



Topographic anatomy of the lower limb

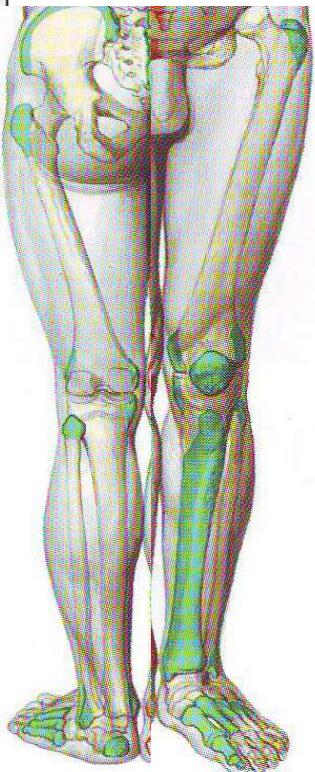


1. Gluteal region – *regio glutealis*
2. Thigh – *regio femoris anterior*
et regio femoris posterior
3. Knee – *regio genus anterior*
et regio genus posterior
4. Leg – *regio cruris anterior*
et regio cruris posterior
5. Foot – *regio calcanea,*
dorsum, planta et digitii pedis



Lower limb

External points



External palpation points

- The bone and muscle palpation points:

- ✓ *crista iliaca*
- ✓ *spina iliaca anterior superior*
- ✓ *spina iliaca posterior superior*
- ✓ *trochanter major*
- ✓ *condylus medialis femoris*
- ✓ *condylus lateralis femoris*
- ✓ *patella*
- ✓ *tuberositas tibiae*
- ✓ *margo anterior tibiae*
- ✓ *facies medialis tibiae*
- ✓ *malleolus medialis tibiae*
- ✓ *malleolus lateralis fibulae*
- ✓ *m. gluteus maximus*
- ✓ *m. quadriceps femoris*
- ✓ *m. sartorius*
- ✓ *m. gastrocnemius*



**Regiones
membri inferioris**

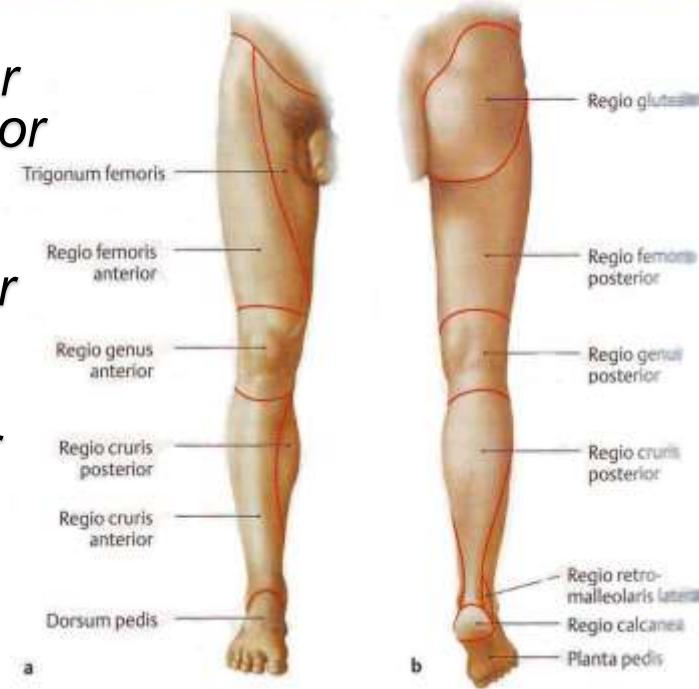


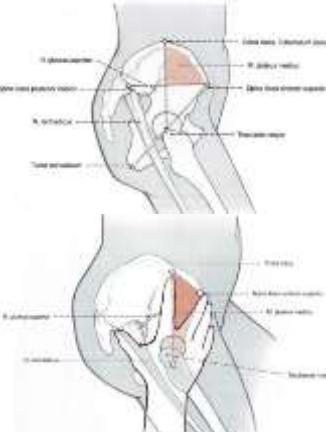
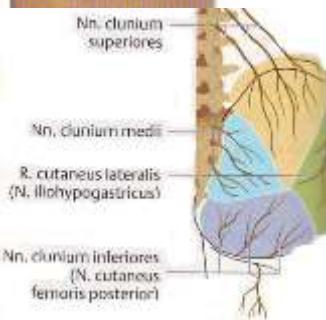
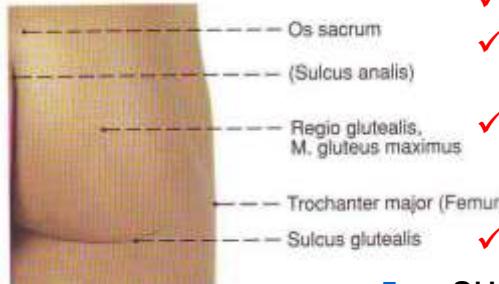
Topographic regions of the lower limb

- *regiones membra inferioris:*

- ✓ hip and buttocks, *nates (clunes)*:
 - *regio glutealis*
 - *regio coxae*
- ✓ thigh, *femur*:
 - *regio femoris anterior*
 - *regio femoris posterior*
- ✓ knee, *genu (poples)*:
 - *regio genus anterior*
 - *regio genus posterior*
- ✓ leg, *crus*:
 - *regio cruris anterior*
 - *regio cruris posterior*
- ✓ heel, *calx*:
 - *regio calcanea*
- ✓ foot, *pes*:
 - *dorsum pedis*
 - *planta pedis*
 - *digitus pedis*

D-1.39 Regionen der unteren Extremität



Regio glutealis

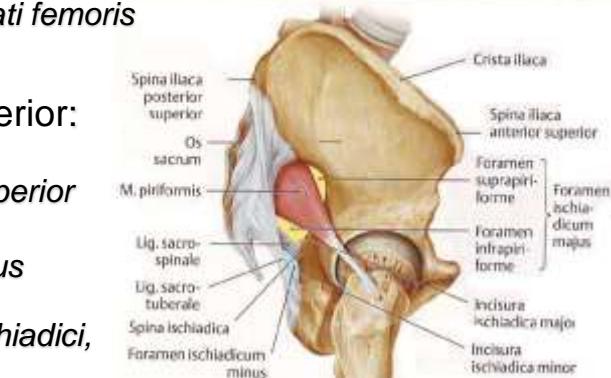
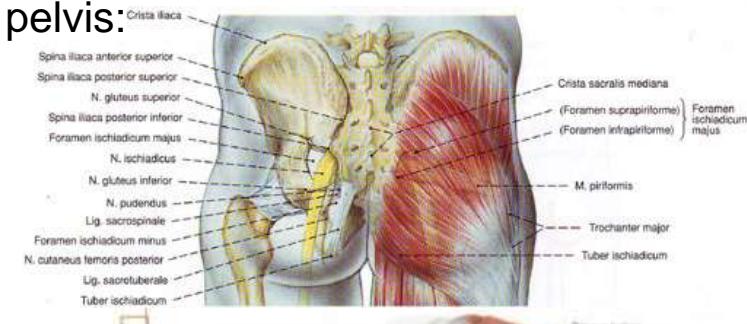
Gluteal region, regio glutea

- borders – soft tissues outside the pelvis:

- ✓ superior – *crista iliaca*
- ✓ medial – midsaggital line through the sacral and coccygeal bones
- ✓ lateral – a line connecting the anterior superior iliac spine with the greater trochanter
- ✓ inferior – gluteal fold

- surface anatomy:

- ✓ skin – thick and rich in sebaceous glands
- ✓ subcutaneous layer – abundant fat tissue:
 - *massa adiposa lumboglutealis*
 - *nn. clunium superiores, medi et inferiores*
- ✓ **fascia glutea** – superficial and deep layer
- ✓ muscles in the region – three layers:
 - superficial – *m. gluteus maximus*
 - middle – *m. gluteus medius, m. piriformis, mm. gemelli, tendines m. obturatorii interni et m. quadrati femoris*
 - deep – *m. gluteus minimus, m. obturatorius externus*
- ✓ neurovascular bundles – superior and inferior:
 - ✓ superior – **foramen suprapiriforme**:
 - *a. et vv. glutea superior(es), n. gluteus superior*
 - ✓ inferior – **foramen infrapiriforme**:
 - deep: *a. et v. pudenda interna, n. pudendus*
 - medial: *a., vv. et n. gluteus inferior*
 - lateral: *n. ischiadicus, a. commitans n. ischiadici, n. cutaneus femoris posterior*



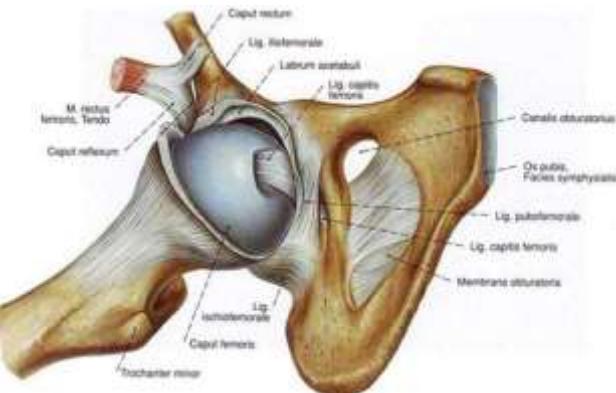
Coxofemoral (hip)

Ixations:

- ✓ luxatio iliaca
- ✓ luxatio suprapubica



The coxal region, regio coxae



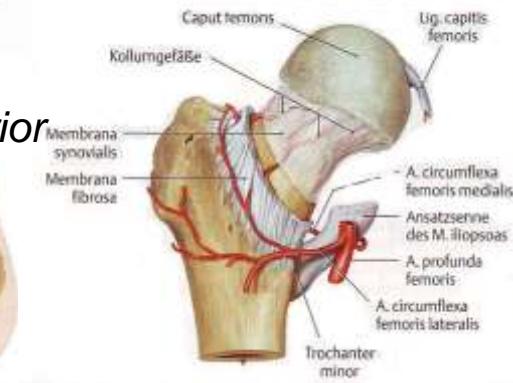
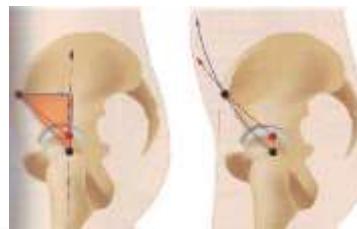
The coxal (hip) joint, *articulatio coxae*

■ external points:

- ✓ linea spinotrochanterica
⇒ Shoemaker's line
- ✓ trochanter major ⇒ spina iliaca anterior superior
⇒ tuber ischiadicum
⇒ Roser-Nelaton line



D-1.4 Blutgefäßversorgung des Femurkopfes



borders

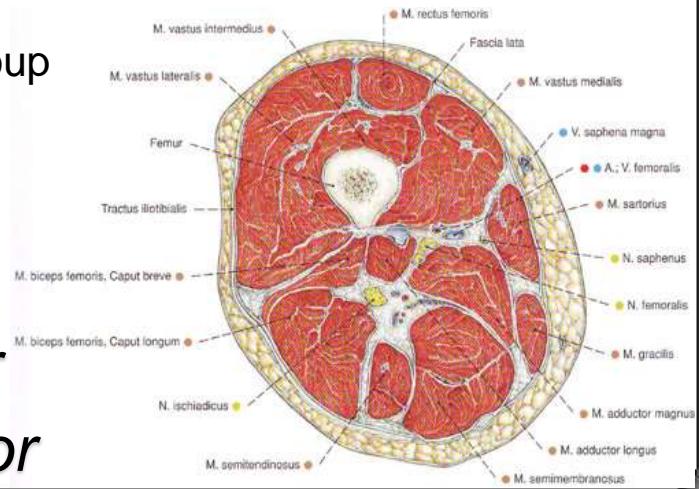
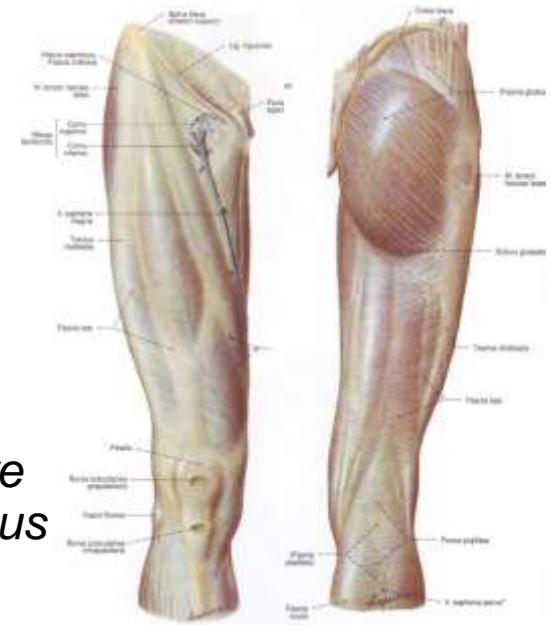
topographic
regions

