

SUPERFICIAL AND PROXIMAL REGIONS OF THE UPPER AND LOWER LIMBS

Skin

Superficial fascia

1. Cutaneous nerves
2. Superficial veins and lymphatics

Deep fascia

3. Neurovascular bundles

Comparing the axilla and femoral triangle

SCHOOL SEMINARS

Tuesday 1pm in the seminar room

INTEGRATED HUMAN STUDIES SEMINARS

Wednesdays 5:30 pm

DIVERSITY AT UNIVERSITY TALKS

Fridays at 1pm

FREE LUNCHESES !

1. 3rd year and honours lunch.
2. End of semester Sausage Sizzle

TEA and COFFEE facilities

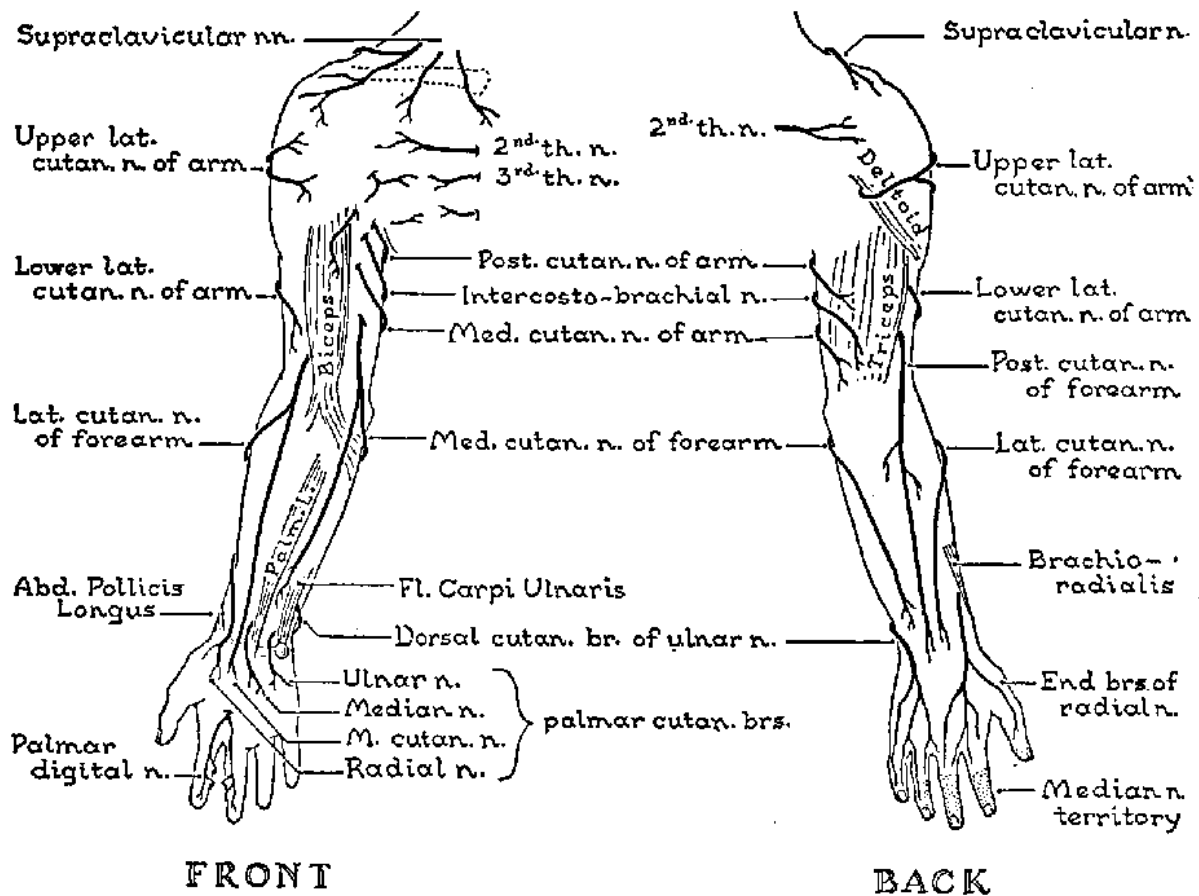
CUTANEOUS NERVES – UPPER LIMB

Please look for these in dissection

Cutaneous nerves are quite variable in their emergence and distribution.

