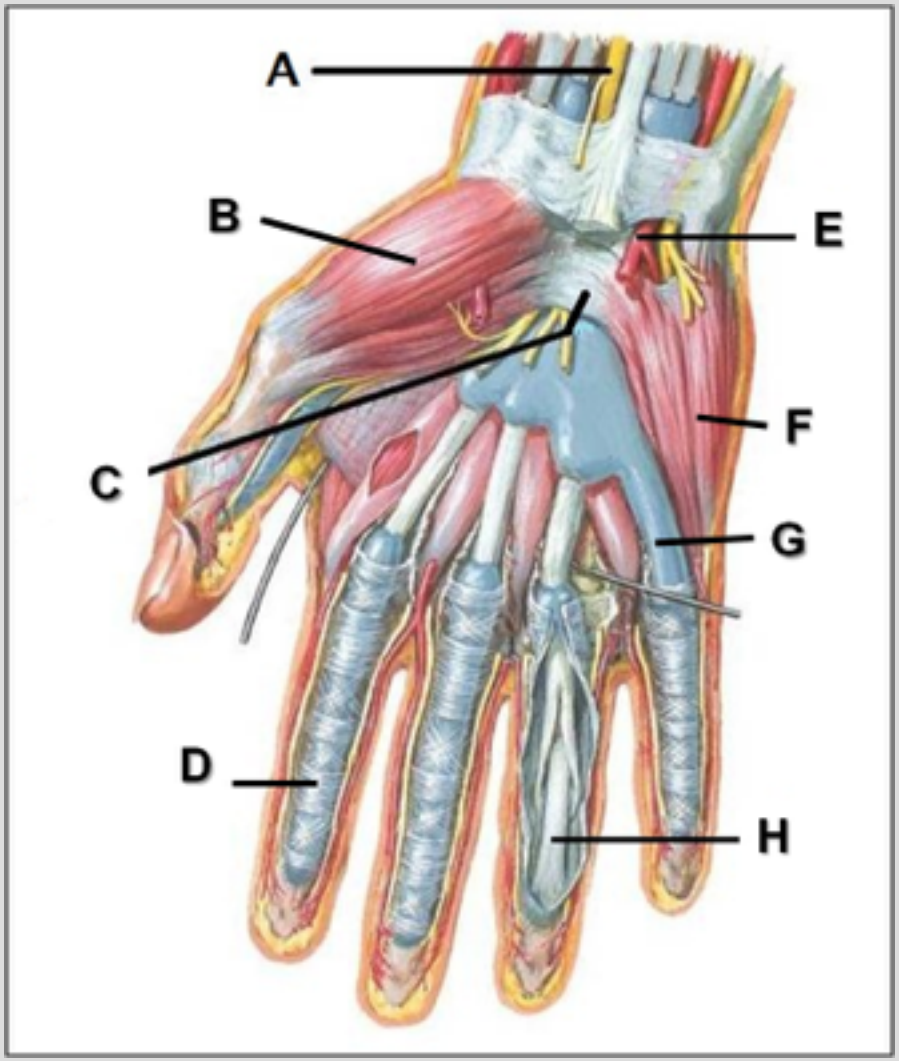
D. .....

E. .....

F. .....

G. .....

H. .....



Identify:

A: Median nerve

B: Thenar muscles

C: Flexor retinaculum

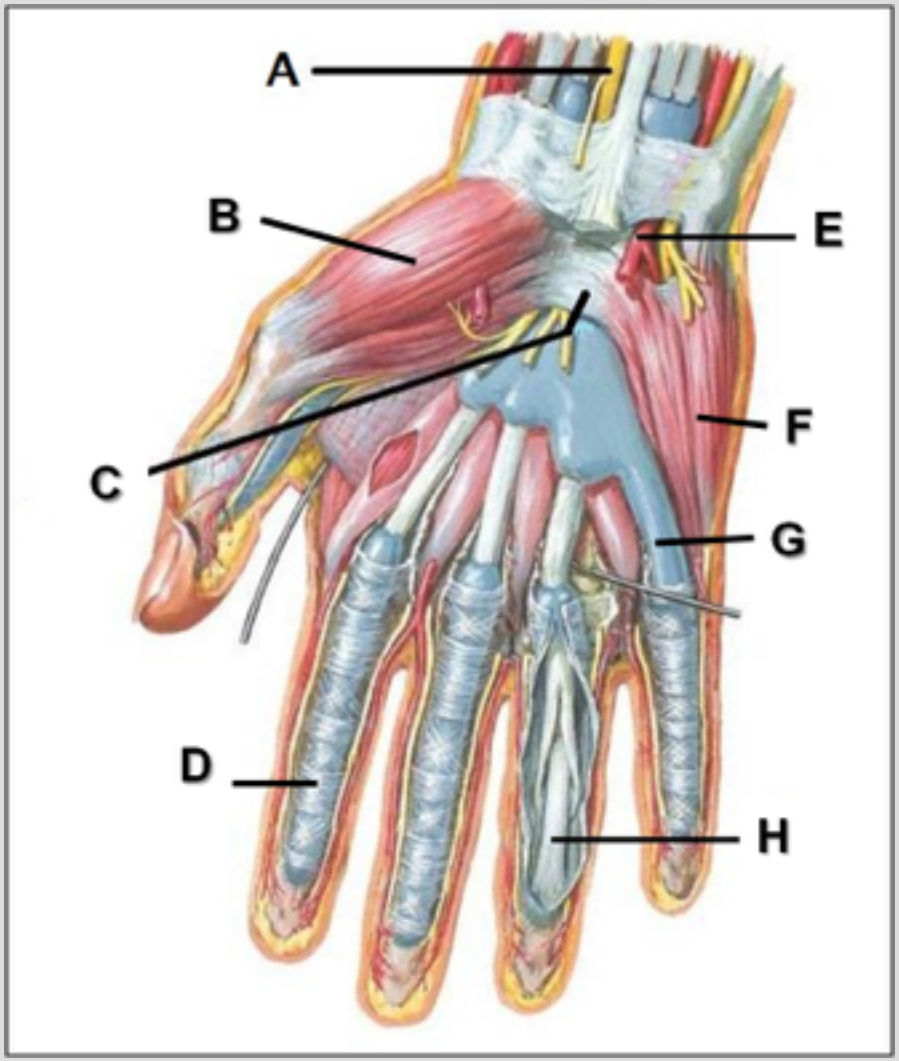
D: Fibrous flexor sheath

E: Ulnar artery

F: Hypothenar eminence

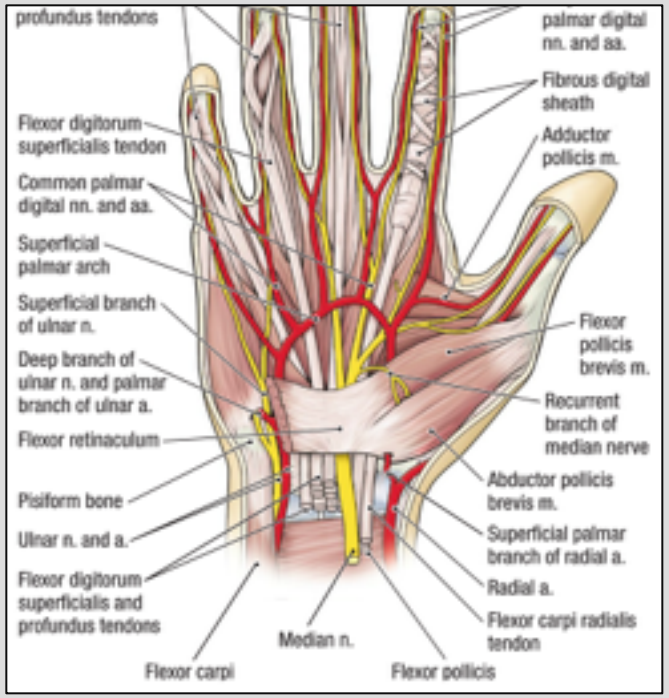
G: Flexor synovial sheath

H: Tendon of flexor digitorum profundus



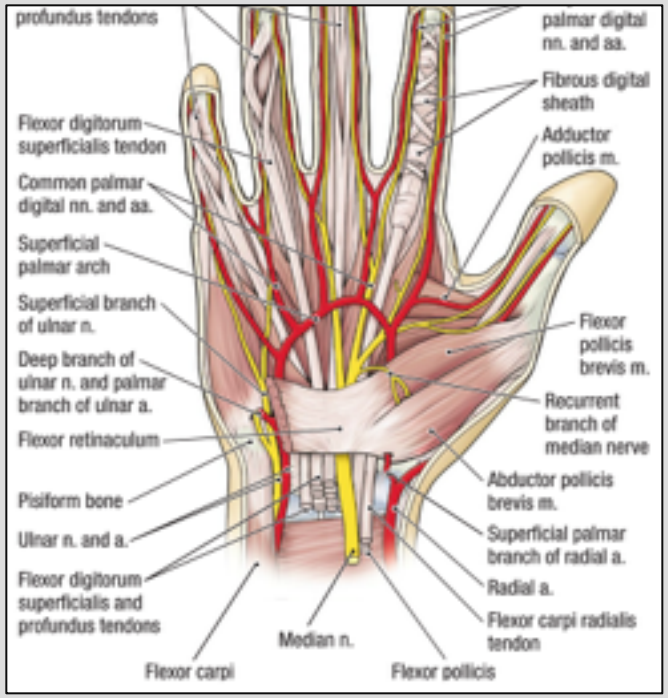
The structure of superficial Flexor retinaculum from Medial to Lateral