Femur



Thigh, femur

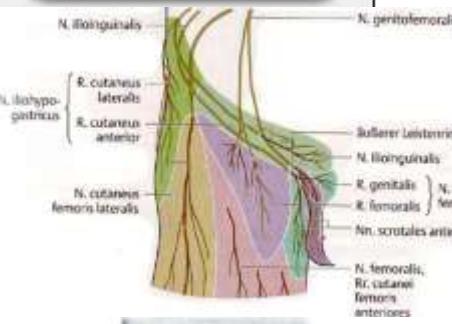
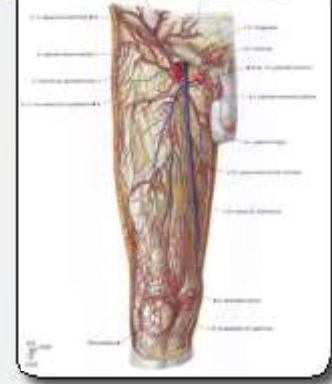
- boundaries:
 - ✓ proximal:
 - at the front – inguinal groin
 - at the back – gluteal fold
 - ✓ distal – two-finger width proximally from the *basis patellae*
- muscle compartments:
 - ✓ *fascia lata* ⇒ *septum intermusculare femoris, mediale et laterale, posterius*
 - ✓ anterior – anterior muscle group
 - ✓ medial – medial muscle group
 - ✓ posterior – posterior muscle group
- topographic regions –
two vertical lines from *epicondylus femoris* to *spina iliaca anterior superior*, *symphysis pubica*, respectively
 - ✓ *regio femoris anterior*
 - ✓ *regio femoris posterior*



topography

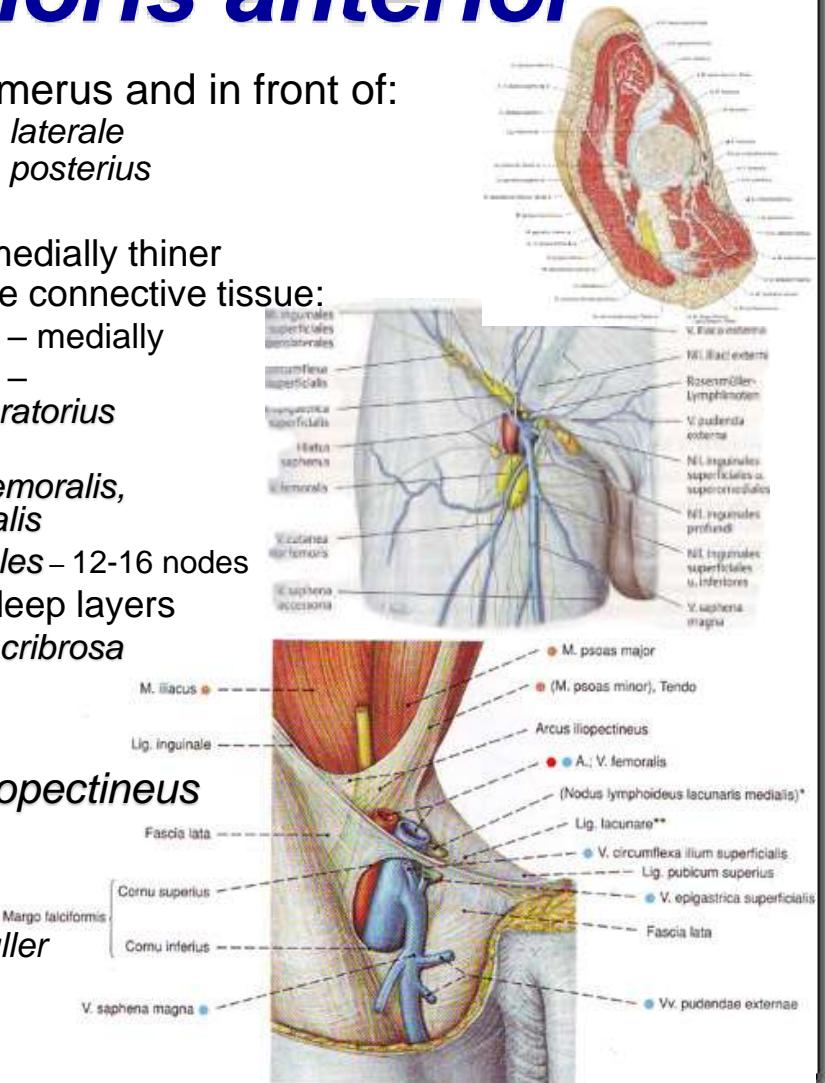
surface anatomy

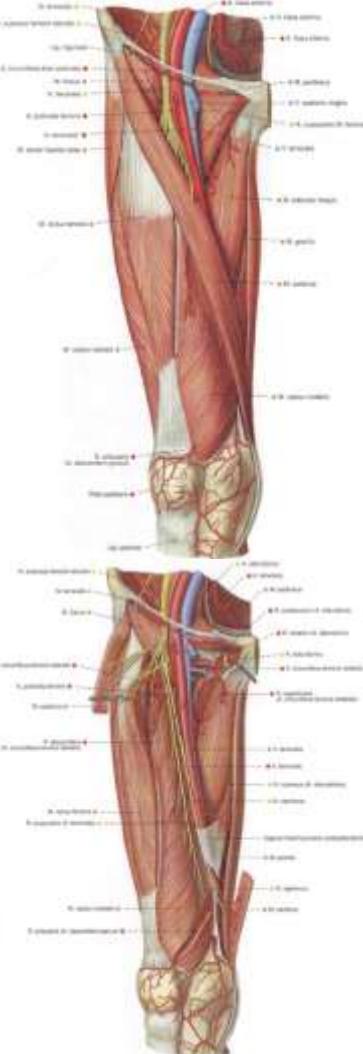
Regio femoris anterior



The anterior femoral region, regio femoris anterior

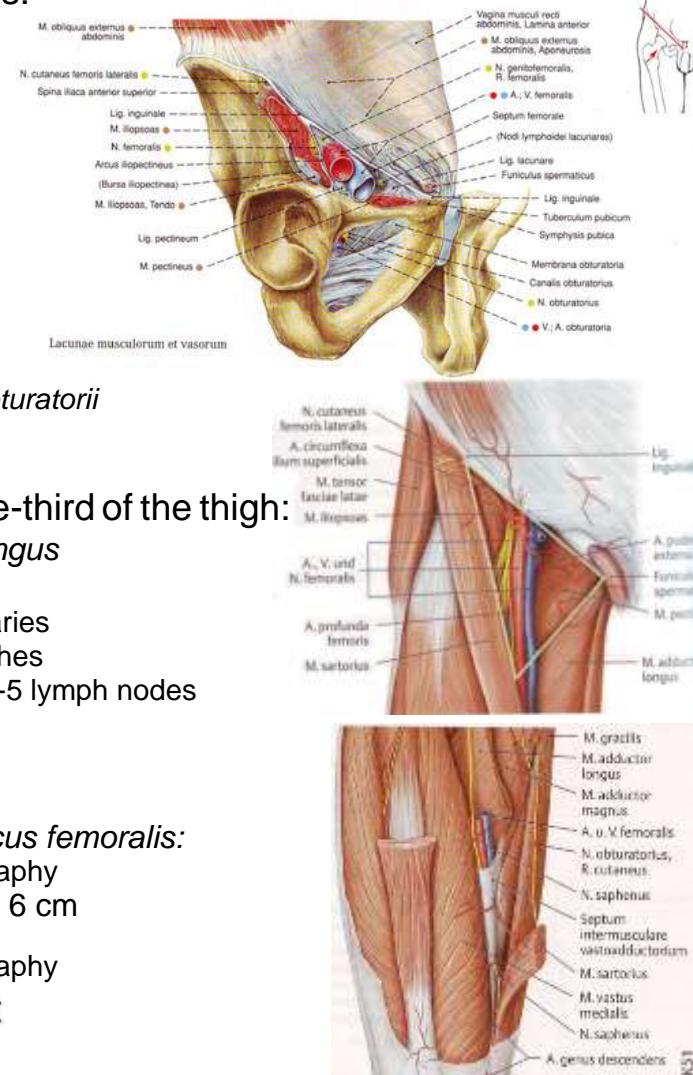
- boundaries – ahead of the humerus and in front of:
 - ✓ *septum intermusculare femoris laterale*
 - ✓ *septum intermusculare femoris posterius*
- surface anatomy:
 - ✓ skin – laterally thick, superomedially thinner
 - ✓ subcutaneous layer – adipose connective tissue:
 - the great saphenous vein – medially
 - superior-medial skin area –
n. genitofemoralis, n. obturatorius
 - inferior-lateral skin area –
rr. cutanei anteriores n. femoralis,
n. cutaneus femoris lateralis
 - *nodi inguinales superficiales* – 12-16 nodes
 - ✓ **fascia lata** – superficial and deep layers
 - *hiatus saphenus* ⇒ *fascia cribrosa*
 - *tractus iliotibialis*
 - ✓ **lacuna musculorum:**
 - *m. iliopsoas* } *arcus iliopectineus*
 - *n. femoralis*
 - ✓ **lacuna vasorum:**
 - *anulus femoralis* ⇒
 - **Lymph node of Rosenmüller**
 - **Vein – v. femoralis**
 - **Artery – a. femoralis**
 - **Nerve – n. femoralis**



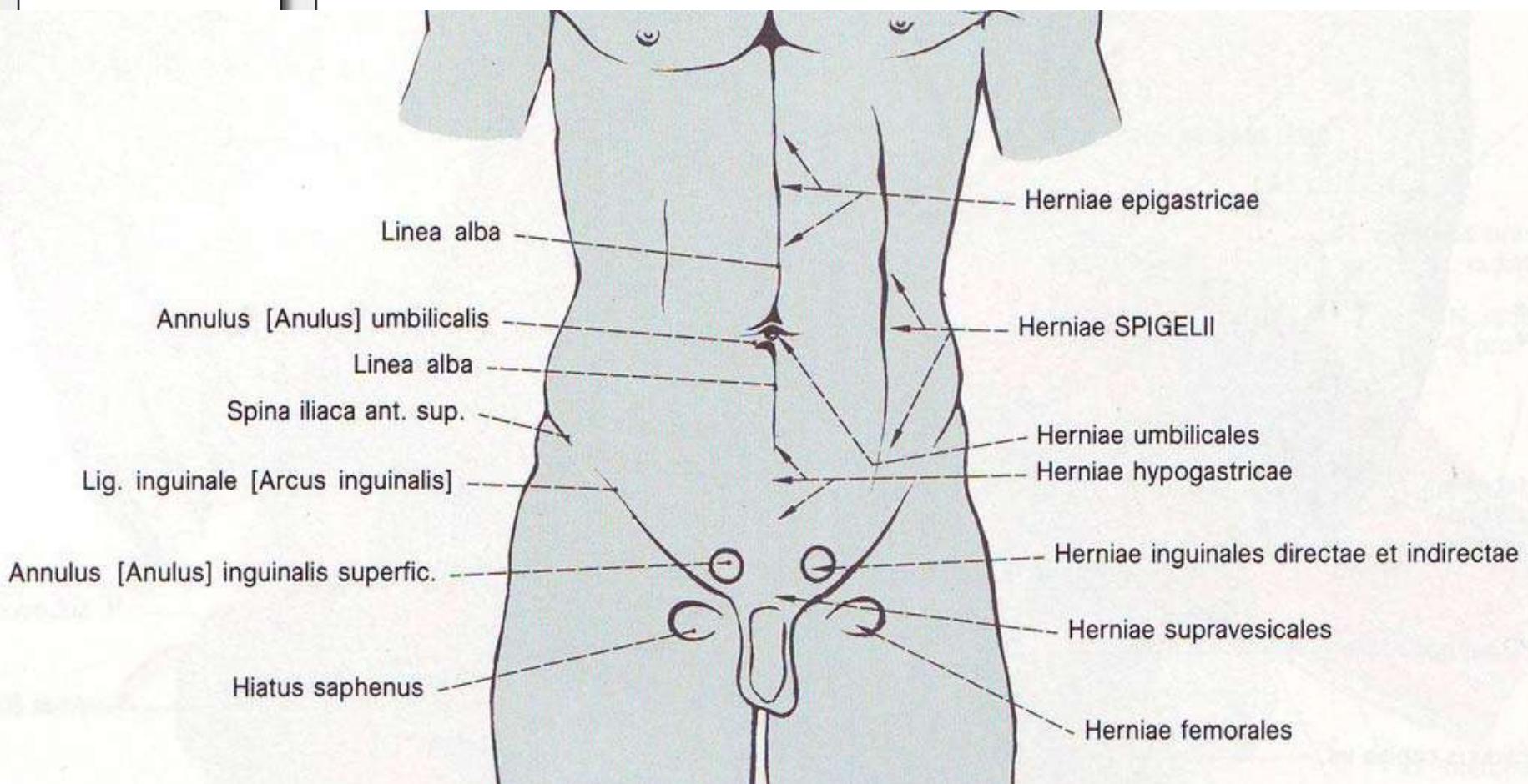


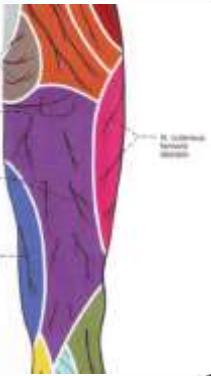
Anterior femoral region

- the femoral canal – 1-2 cm length, borders:
 - ✓ *anulus femoralis*
 - ✓ *hiatus saphenus*
 - ✓ content:
 - lymph node of Rosenmüller (80%)
 - deep inguinal lymph nodes
 - small blood vessels
- the obturator canal – 2 cm length, connects the pelvis to the thigh
 - ✓ borders:
 - above – *sulcus obturatorius*
 - below – *membrana obturatoria, mm. obturatorii*
 - ✓ content:
 - *a. et vv. obturatoria(e), n. obturatorius*
- the femoral (Scarpa's) triangle – upper one-third of the thigh:
 - ✓ *lig. Inguinale, m. sartorius, m. adductor longus*
 - ✓ content:
 - *a. et v. femoralis* – branches and tributaries
 - *n. femoralis* – motor and sensory branches
 - *nodi lymphoidei inguinales profundi* – 3-5 lymph nodes
- the adductor (Hunter's) canal:
 - ✓ from the apex of the *trigonum femorale*
 - ✓ to the *hiatus tendineus* ⇒ *fossa poplitea*
 - ✓ superior (subsartorial) compartment – *sulcus femoralis*:
 - *a. et v. femoralis, n. saphenus* – topography
 - ✓ inferior (subaponeurotic) compartment – ~ 6 cm aponeurotic fibromuscular tunnel:
 - *a. et v. femoralis, n. saphenus* – topography
- anterior fascial compartment – content
- medial fascial compartment – content