But they are constant in

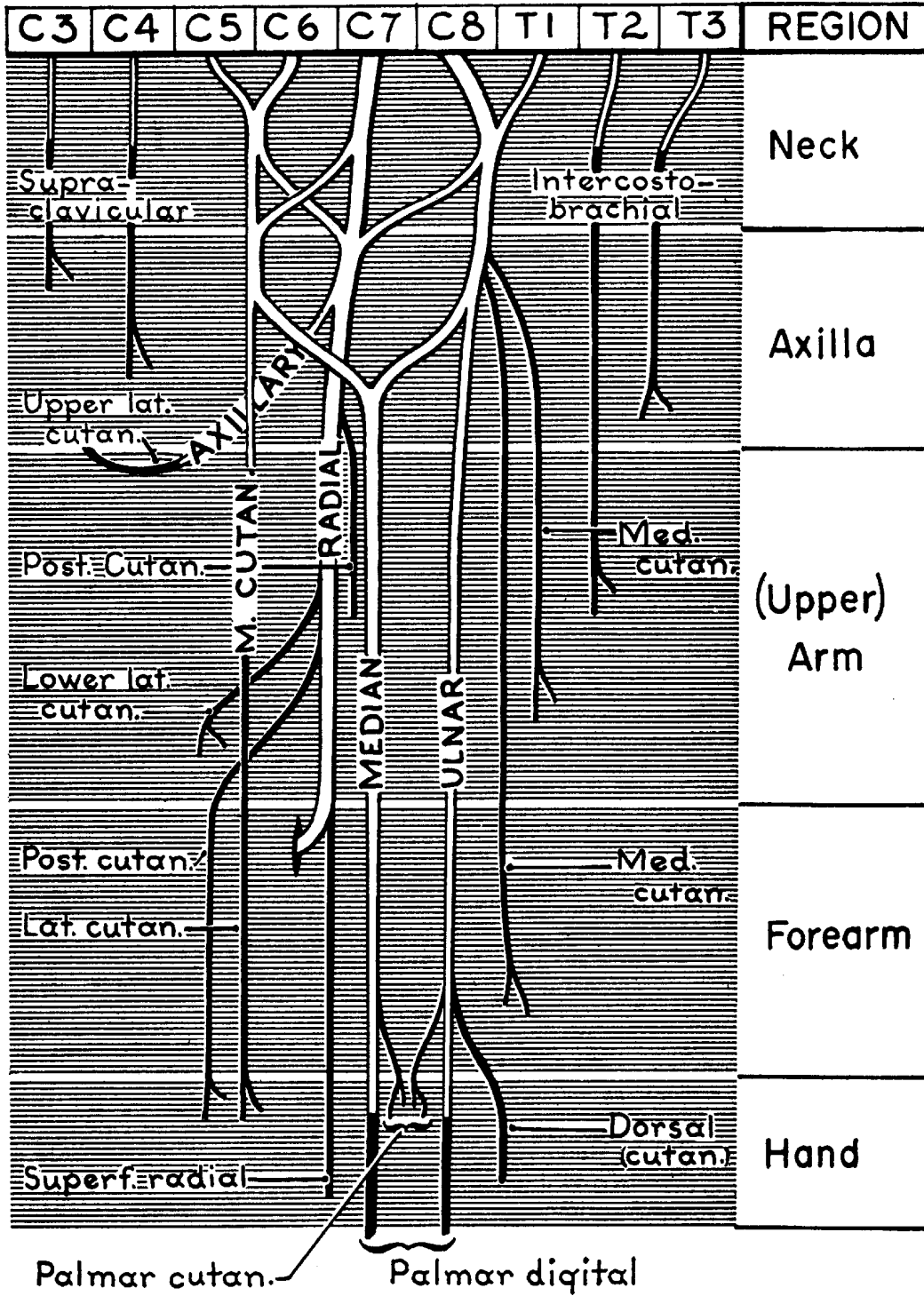
1. Which nerves they branch from
2. Whether they are “dorsal” or ventral”
3. Their relations to the muscles as they emerge.