1. .....
2. .....
3. .....
4. .....
5. .....
6. .....



The structure of superficial Flexor retinaculum from Medial to Lateral

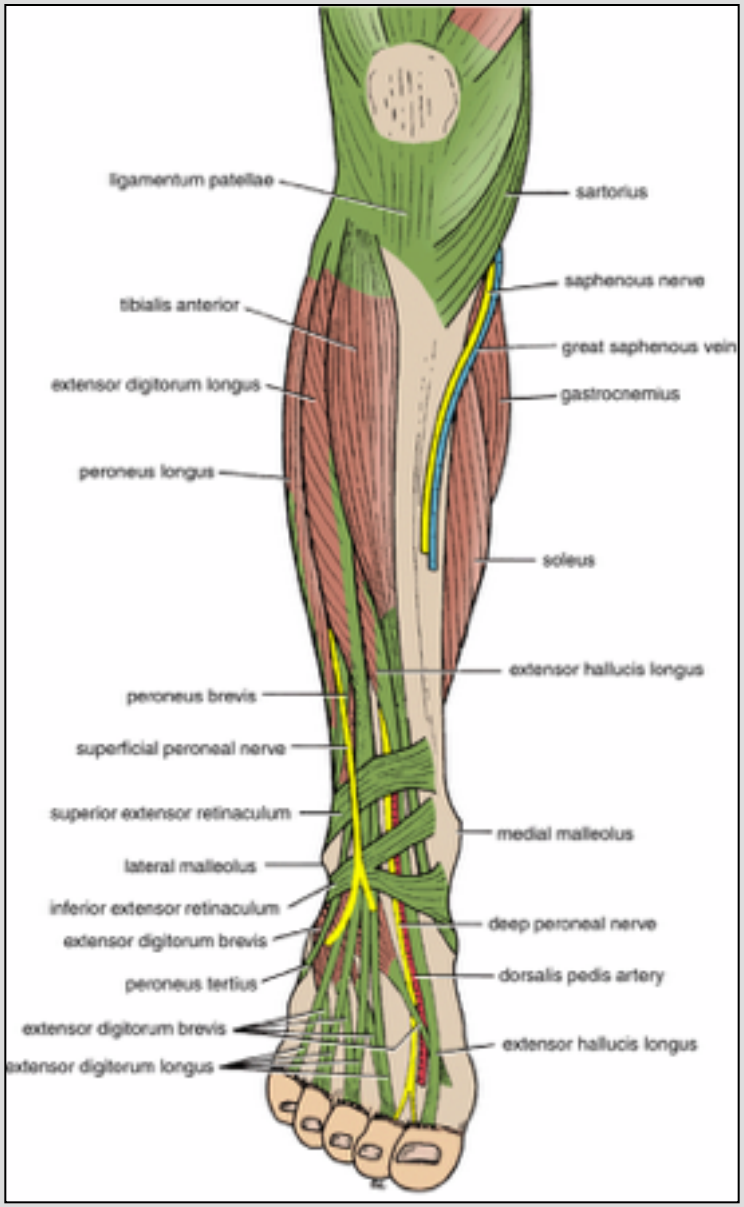
1- Tendon of Flexor carpi ulnaris.
2- Ulnar nerve.
3- Ulnar artery.
4- Palmar cutaneous branch of ulnar nerve.
5- Palmaris longus tendon.
6- Palmar cutaneous branch of median nerve.