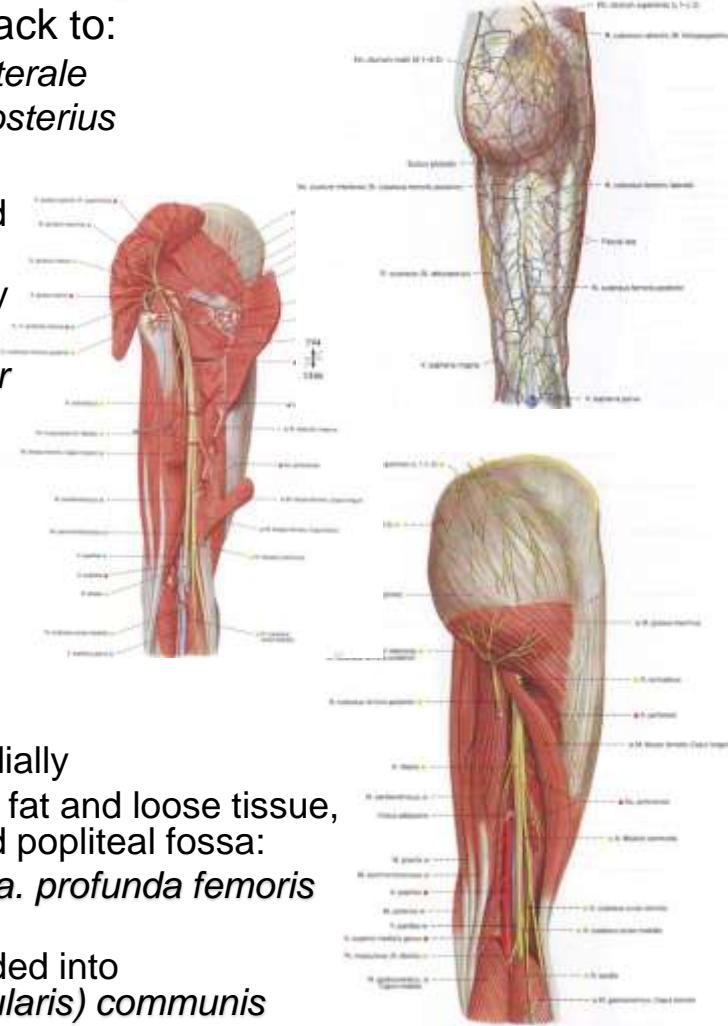
Sites of femoral hernia formation





The posterior femoral region, *regio femoris posterior*

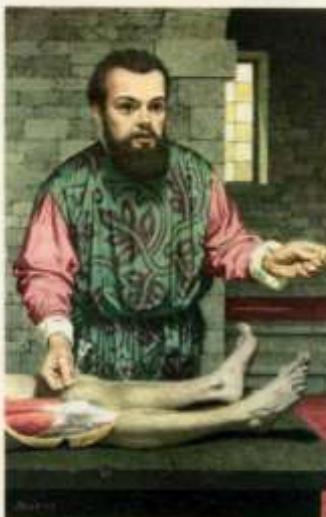
- borders – behind the femur and back to:
 - ✓ *septum intermusculare femoris laterale*
 - ✓ *septum intermusculare femoris posterius*
- surface anatomy:
 - ✓ skin – moderately thick, hairy and mobile
 - ✓ subcutaneous tissue – moderately fat connective tissue:
 - *n. cutaneus femoris posterior*
 - *n. obturatorius* – medially
 - *n. cutaneus femoris lateralis* – laterally
 - *v. femoropoplitea*
 - ✓ *fascia lata* – split
 - ✓ muscle layer:
 - *m. biceps femoris* ➔ laterally
 - *m. semitendinosus*,
m. semimembranosus ➔ medially
 - ✓ vessels and nerves – in abundant fat and loose tissue, communication with the nates and popliteal fossa:
 - three *aa. et vv. perforantes*, *a. profunda femoris*
a. commitans *n. ischiadicus*
 - *n. ischiadicus* ➔ variable divided into
n. tibialis et n. peroneus (fibularis) communis



borders

topographic
regions

Genu



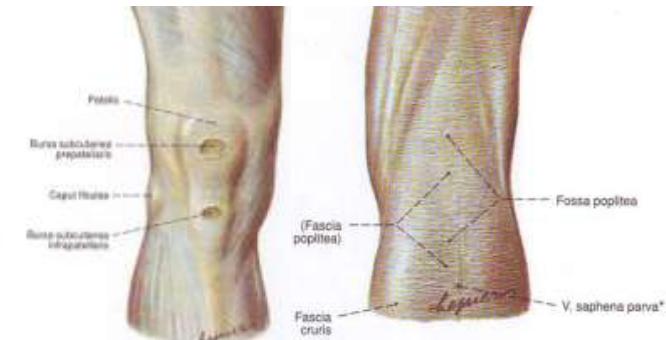
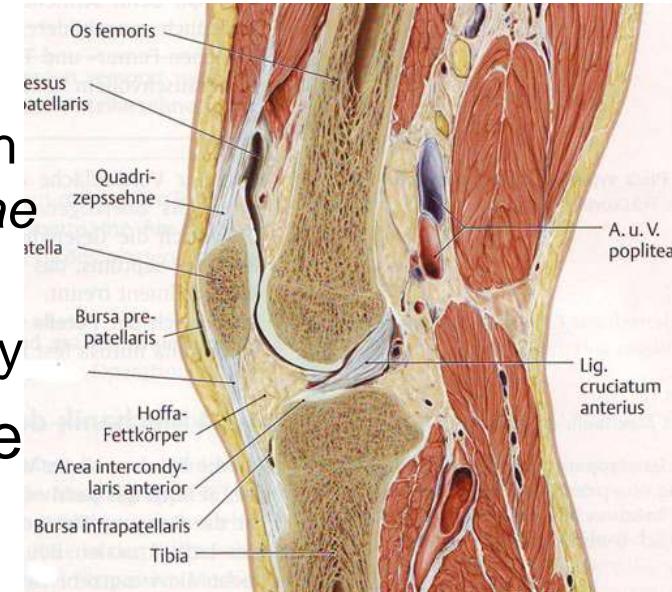
The knee, genu

- boundaries – the knee joint outlines:

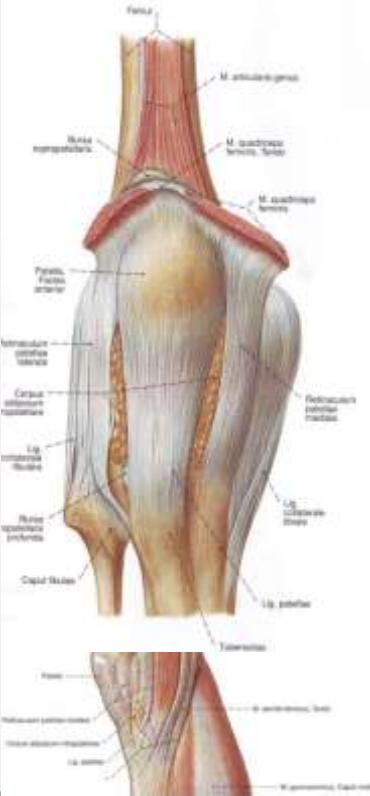
- ✓ proximal – two-finger width (4 cm) above *basis patellae*
- ✓ distal – the horizontal line through the tibial tuberosity

- topographic regions – the vertical lines through the femoral epicondyles:

- ✓ *regio genus anterior*
- ✓ *regio genus posterior*

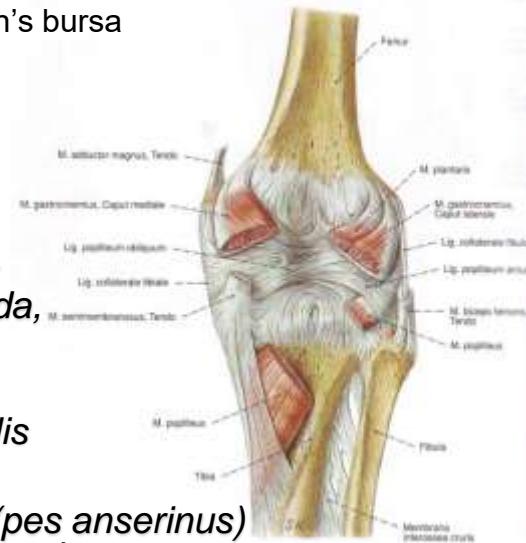
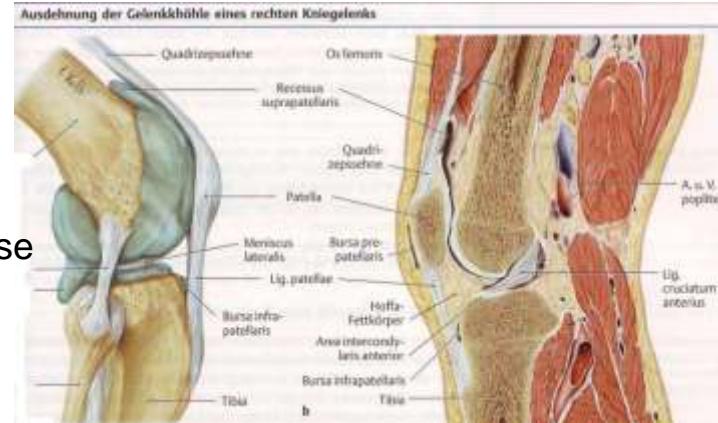


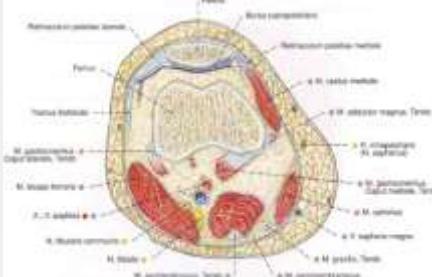
Regio genus anterior



The anterior knee region, regio genus anterior

- external landmarks:
 - ✓ *patella et lig. patellae*
 - ✓ *condyli et epicondylia femoris*
- surface anatomy:
 - ✓ skin – thick and less mobile
 - ✓ subcutaneous layer – fat and sparse loose connective tissue:
 - *rr. cutanei anteriores n. femoralis*
 - *n. infrapatellaris (n. saphenus)*
 - *v. saphena magna*
 - *bursa subcutanea prepatellaris, bursa subcutanea tuberositas tibiae, cavalryman's bursa*
 - ✓ *fascia lata, bursa prepatellaris subfascialis*
 - ✓ muscles around the knee front:
 - anteriorly:
 - *m. quadriceps femoris* ⇒ *lig. patellae, retinaculum patellae mediale et laterale, bursa suprapatellaris, bursa prepatellaris subtendinea, bursa infrapatellaris profunda, m. articularis genus*
 - laterally:
 - *tendo m. bicipitis femoris, tractus iliotibialis*
 - medially:
 - *tendo m. sartorii, gracilis, semitendinosi (pes anserinus) bursa anserina et tendo m. semimembranosi*

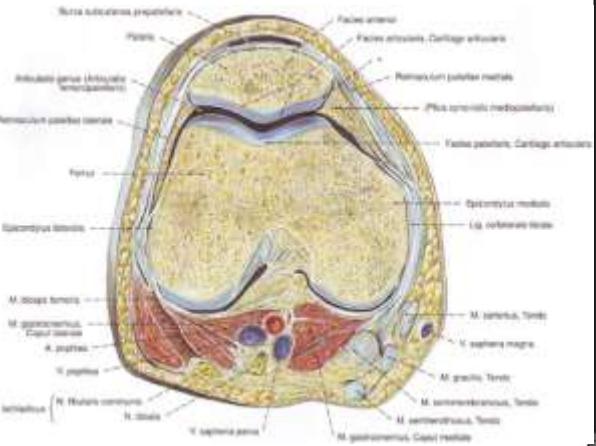
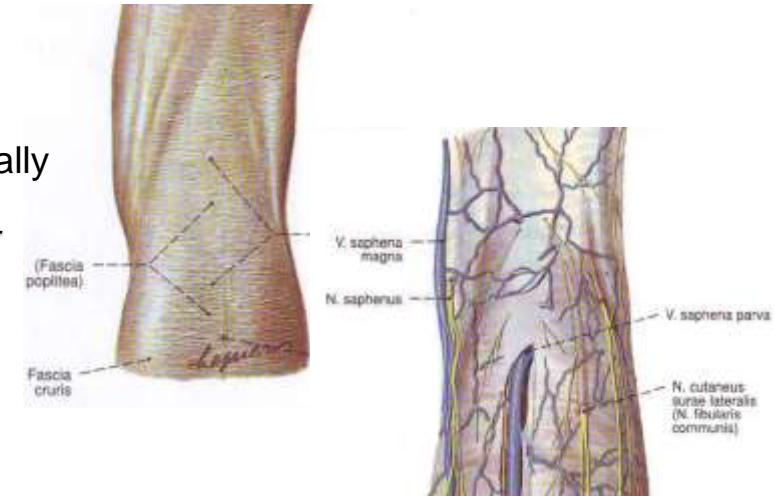