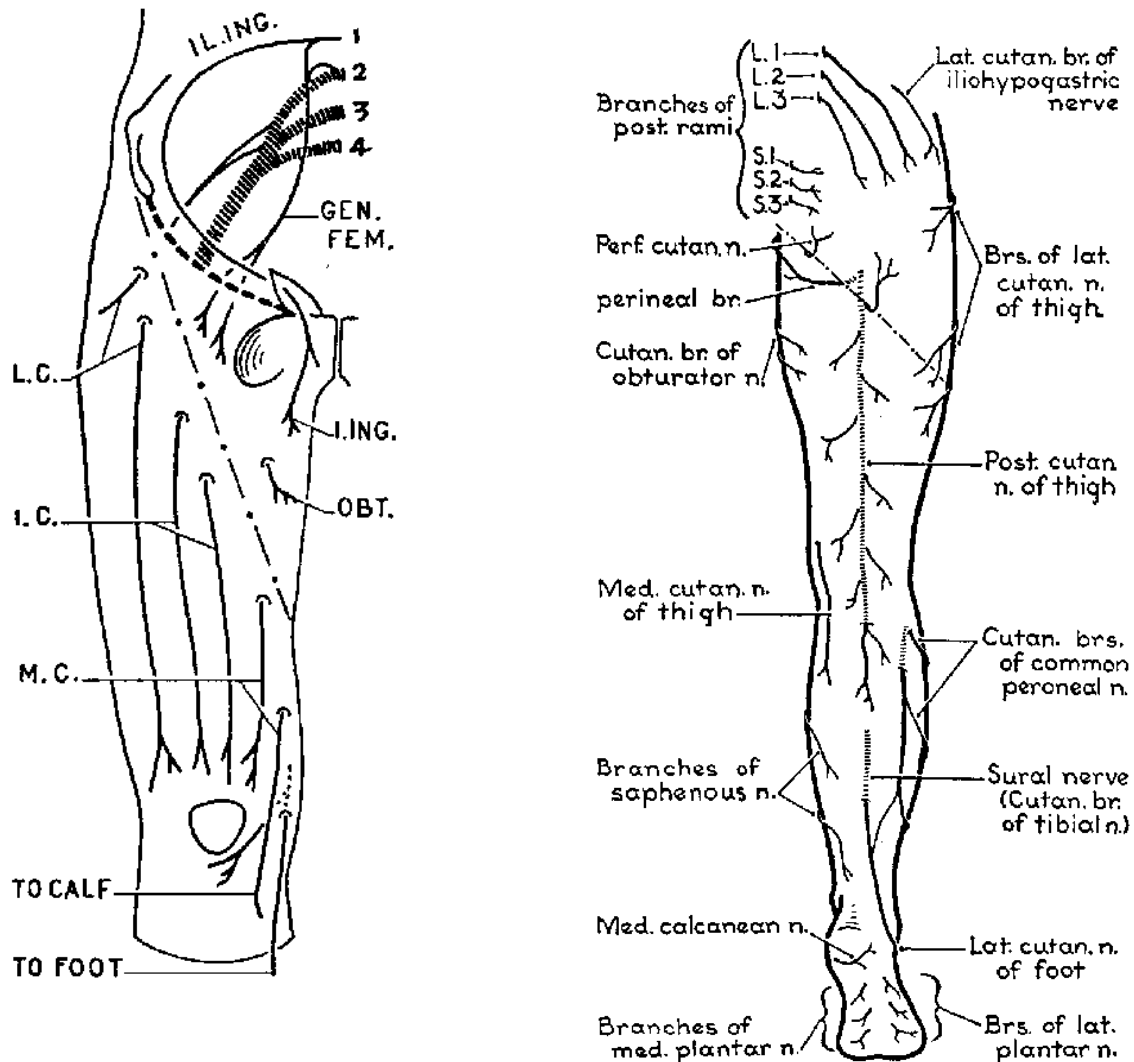
CUTANEOUS NERVES – UPPER LIMB

Motor (mixed) nerves in white

Cutaneous (sensory) nerves in black

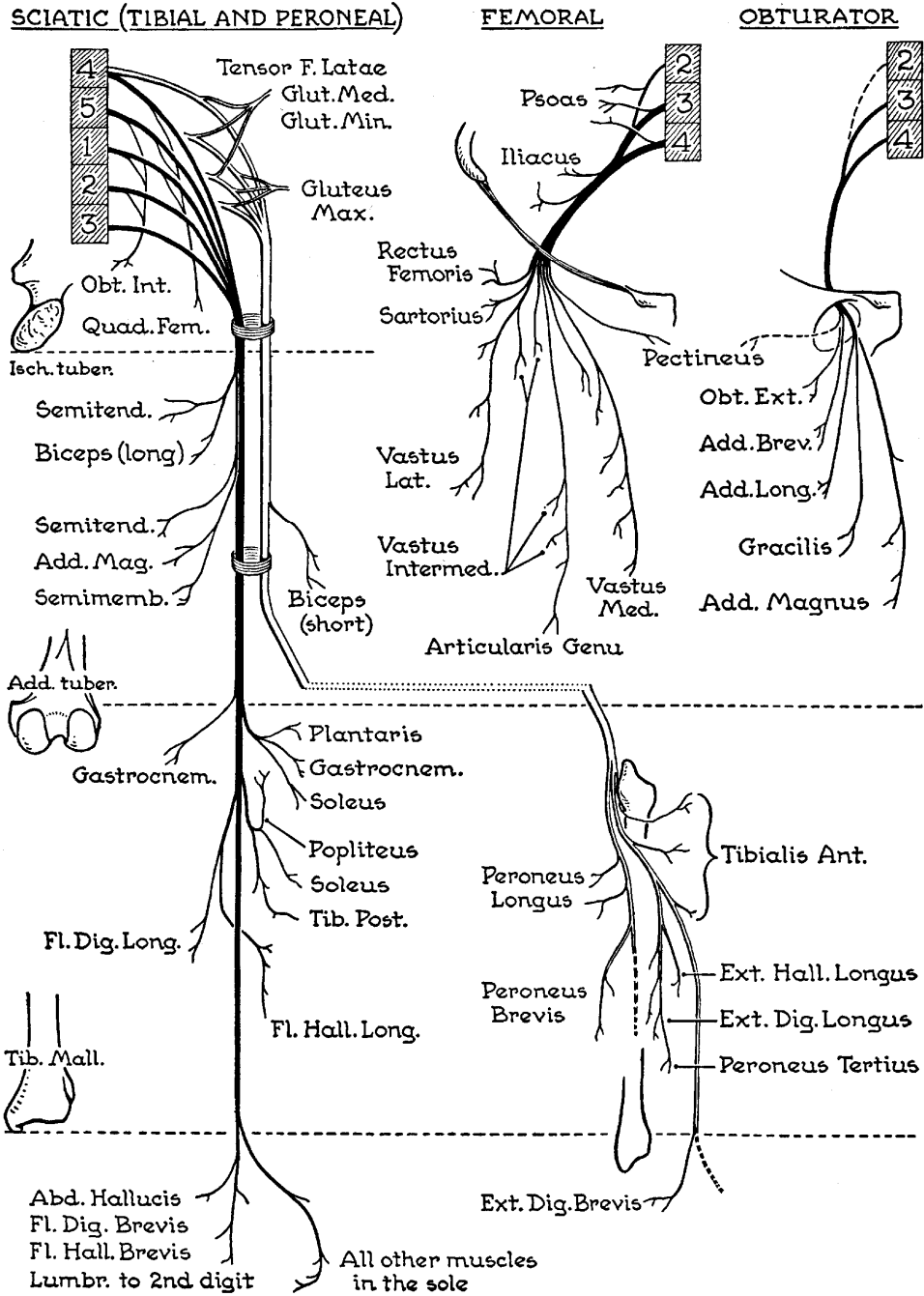


CUTANEOUS NERVES – LOWER LIMB



- Branches of the genitofemoral, obturator and ilioinguinal nerves
- Lateral cutaneous nerves from the Lumbar plexus (L23 – “femoral”)
- Anterior and medial femoral cutaneous nerves – from the femoral
- Saphenous nerve from the femoral
- Posterior cutaneous nerve of thigh (S123 - sacral plexus)
- Various cuneal (gluteal) nerves
- Sural nerve from tibial
- Lateral cutaneous nerves of the leg from common peroneal
- Others from the deep and superficial peroneal nerves
- Plantar nerves from the tibial nerve

CUTANEOUS NERVES – LOWER LIMB



Superficial veins and lymphatics

Great saphenous and small saphenous arise from medial and lateral sides of the dorsal venous arch of the foot.

Great Saph runs all up the medial side of the lower limb to the saphenous hiatus accompanied by femoral nerve braches (dorsal)

Small saphenous runs up the posterolateral side of the leg (accompanied by the sural nerve (ventral)). Pierces the deep fascia behind the knee and joins the popliteal vein.

Lymphatic vessels accompany veins and go to lymph nodes in the inguinal (and popliteal) region before going deep to join deep lymphatics.