Structure of Extensor retinaculum
From medial to lateral:

1. .....
2. .....
3. .....
4. .....
5. .....
6. .....

To memorize:
Tom Has Very Nice Dog and Pigeon

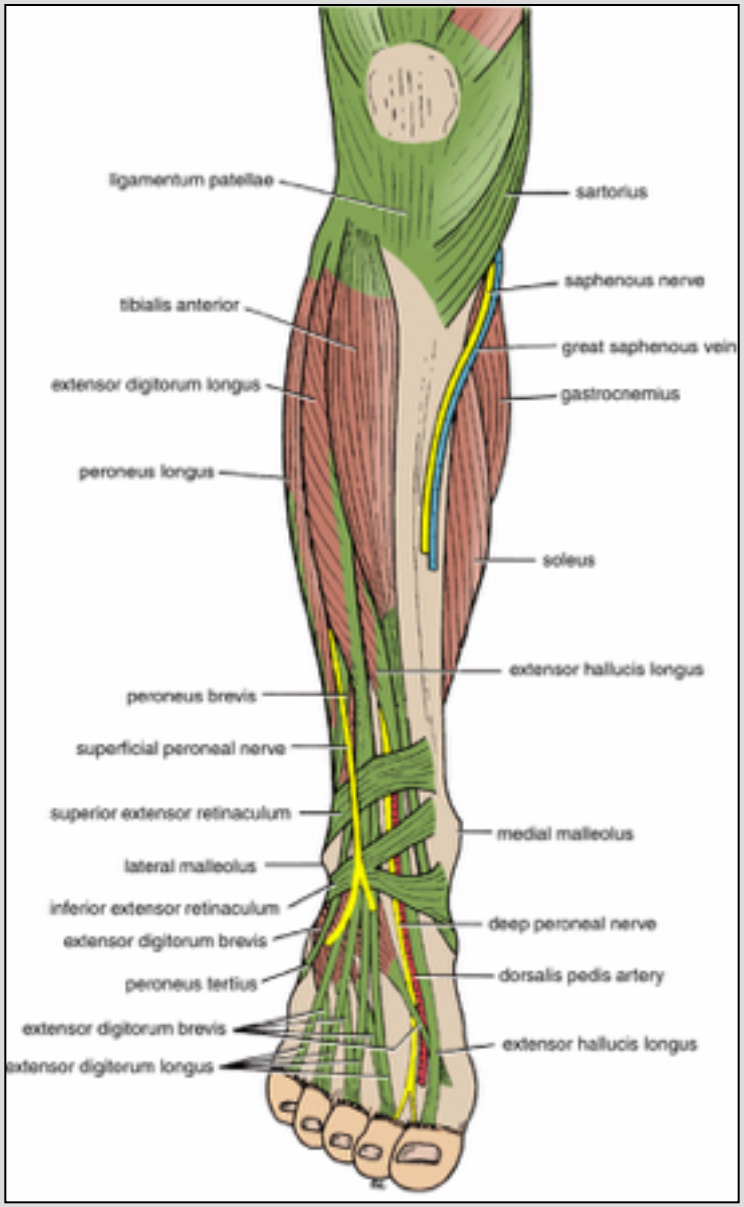


Structure of Extensor retinaculum

From medial to lateral:

1. Tibialis posterior
2. extensor hallucis longus
3. dorsalis pedis artery (vessels)
4. deep peroneal nerve
5. extensor digitorum longus
6. peroneos tertius

To memorize:
Tom Has Very Nice Dog and Pigeon



Thanks for checking our work,

Done by:

- **GHAIDA ALJAMILI**
- **MONIRAH ALSALOULI**
- **NOUF ALRSHEED**
- **RIFAN HASHIM**

Thanks for team 434