Jobert de Lamballe **(1799-1867)**

The posterior knee region, *regio genus posterior*

- location – behind the knee joint
 - **fossa poplitea**
 - surface anatomy:
 - ✓ skin – thin and mobile
 - ✓ subcutaneous layer – individually developed fat tissue:
 - *n. cutaneus femoris posterior*
 - *n. saphenus*
 - *n. cutaneus surae lateralis*
 - ✓ **fascia genus:**
 - canal for *v. saphena parva*
 - medial and lateral septa
 - ✓ muscles – two sheaths:
 - medial
 - *m. semitendinosus*
 - *m. semimembranosus* ⇔
bursa m. semimembranosi
 - lateral
 - *m. biceps femoris*
 - *bursa subtendinea m. bicipitis femoris*
 - ✓ *nodi lymphoidei poplitei* – superficial, intermediate and deep
 - ✓ *fossa Joberti* – *m. adductor magnus* – *m. semimembranosus* ⇔ *a. poplitea*



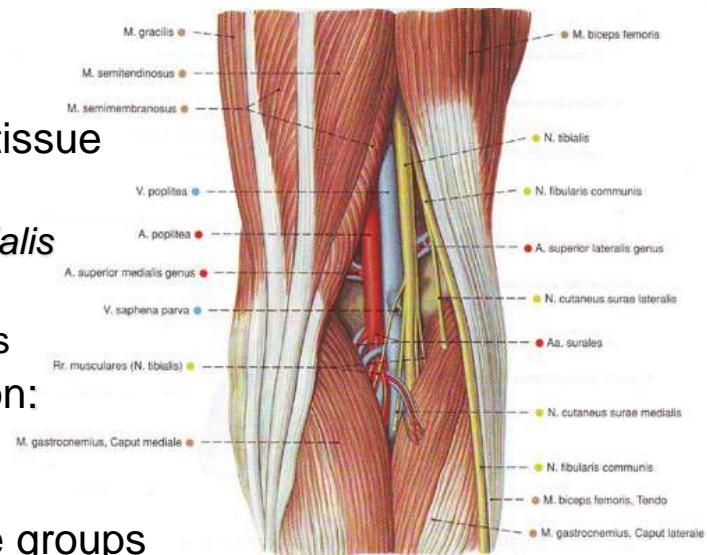
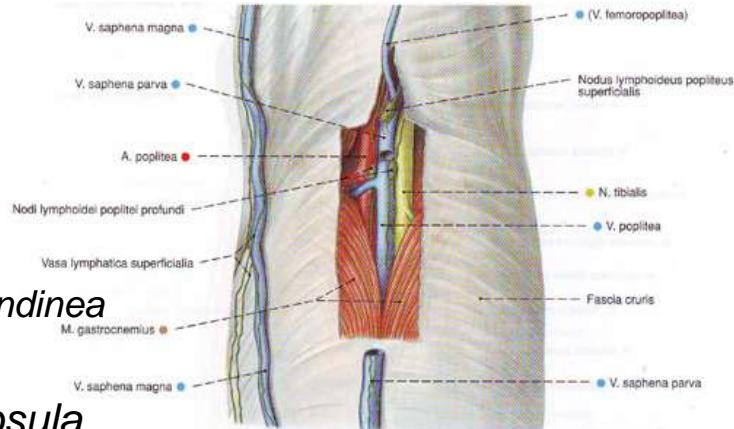
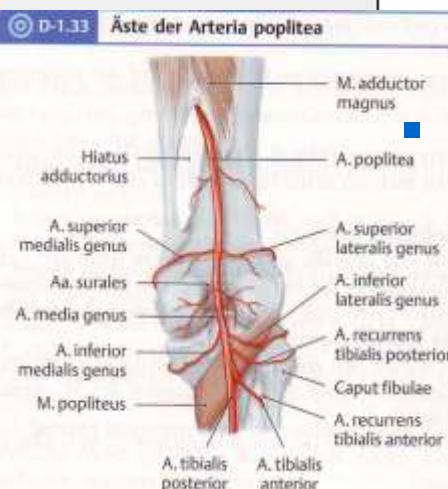
Popliteal fossa, fossa poplitea

borders:

- ✓ superior-lateral:
➤ *m. biceps femoris*
- ✓ superior-medial:
➤ *m. semitendinosus*
➤ *m. semimembranosus*
- ✓ distal – *m. gastrocnemius*:
➤ *caput mediale* ⇒ *bursa subtendinea*
➤ *caput laterale (fabella)* ⇒ *bursa subtendinea*
- ✓ floor – *planum popliteum, capsula articularis genus, m. popliteus*
⇒ *recessus subpopliteus*

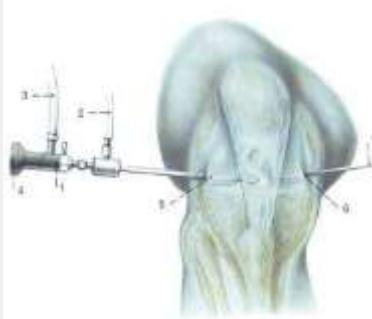
content:

- ✓ adipose and loose connective tissue
- ✓ neurovascular bundle:
 - **NERve** – *n. ischiadicus* ⇒ *n. tibialis*
 - **Vein** – *v. poplitea*
 - **Artery** – *a. poplitea* – branches
- ✓ in the lower portion of the region:
 - *n. peroneus communis* ⇒ *n. cutaneus surae lateralis*
 - ✓ *nodi lymphoidei poplitei* – three groups

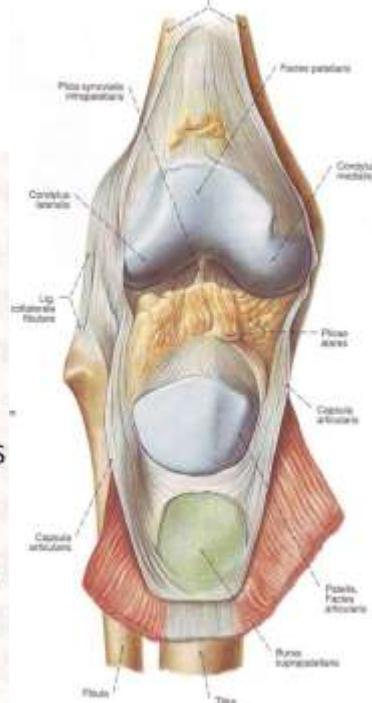
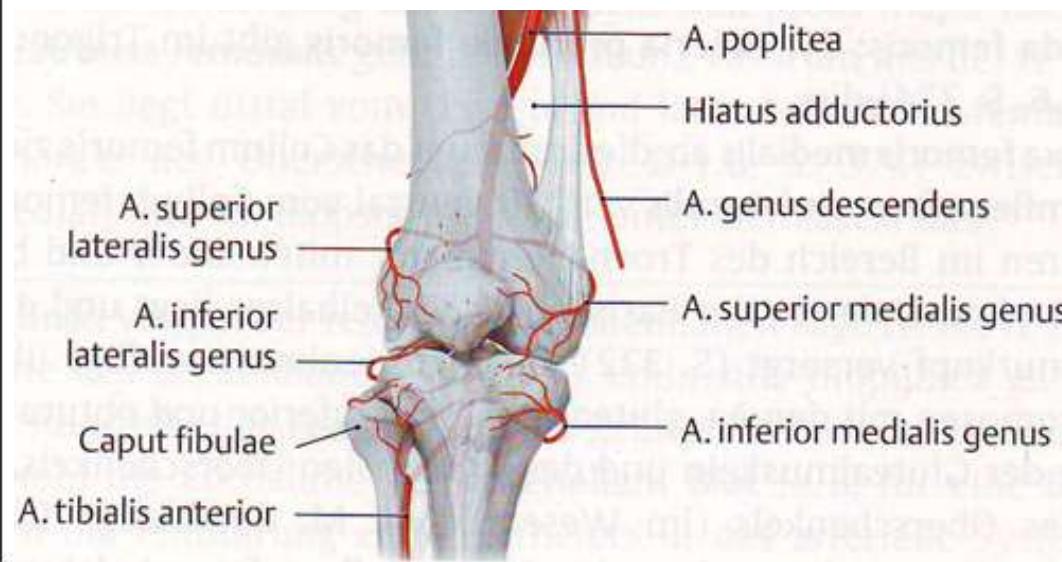


The knee joint, *articulatio genus*

Articulatio genus



- rete articulare genus:
 - ✓ a. genus descendens
 - ✓ a. genus superior medialis
 - ✓ a. genus superior lateralis
 - ✓ a. genus media
 - ✓ a. genus inferior medialis
 - ✓ a. genus inferior lateralis
 - ✓ a. recurrens tibialis anterior
 - ✓ a. recurrens tibialis posterior
 - ✓ r. circumflexus fibulae

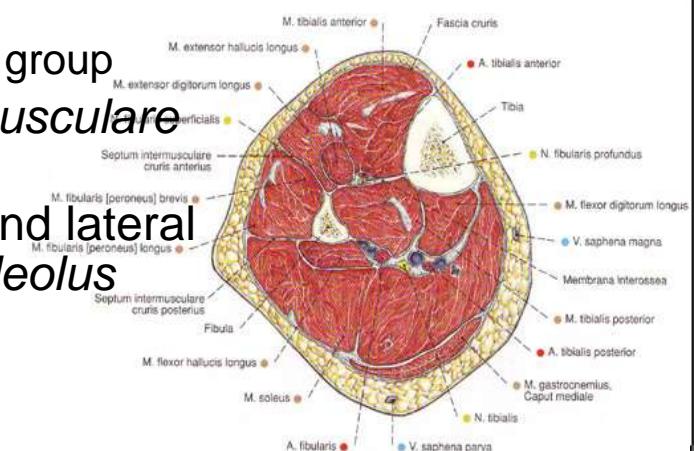
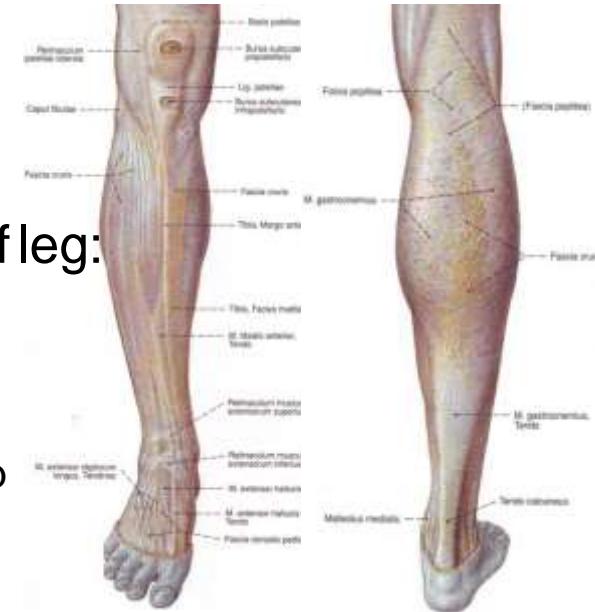


Crus



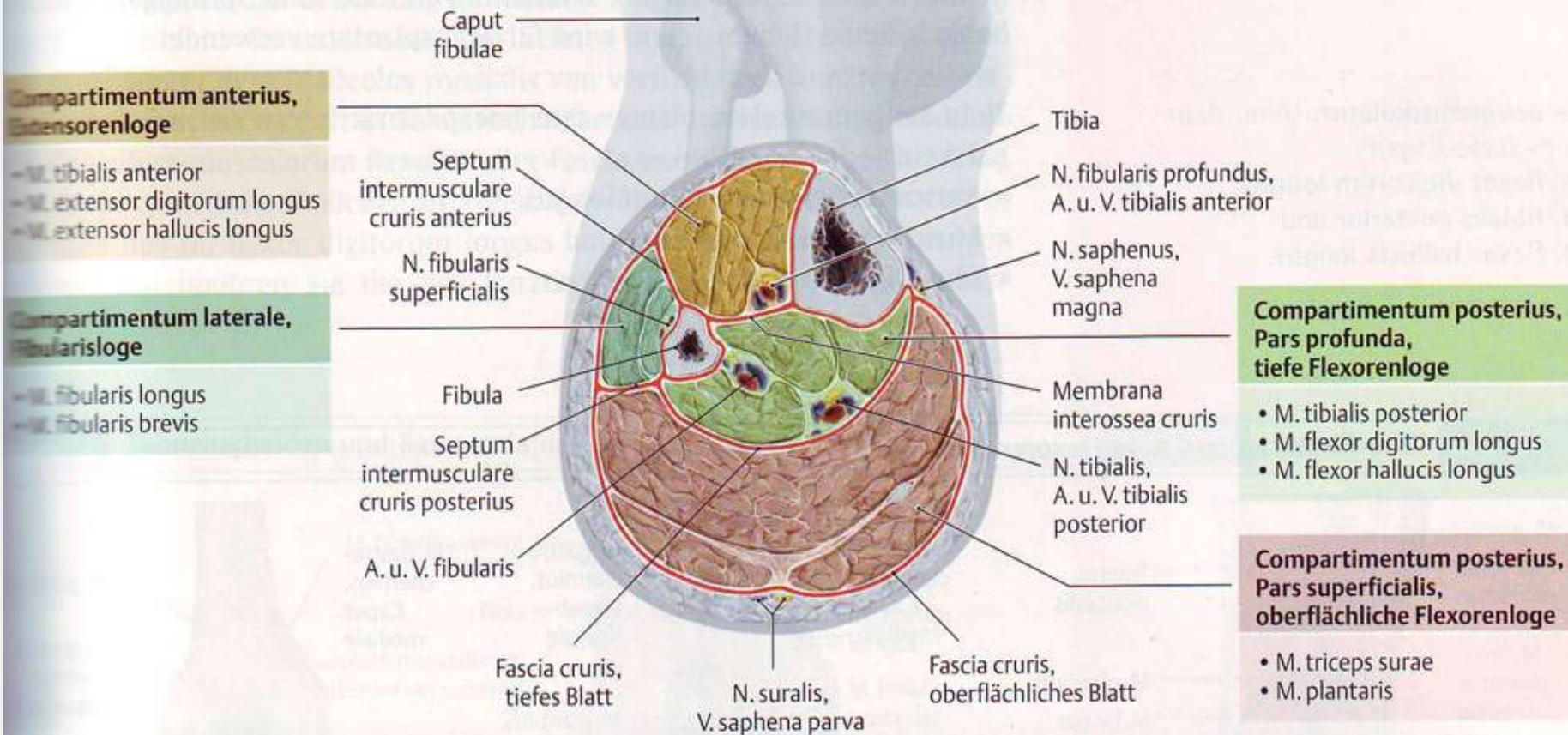
The leg, *crus*

- borders:
 - ✓ proximal – the line through the tibial tuberosity
 - ✓ distal – the bimalleolar line
 - bones and fascial compartments of leg:
 - ✓ *tibia et fibula*
 - ✓ *membrana interossea cruris*
 - ✓ anterior (dorsiflexor or extensor) compartment – anterior muscle group
 - ✓ lateral (fibular) compartment – lateral muscle group
 - ✓ posterior (plantarflexor or flexor) compartment – posterior muscle group
 - ✓ *fascia cruris* ⇒ *septum intermusculare cruris, anterius et posterius*
 - topographic regions – medial and lateral longitudinal grooves through *malleolus medialis et lateralis*:
 - ✓ *regio cruris anterior*
 - ✓ *regio cruris posterior*