All the lymphatics and superficial veins from the lower limb and superficial structures in the lower torso (importantly including the external genitalia), go to the inguinal region before joining deeper lymph channels (by passing through the saphenous hiatus).

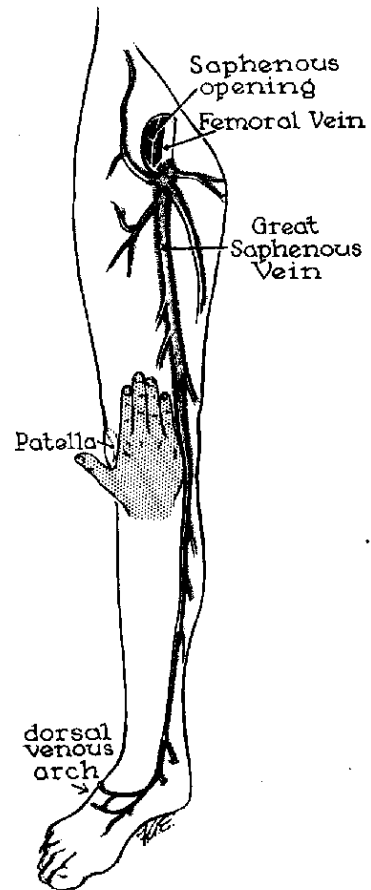
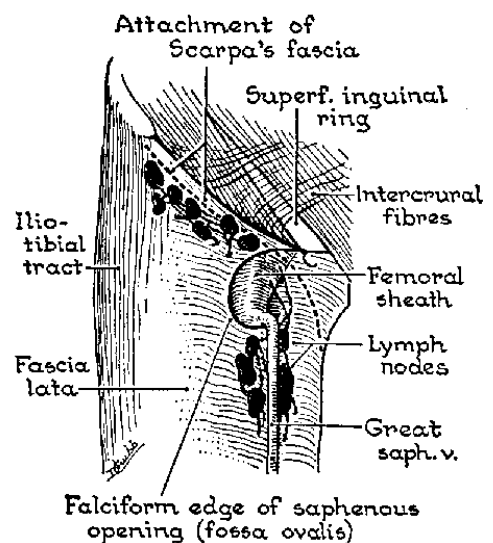


Fig. 398.1. The great saphenous vein.



Superficial veins and lymphatics

The Cephalic and basilic veins arise from lateral and medial sides of the dorsal venous arch of the hand.

Cephalic vein runs all up the lateral side of the upper limb to the deltopectoral triangle where it goes deep to join deep veins in the axilla.

The cephalic vein is accompanied by cutaneous branches of the radial (dorsal) nerve.

The Basilic vein runs up the medial side of the forearm and pierces the deep fascia just above the elbow and joins the venae comitantes of the brachial artery.

The basilic vein is accompanied by medial cutaneous branches of the arm and forearm (ventral).

Lymphatic vessels accompany veins and go to lymph nodes in the axilla (and one or two nodes just above the elbow) before going deep to join deep lymphatics. All the lymphatics and superficial veins from the upper limb and superficial structures in the upper torso (importantly including the pectoral region), go to the axilla before joining deeper lymph channels

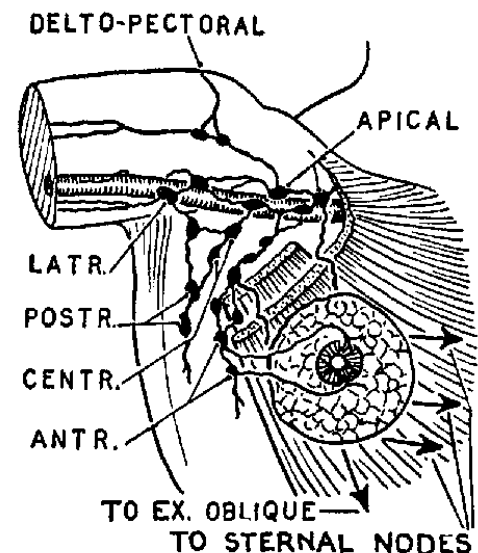
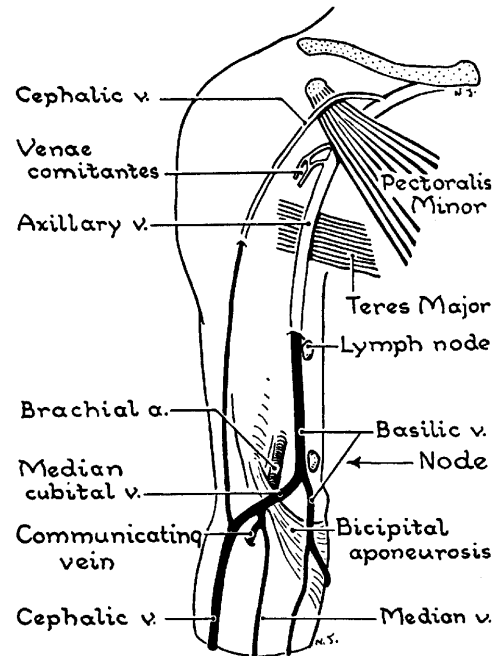


Figure 27.23. Lymphatics of breast and axilla (sternal nodes = parasternal).

THE FEMORAL TRIANGLE AND AXILLA

The femoral triangle and the axilla are homologous regions for the upper and lower limbs.

Both receive superficial veins and lymphatics

Both transmit the main neurovascular bundles to the respective limbs

Both are anatomical spaces bounded

1. on one side by a dorsal muscle group (supplied by femoral nerve and branches of the posterior cord (thoracodorsal and subscapular nerves))
2. and on the other by a ventral group (supplied by pectoral and obturator nerves)

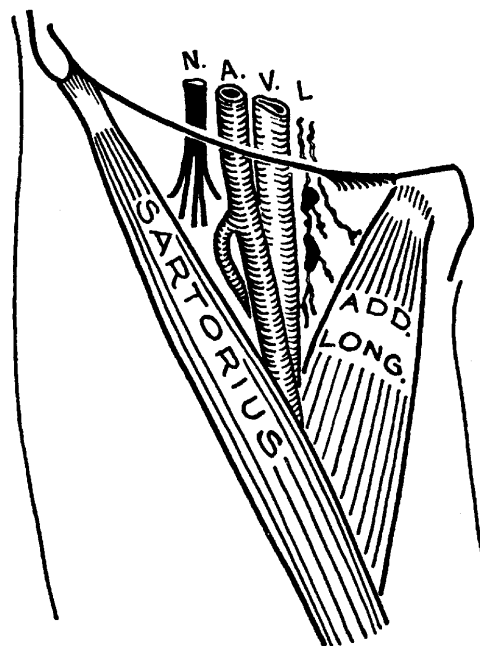
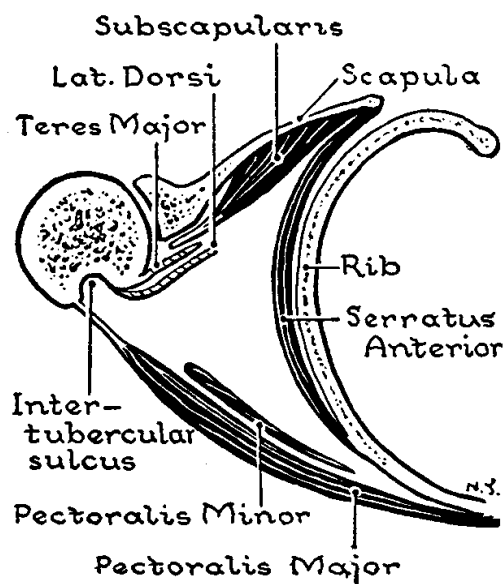


Figure 20.14. The contents of the femoral triangle.

FEMORAL TRIANGLE AND FEMORAL SHEATH

Within the femoral triangle the femoral nerve, artery, vein and lymphatics can be found (from lateral to medial: nerve, artery, vein and lymph)

However:

1. The vessels exit from (enter?) the abdominal cavity.
2. So they are inside the fascial lining of the abdomen – made of iliacus and transversalis fascia.
3. as they pass under the inguinal ligament they evaginate (draw out) a sleeve of fascia – the femoral sheath.
4. The femoral sheath runs a short distance down the thigh.
5. The femoral sheath does NOT contain the femoral nerve.
6. Strictly speaking the femoral nerve was never “inside” the abdomen – it is always “outside” the fascial lining of the abdomen