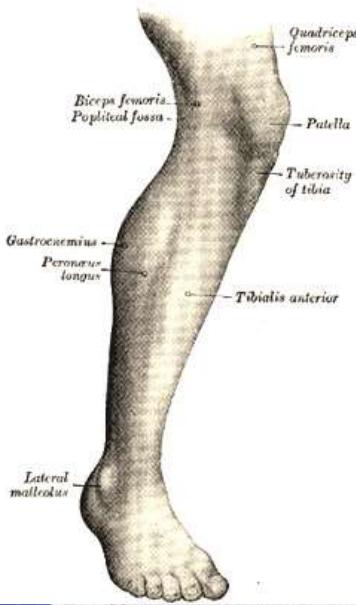
The leg, *crus*

D-2.15 Muskellogen (Kompartimente) und Gefäß-Nerven-Straßen am Unterschenkel

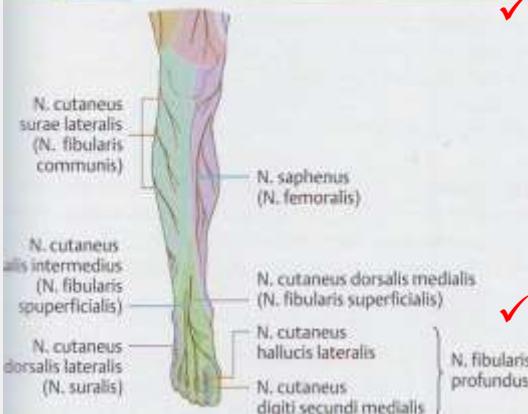


topography

surface anatomy



3-2-29 Sensible Innervation von Unterschenkel und Fuß



Anterior region of the leg, regio cruris anterior

- borders – anterior to the bone skeleton and in front of:
 - ✓ *septum intermusculare cruris anterius*
 - ✓ *membrana interossea cruris*
 - ✓ anterior and lateral fascial compartments
- surface anatomy:
 - ✓ skin – thick and less mobile
 - ✓ subcutaneous layer – moderate to poor fat tissue:
 - *v. saphena magna, n. saphenus* – medially
 - *n. cutaneus surae lateralis* – laterally
 - *n. peroneus (fibularis) superficialis*

fascia cruris ⇒ *septum intermusculare cruris anterius*
retinaculum mm. extensorum superius

anterior compartment – anterior muscle group:

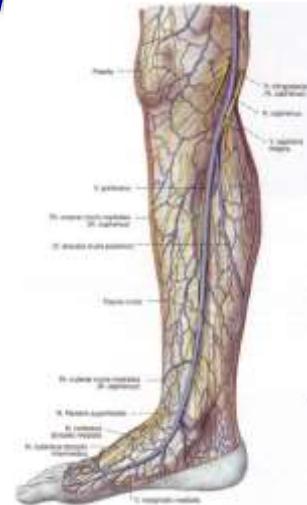
- medial canal – *m. tibialis anterior*
- lateral canal – *m. extensor digitorum longus, m. extensor hallucis longus*

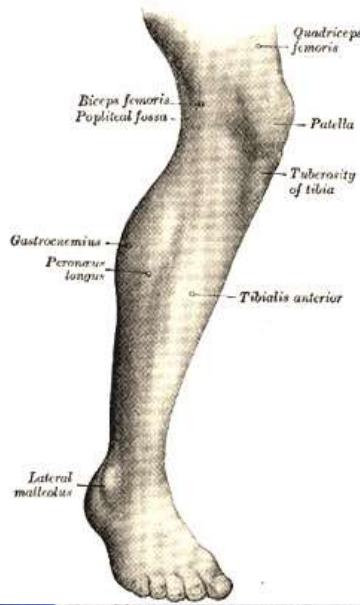
▪ neurovascular bundle:

- *a. et vv. tibialis anterior*
- *n. peroneus (fibularis) profundus*

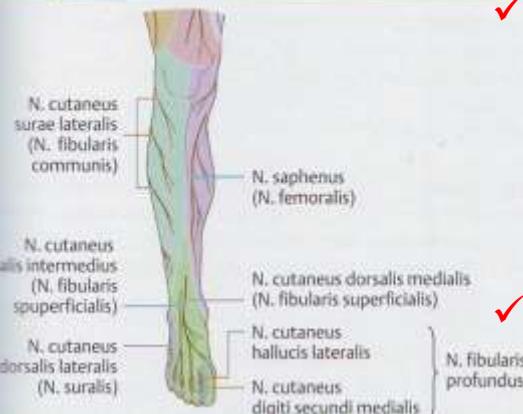
lateral compartment – lateral muscle group:

- superficially – *m. peroneus (fibularis) longus*, beneath it – *m. peroneus (fibularis) brevis*
- *n. peroneus (fibularis) communis* ⇒ *n. peroneus superficialis et profundus*



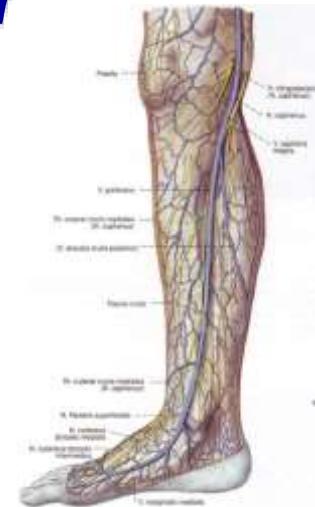


D-2.29 Sensible Innervation von Unterschenkel und Fuß

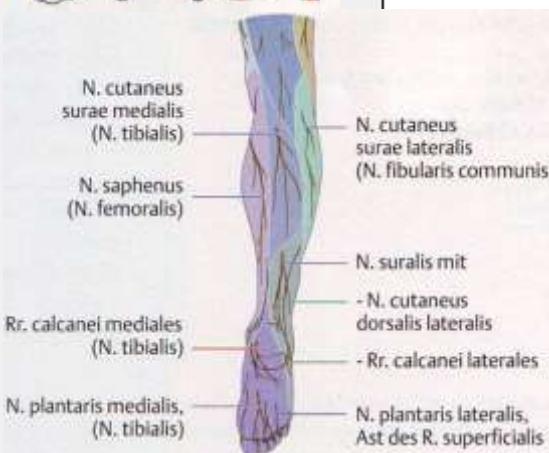
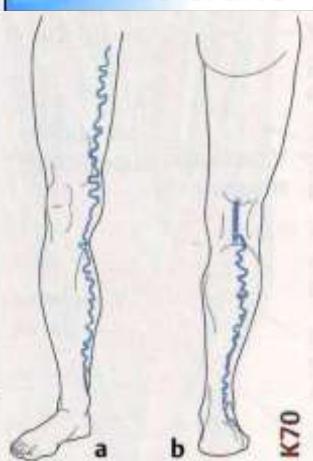


Anterior region of the leg, *regio cruris anterior*

- borders – anterior to the bone skeleton and in front of:
 - ✓ *septum intermusculare cruris anterius*
 - ✓ *membrana interossea cruris*
 - ✓ anterior and lateral fascial compartments
 - surface anatomy:
 - ✓ skin – thick and less mobile
 - ✓ subcutaneous layer – moderate to poor fat tissue:
 - *v. saphena magna, n. saphenus* – medially
 - *n. cutaneus surae lateralis* – laterally
 - *n. peroneus (fibularis) superficialis*
 - ✓ *fascia cruris* ⇒ *septum intermusculare cruris anterius*
retinaculum mm. extensorum superius

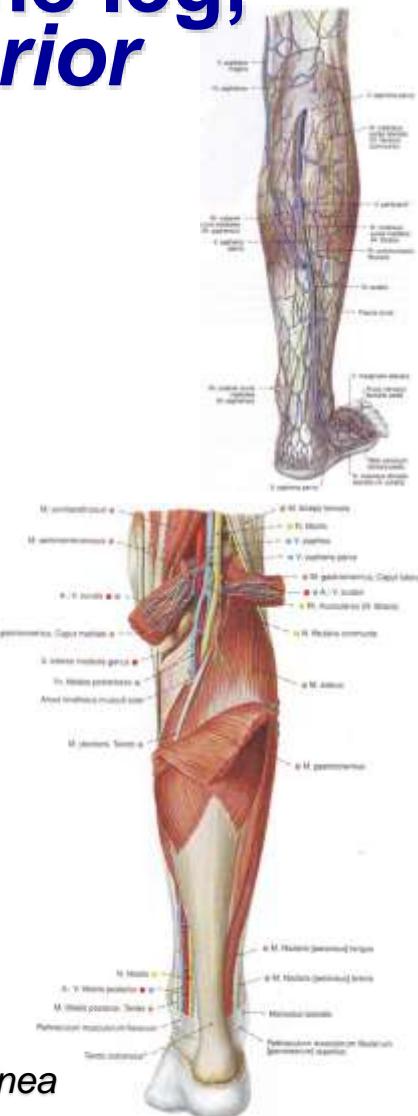


Varices cruris

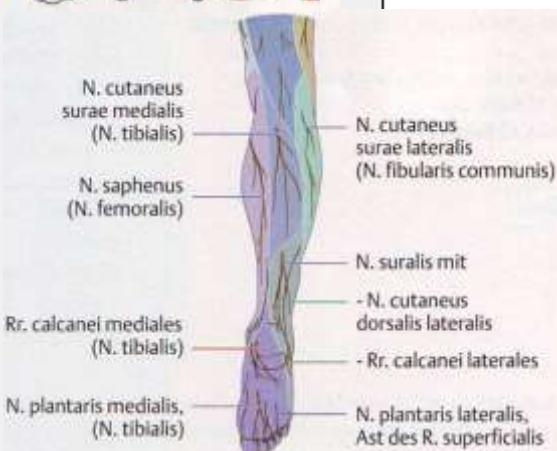
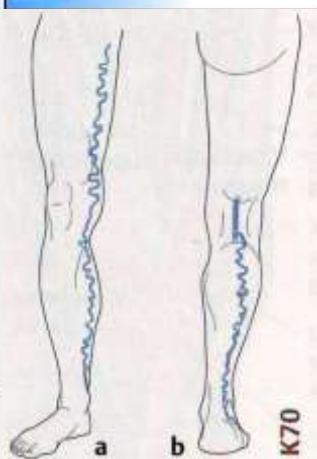


Posterior region of the leg, *regio cruris posterior*

- landmarks – calf of the leg:
 - ✓ retromalleolar grooves
 - ✓ *tendo m. tricipitis surae (tendo Achillis)*
 - surface anatomy:
 - ✓ skin – thick and mobile
 - ✓ subcutaneous layer – thicker layer of fat tissue:
 - *v. saphena parva*
 - *n. suralis – n. cutaneus surae medialis et n. cutaneus surae lateralis*
 - ✓ *fascia cruris* – superficial and deep layer
 - ✓ superficial part – *m. triceps surae*:
 - *m. gastrocnemius et tendo m. plantaris*
 - *m. soleus – arcus tendineus m. solei*
 - ✓ deep part – deep muscles:
 - *m. flexor digitorum longus* – medially
 - *m. flexor hallucis longus* – laterally
 - *m. tibialis posterior* – in-between
 - ✓ neurovascular bundle – *canalis cruropopliteus*:
 - proximal and distal openings, borders
 - *a. et vv. tibialis posterior(es) ⇒ a. et v. peronea*
 - *n. tibialis*

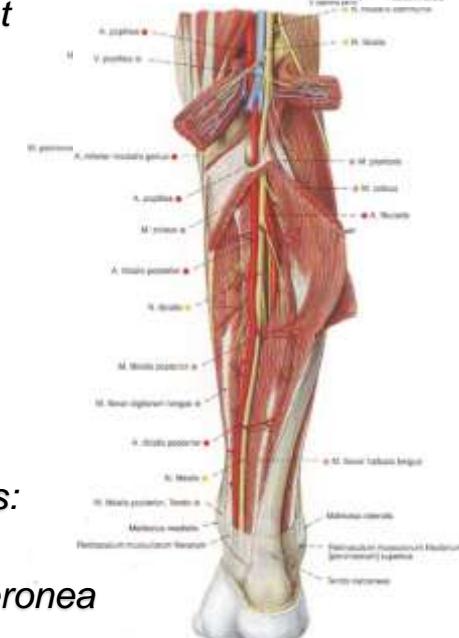


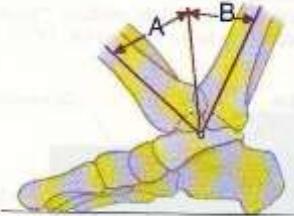
Varices cruris



Posterior region of the leg, *regio cruris posterior*

- landmarks – calf of the leg:
 - ✓ retromalleolar grooves
 - ✓ *tendo m. tricipitis surae (tendo Achillis)*
- surface anatomy:
 - ✓ skin – thick and mobile
 - ✓ subcutaneous layer – thicker layer of fat tissue:
 - *v. saphena parva*
 - *n. suralis – n. cutaneus surae medialis et n. cutaneus surae lateralis*
 - ✓ fascia cruris – superficial and deep layer
 - ✓ superficial part – *m. triceps surae*:
 - *m. gastrocnemius et tendo m. plantaris*
 - *m. soleus – arcus tendineus m. solei*
 - ✓ deep part – deep muscles:
 - *m. flexor digitorum longus – medially*
 - *m. flexor hallucis longus – laterally*
 - *m. tibialis posterior – in-between*
 - ✓ neurovascular bundle – *canalis cruropopliteus*:
 - proximal and distal openings, borders
 - *a. et vv. tibialis posterior(es) ⇔ a. et v. peronea*
 - *n. tibialis*