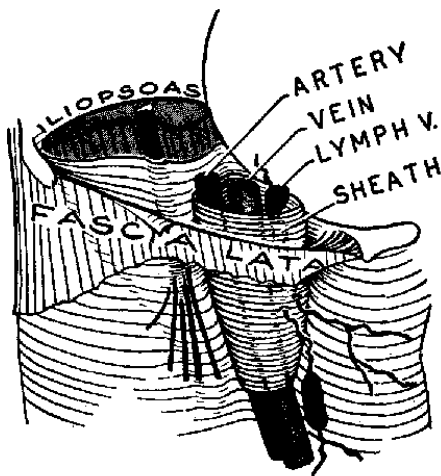
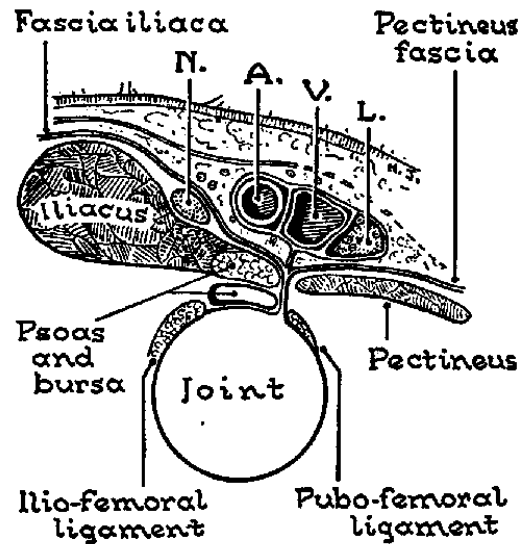


Figure 20.5. The femoral sheath.

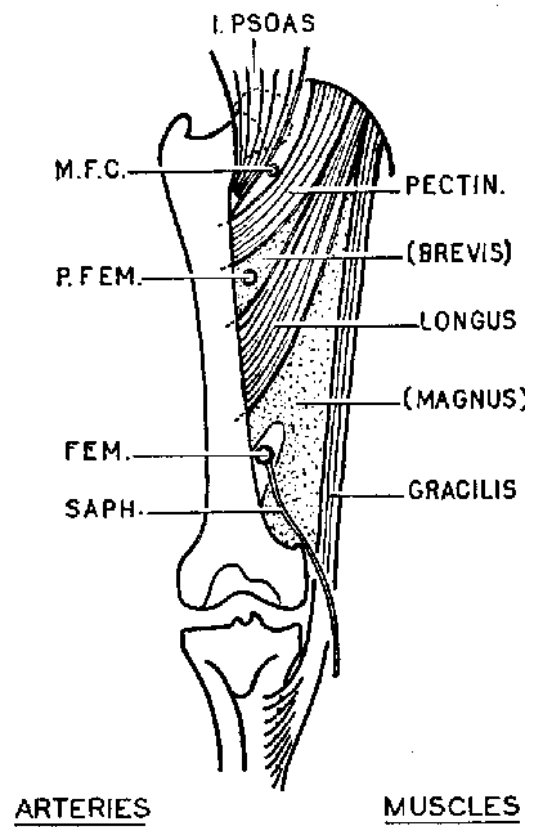


Hernia....

THE POSTERIOR WALL OF THE FEMORAL TRIANGLE And branches of the femoral artery

Formed by Obturator nerve supplied
muscles and pierced by branches of the
femoral artery

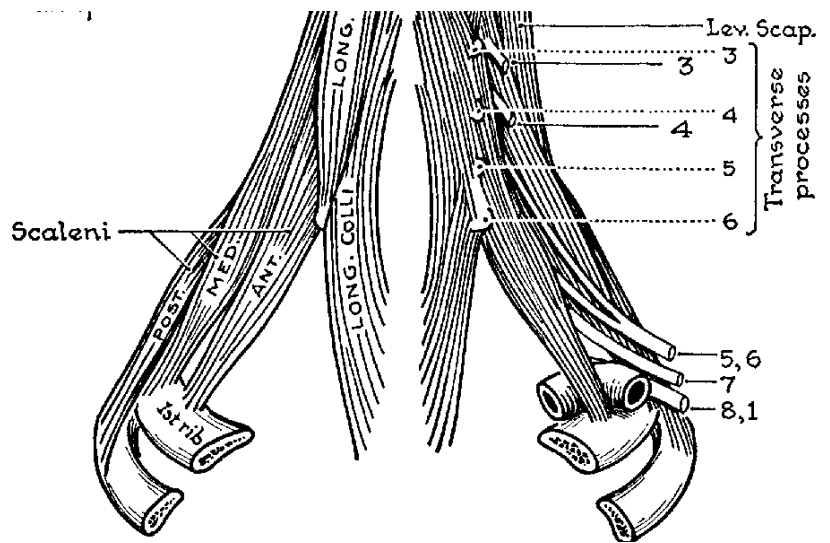
Profunda femoris
Medial circumflex femoral
Lateral circumflex femoral



THE AXILLA AND THE AXILLARY SHEATH

The Subclavian (axillary) artery and the brachial plexus both pass between scalenus anterior and scalenus medius

The scalenes are part of a muscle mass that surrounds the vertebral column, and those muscles are all wrapped-up in **prevertebral fascia**.