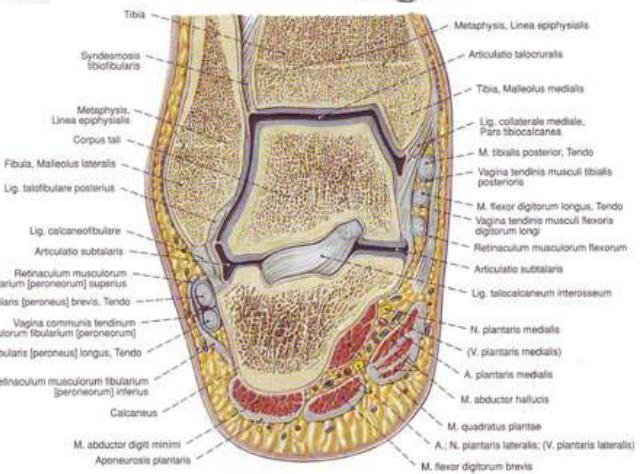
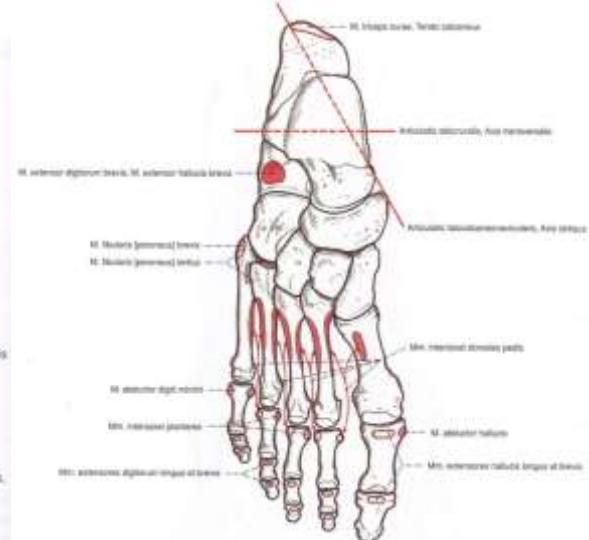
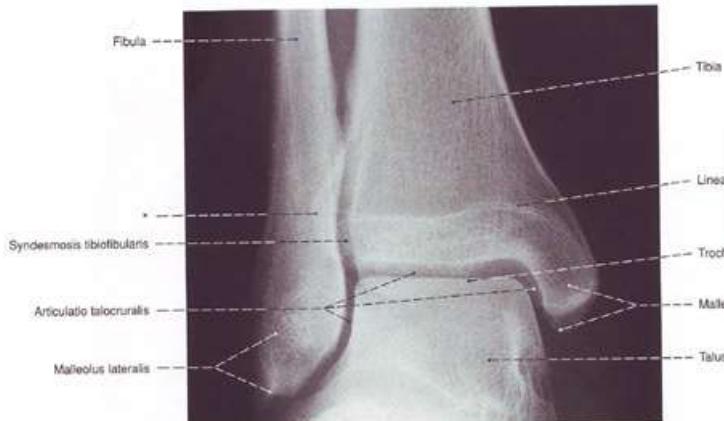
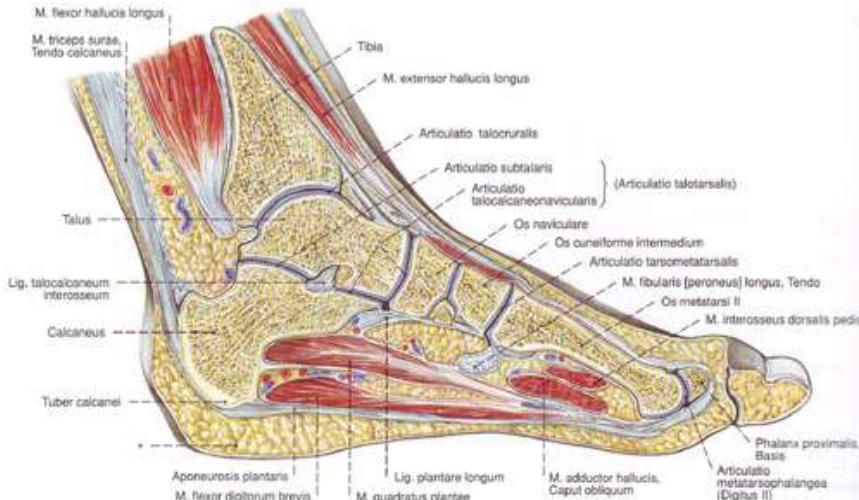




**Regio
talocruralis,
anterior et
posterior**



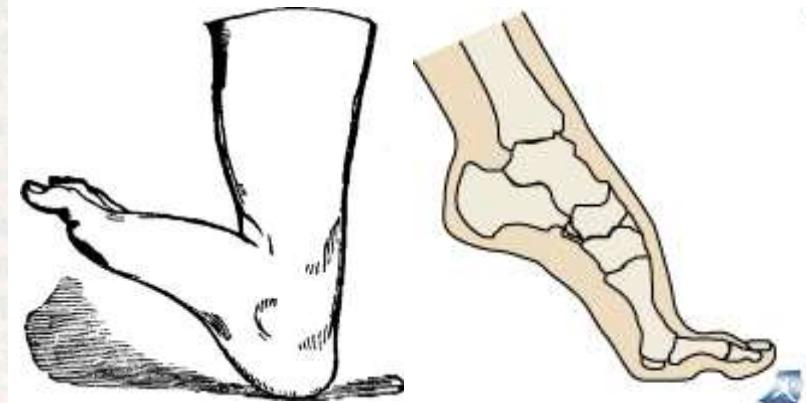
The talocrural (ankle) joint, *articulatio talocruralis*





The foot, pes

- borders – distally from the bimalleolar line
- foot shape – longitudinal and transverse arches
⇒ supporting role:
 - ✓ infants – supination foot
 - ✓ children feet – flexible flat feet
 - ✓ calcaneus valgus ⇒ pes planus



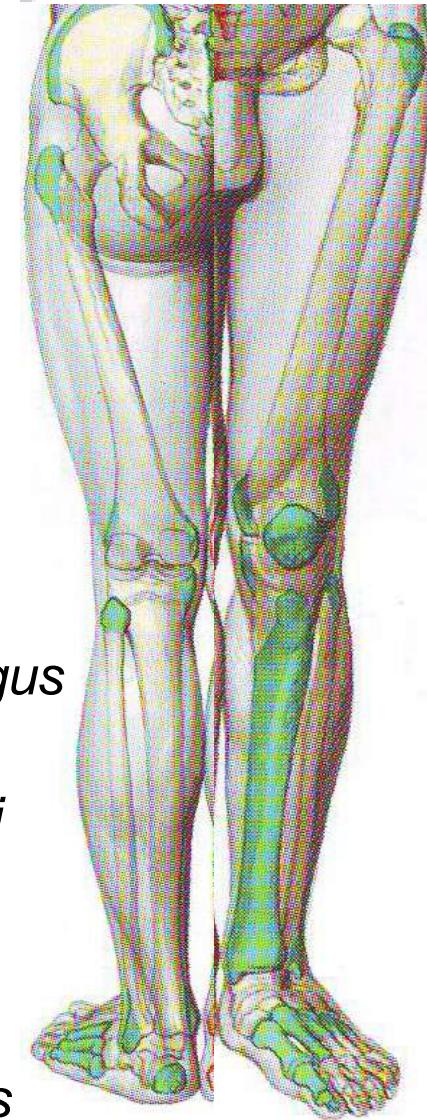
Pes rectus Pes transversoplanus Pes planus Pes calcaneus vs. Pes equinus



External palpation points

- The bone and muscle points:

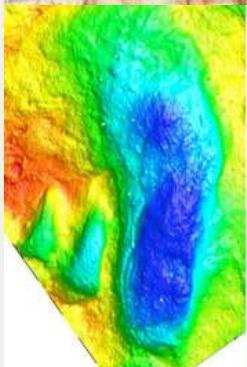
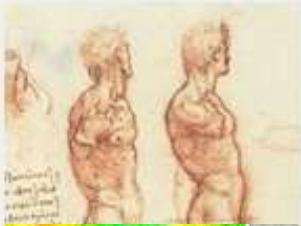
- ✓ *tuber calcanei*
- ✓ *tuberositas ossis navicularis*
- ✓ *caput tali*
- ✓ *basis et caput ossis metatarsi I*
- ✓ *tendo calcaneus (Achilles)*
- ✓ *fossa retromalleolaris medialis*
- ✓ *fossa retromalleolaris lateralis*
- ✓ *m. tibialis anterior et posterior*
- ✓ *m. flexor et extensor digitorum longus*
- ✓ *m. extensor hallucis longus*
- ✓ *m. abductor hallucis et digit minimi*
- ✓ *mm. peronei*
- ✓ *retinaculum mm. extensorum*
- ✓ *sinus tarsi*
- ✓ *sulcus plantaris medialis et lateralis*



boundaries

**topographic
regions**

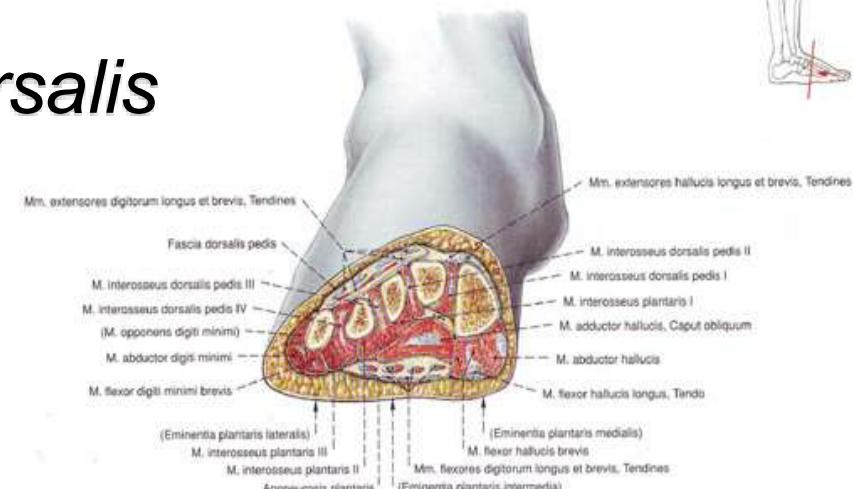
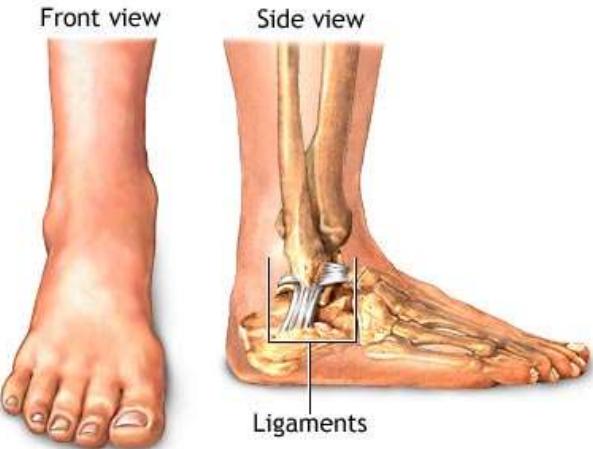
Pes



The foot, pes

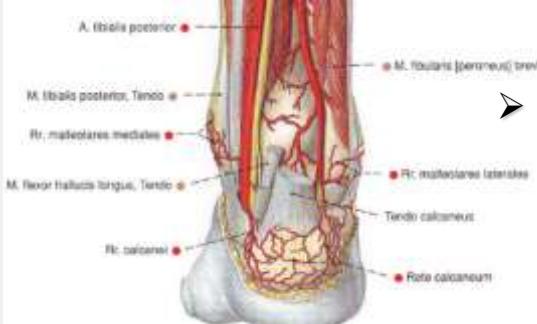
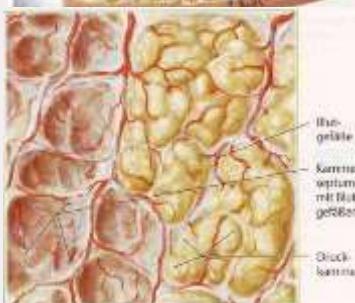
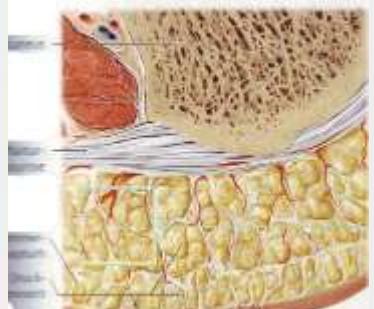
- Topographic anatomical regions:

- ✓ ***regio calcanea***
- ✓ ***dorsum pedis***
- ✓ ***planta pedis***
- ✓ ***digiti pedis***
- ✓ ***regio tarsalis***
- ✓ ***regio metatarsalis***



Regio calcanea

Druckkammern des Subkutanfetts der Fußsohle



Calcaneal region, *regio calcanea*

- borders:
 - ✓ proximal – posterior bimalleolar line
 - ✓ distal – the vertical lines from the tip of the ankles to the foot

- surface anatomy:
 - ✓ skin – thick, glabrous and fixed
 - ✓ subcutaneous layer – abundant fat tissue:
 - posterior compartment:

- **rete calcaneare** ⇒ a. peronea, a. tibialis posterior
 - venous network ⇒ vv. saphenae
 - branches of **n. suralis** and **n. tibialis**
 - **tendo Achillis** – external and internal synovial sheath; bursa tendinis calcanei

- medial compartment:
 - branches of **saphenous** and **tibial nerves**
 - ***retinaculum mm. flexorum***
 - ***canalis malleoli tibiae*** – three canals:

- *tendo m. tibialis posterioris, m. flexor digitorum profundus, m. flexor hallucis longus (vaginae synoviales)*

➤ neurovascular bundle:

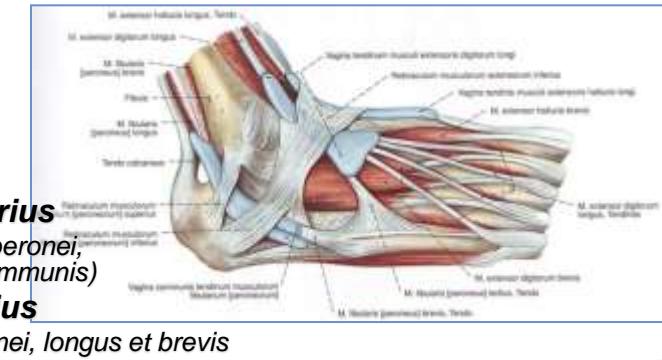
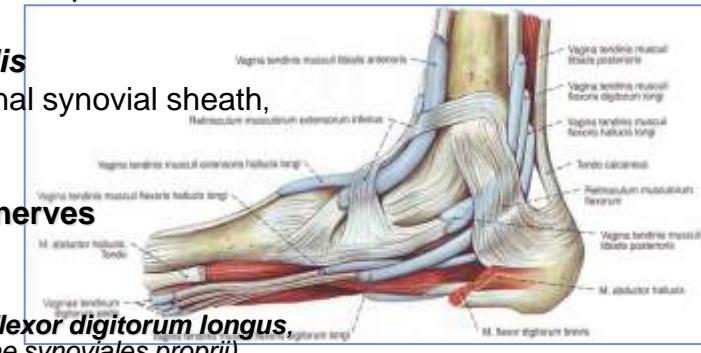
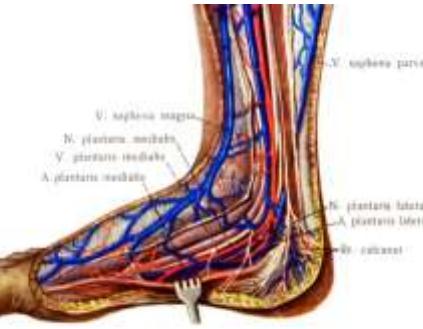
 - *a. et vv. tibialis posterior, n. tibialis posterioris*

- lateral compartment:

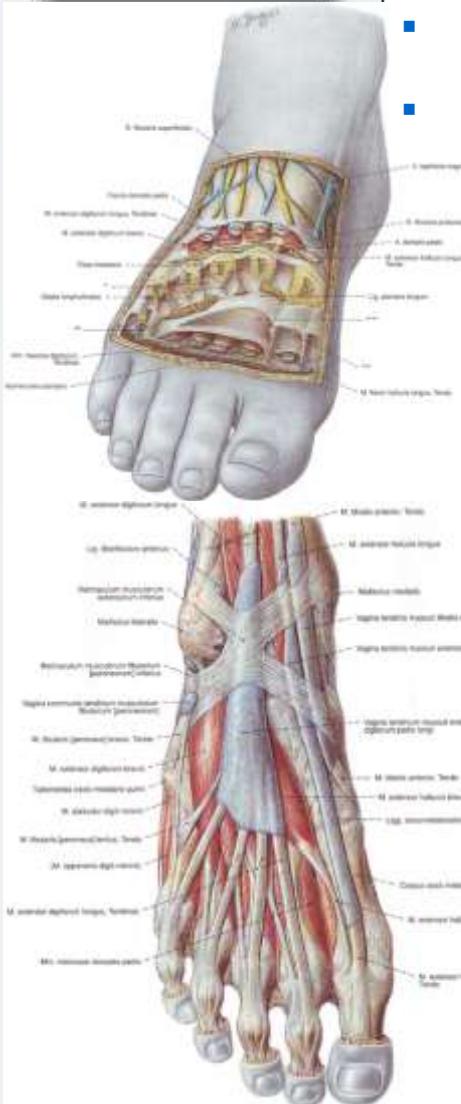
- branches of *n. suralis*
 - *v. saphena parva* and tributaries
 - *retinaculum mm. peroneorum superius*
 - common osseofibrous tunnel \Rightarrow *mm. peronei, longus et brevis (vagina synovialis communis)*

- ***retinaculum mm. peroneorum inferius***

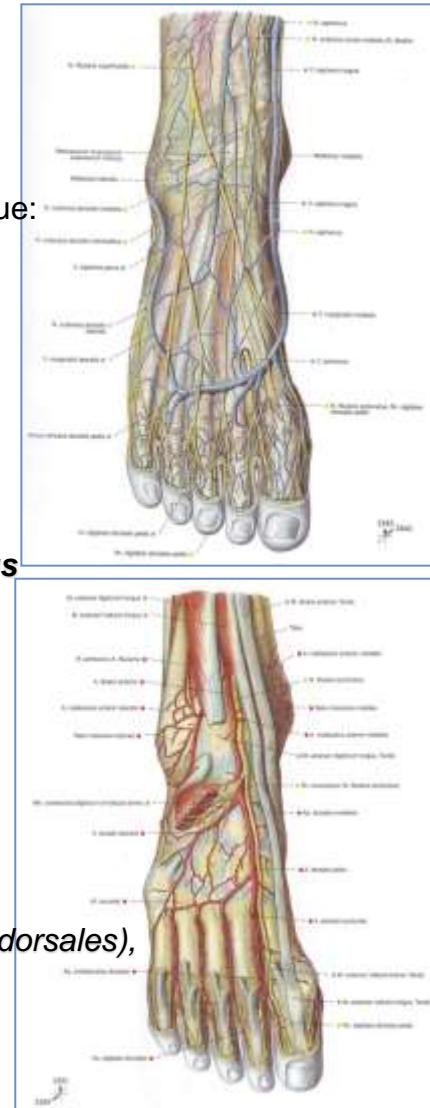
 - two osseofibrous tunnels ⇒ *mm. peronei, longus et brevis*



The dorsum of the foot, *dorsum pedis*



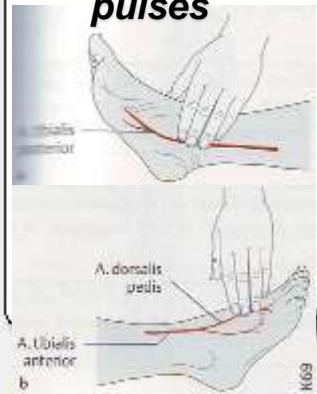
- borders:
 - ✓ proximal – the anterior bimalleolar line
 - surface anatomy:
 - ✓ skin – thin and mobile
 - ✓ subcutaneous layer – poorly developed loose connective tissue
 - **rete venosum dorsale pedis** ⇔ **arcus venosus**
dorsalis pedis: *v. saphena magna* – medially;
v. saphena parva – laterally
 - end branches of the **saphenous nerve**
 - skin innervation – *nn. digitales dorsales*:
 - **n. cutaneus dorsalis lateralis** ⇔ *n. suralis*;
 - **n. cutaneus dorsalis medialis et intermedius** ⇔
n. peroneus superficialis;
 - **n. peroneus profundus** – the first interdigital space
 - ✓ **fascia dorsalis pedis** – **retinaculum mm. extensorum inferius**
– three osseofibrous tunnels:
 - medial – **m. tibialis anterior** (*tendo*)
 - middle – **m. extensor hallucis longus** (*tendo*)
 - lateral – **m. extensor digitorum longus**,
m. peroneus tertius (*tendo*)
 - ✓ subfascial space – muscles, vessels and nerves:
 - superficial layer – long extensors of the toes
 - deep layer – short extensors of the toes
 - ✓ neurovascular bundle:
 - **a. et v. dorsalis pedis** ⇔ *a. arcuata (aa. metatarsae)* *a. metatarsae dorsalis prima et r. plantaris profundus*
 - **n. peroneus profundus** ⇔ the first interdigital space
 - ✓ **mm. interossei dorsales** – four bipennate muscles



topography

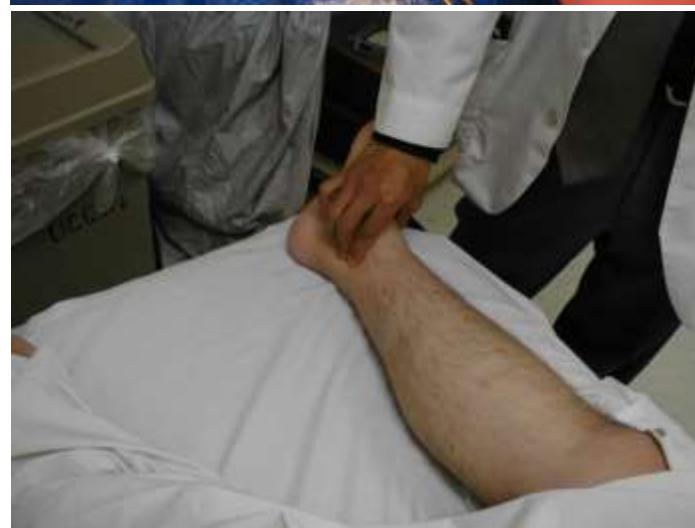
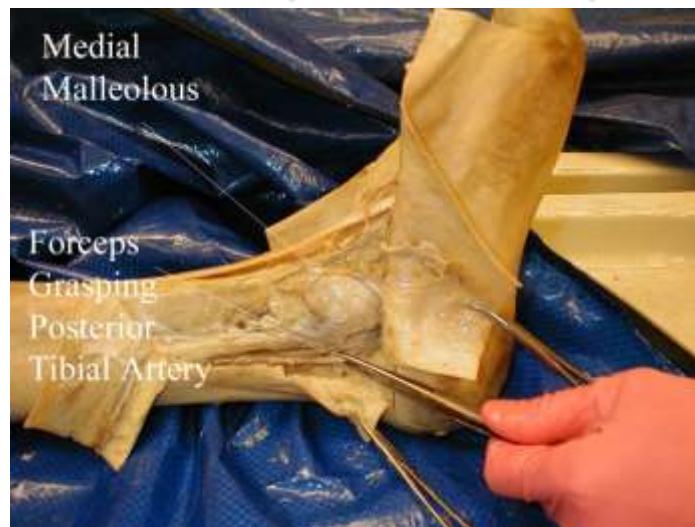
surface anatomy

dorsalis pedis and posterior tibial pulses



Clinical significance

✓ palpation of posterior tibial pulse ✓ palpation of *dorsalis pedis* pulse



topography

surface anatomy Regio plantaris pedis

Jogger's foot

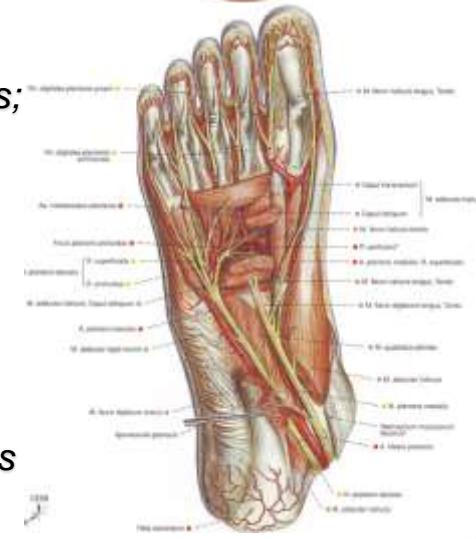


Rr. calcanei mediales (N. tibialis)
N. plantaris medialis, (N. tibialis)

- N. cutaneus dorsalis lateralis
- Rr. calcanei laterales
- N. plantaris lateralis, Ast des R. superficialis

The sole of the foot, *planta pedis*

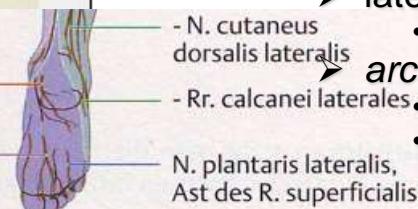
- borders – the soft tissues, plantar from the foot bones and joints
- surface anatomy:
 - ✓ skin – thick, glabrous and fixed
 - ✓ subcutaneous layer – abundant adipose tissue – in the heel and metatarsal heads:
 - *rete venosum plantare*
 - *nn. digitales plantares communes*
 - ✓ *fascia plantaris* ⇒ *aponeurosis plantaris* – fibrous strips, transversally and deeply
 - ✓ subfascial space – three compartments:
 - medial – *m. abductor hallucis*, *m. flexor hallucis longus et brevis*
 - lateral – *m. abductor digiti minimi*, *m. flexor digiti minimi brevis*
 - middle – 1st layer – *m. flexor digitorum brevis*; 2nd layer – *m. flexor digitorum longus*, *m. quadratus plantae*, *mm. lumbricales*; 3rd layer – *m. adductor hallucis*; 4th layer – *mm. interossei*
 - ✓ neurovascular bundles:
 - medial – in *sulcus plantaris medialis*:
 - *a., vv. et n. plantaris medialis*
 - lateral – in *sulcus plantaris lateralis*:
 - *a., vv. et n. plantaris lateralis*



topography

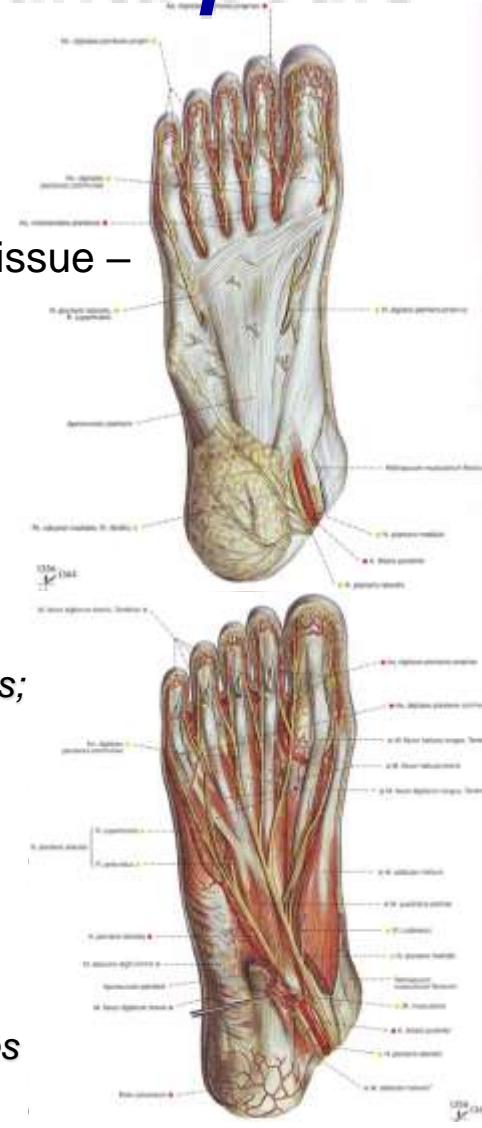
surface anatomy Regio plantaris pedis

Jogger's foot



The sole of the foot, *planta pedis*

- borders – the soft tissues, plantar from the foot bones and joints
- surface anatomy:
 - ✓ skin – thick, glabrous and fixed
 - ✓ subcutaneous layer – abundant adipose tissue – in the heel and metatarsal heads:
 - *rete venosum plantare*
 - *nn. digitales plantares communes*
 - ✓ *fascia plantaris* \Rightarrow *aponeurosis plantaris* – fibrous strips, transversally and deeply
 - ✓ subfascial space – tree compartments:
 - medial – *m. abductor hallucis*, *m. flexor hallucis longus et brevis*
 - lateral – *m. abductor digiti minimi*, *m. flexor digiti minimi brevis*
 - middle – 1st layer – *m. flexor digitorum brevis*; 2nd layer – *m. flexor digitorum longus*, *m. quadratus plantae*, *mm. lumbricales*; 3rd layer – *m. adductor hallucis*; 4th layer – *mm. interossei*
 - ✓ neurovascular bundles:
 - medial – in *sulcus plantaris medialis*:
 - *a.,vv.et n. plantaris medialis*
 - lateral – in *sulcus plantaris lateralis*:
 - *a.,vv.et n. plantaris lateralis*



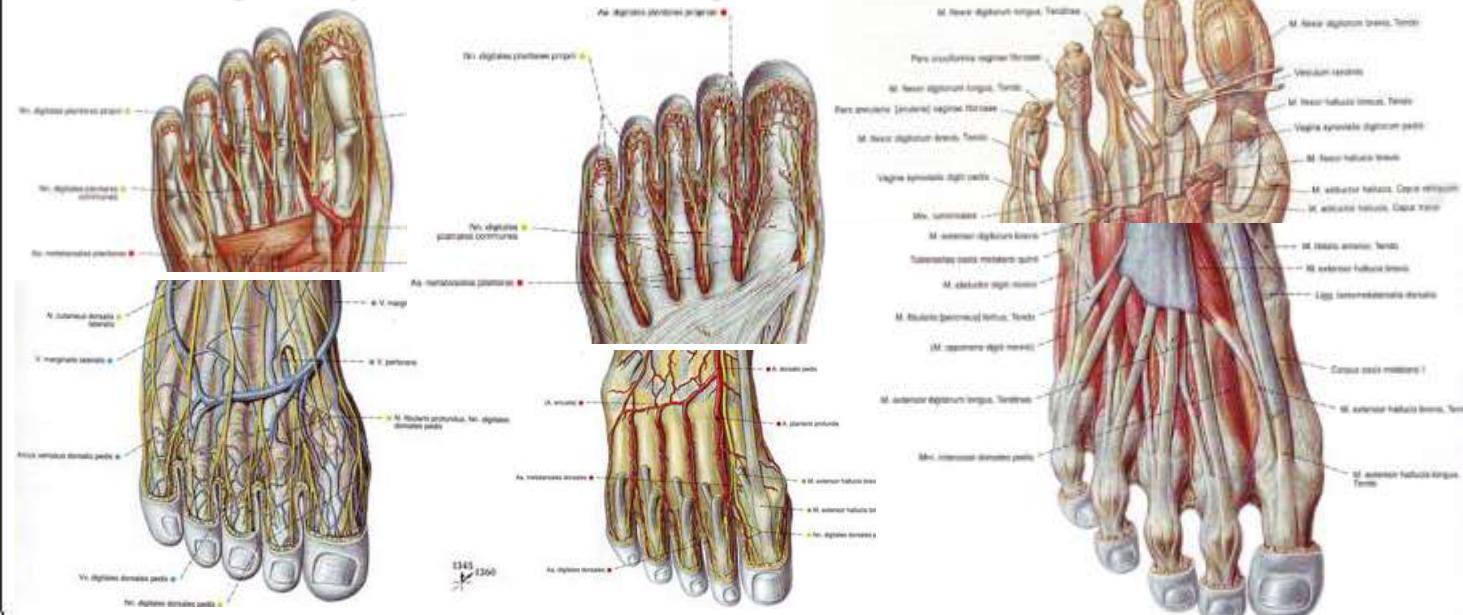
Hallux valgus



The digits (toes) of the foot, *digiti pedis*

- Surface anatomy:

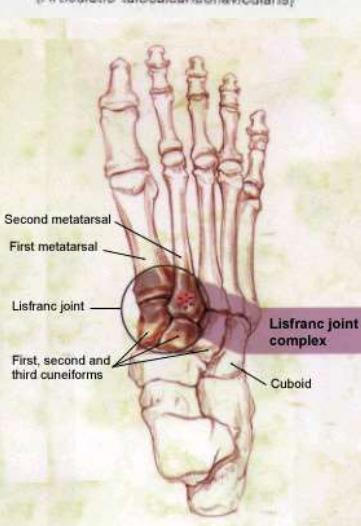
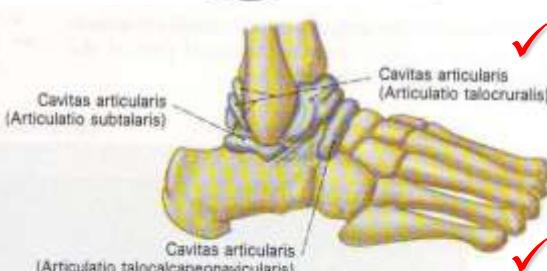
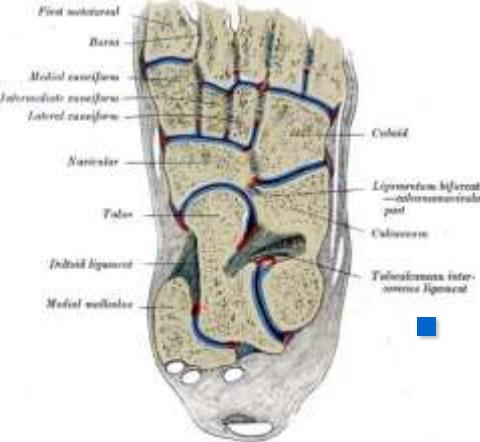
- ✓ skin – thin and mobile dorsally, thick ventrally
 - ✓ subcutaneous tissue – abundant lobulated fat tissue in the sole:
 - anastomosing venous network, mostly dorsally
 - neurovascular bundles – two plantar and dorsal each:
 - plantar – *aa. et nn. digitales plantares proprii*
 - dorsal – *aa., vv. et nn. digitales dorsales*
 - ✓ fascia pedis – synovial tendon sheath, *vagina fibrosa*
 - ✓ aponeurosis dorsalis – the tendons of:
 - *m. extensor digitorum longus et brevis*
 - *mm. lumbricales*
 - ✓ vagina fibrosa – plantar ⇒ osseofibrous tunnels
 - ✓ *vaginae synoviales tendinum digitorum* – separate



Foot joints, *articulationes pedis*

■ Articulationes intertarseae:

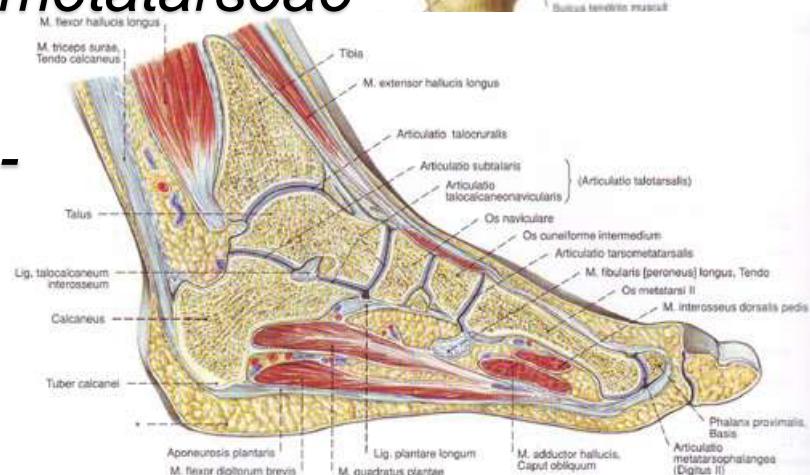
- ✓ articulatio subtalaris
- ✓ articulatio tarsi transversa (Chopart):
 - articulatio talonavicularis
 - articulatio calcaneocuboidea
- ✓ articulationes cuneonavicularis



✓ Articulationes tarsometatarsae (Lisfranc joint)

✓ Articulationes metatarsophalangeae

✓ Articulationes interphalangeae



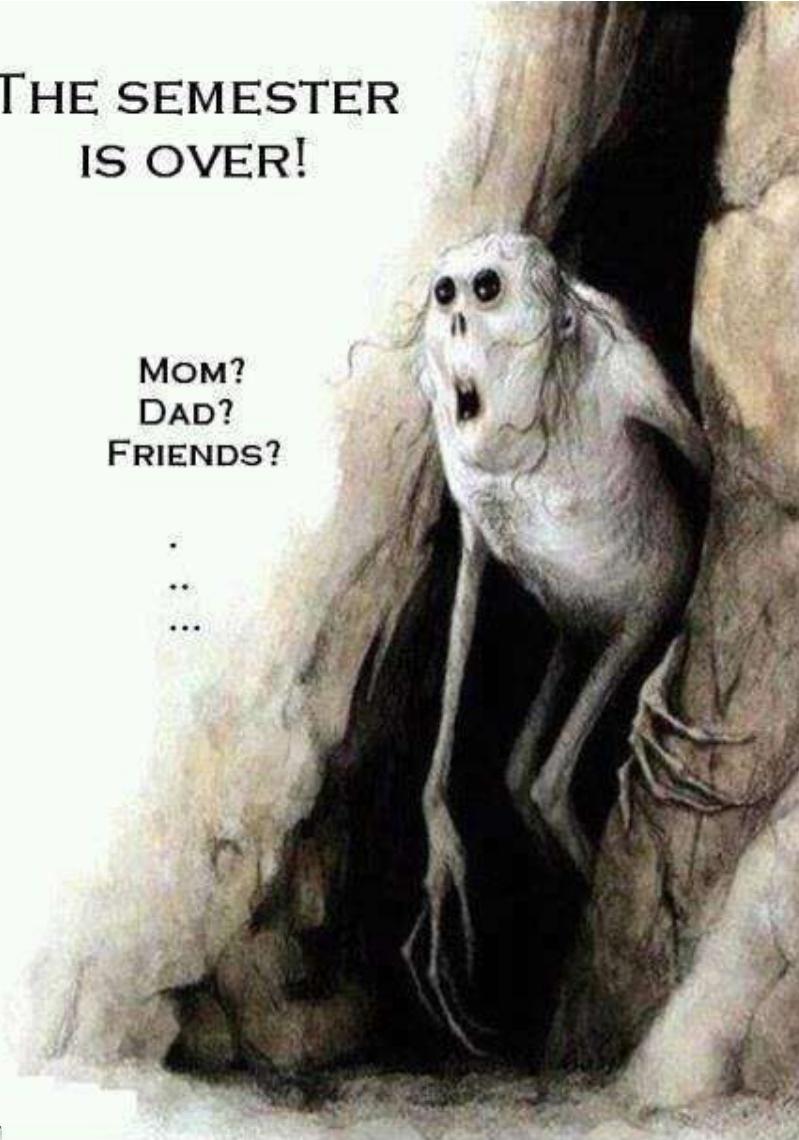


Thank you ...

THE SEMESTER
IS OVER!

MOM?
DAD?
FRIENDS?

•
•
•



At office? Don't get busted on 9GAG.COM

Prof. Nikolai Lazarov