As the subclavian artery and the trunks of the brachial plexus emerge from between the scalenes, they drag a sleeve of that fascia with them – that sleeve extends into the axilla is called the axillary sheath

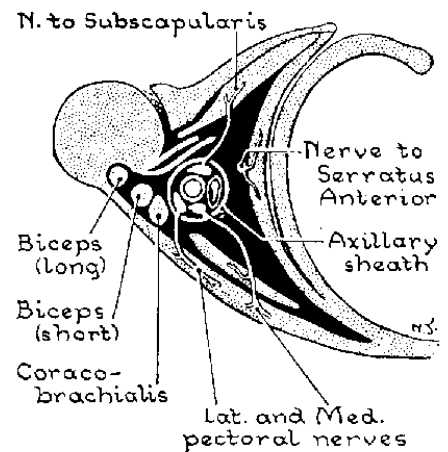
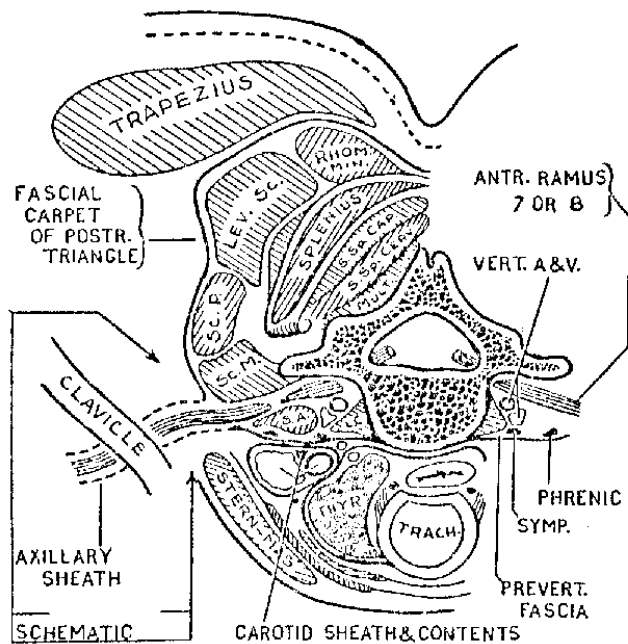


Figure 27.13. Contents of axilla (cross-section).

The axillary sheath does not contain the Subclavian/axillary vein

POSTERIOR WALL OF THE AXILLA And branches of the axillary artery

Posterior circumflex humeral a
Anterior circumflex humeral a
Profunda brachii artery

But also others that supply the anterior chest region.

1st part

1. supreme thoracic

2nd part

1. Thoracoacromial trunk (pectoral, acrom branches)
2. Lateral thoracic

3rd part

1. medial circumflex humeral
2. lateral circumflex humeral
3. Subscapular

Terminal branches of the axillary artery =
brachial and profunda brachii arteries

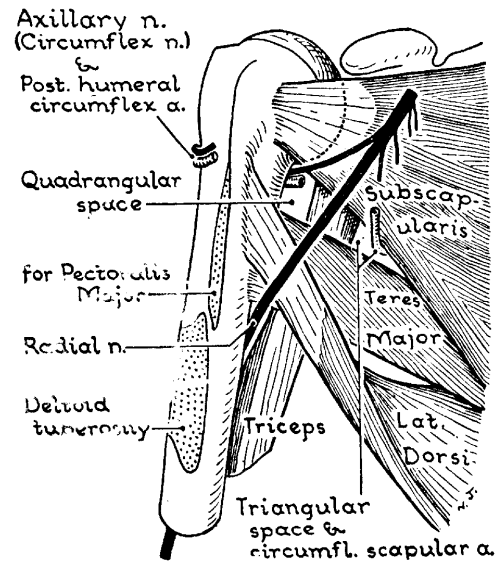


Figure 27.12. The posterior wall of axilla.

