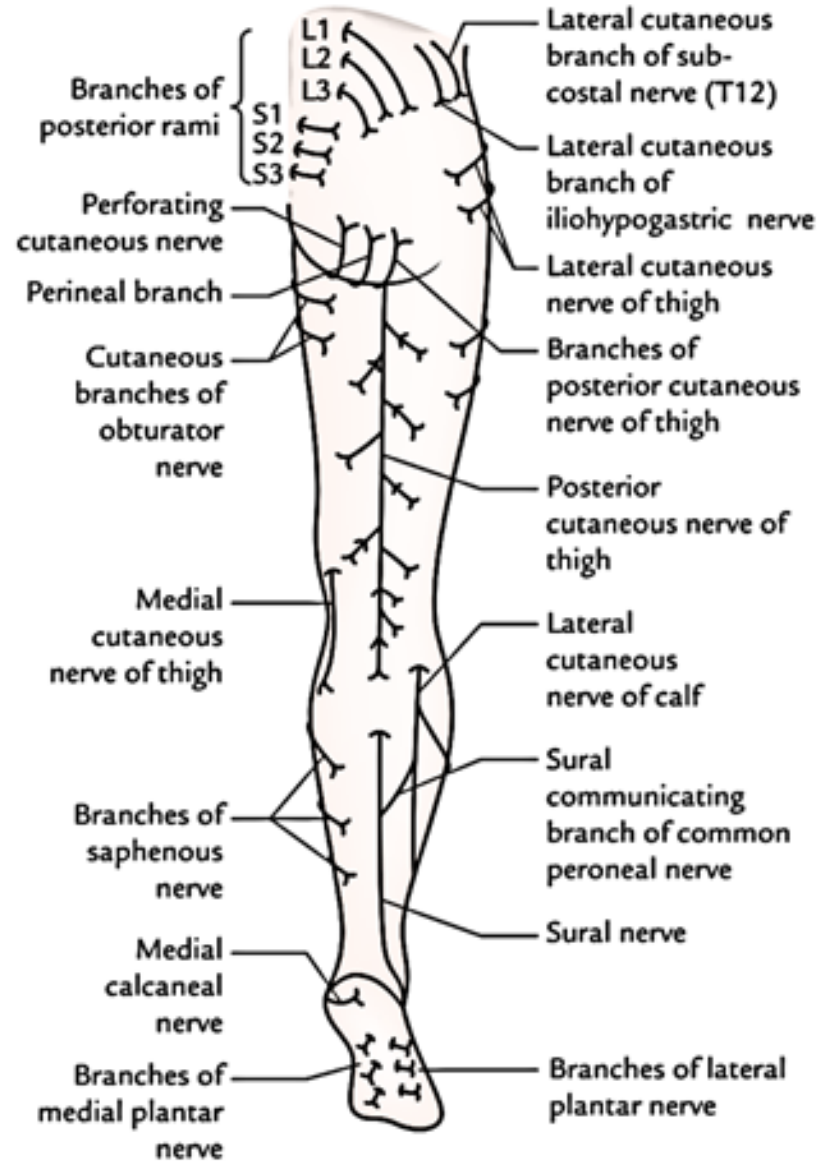
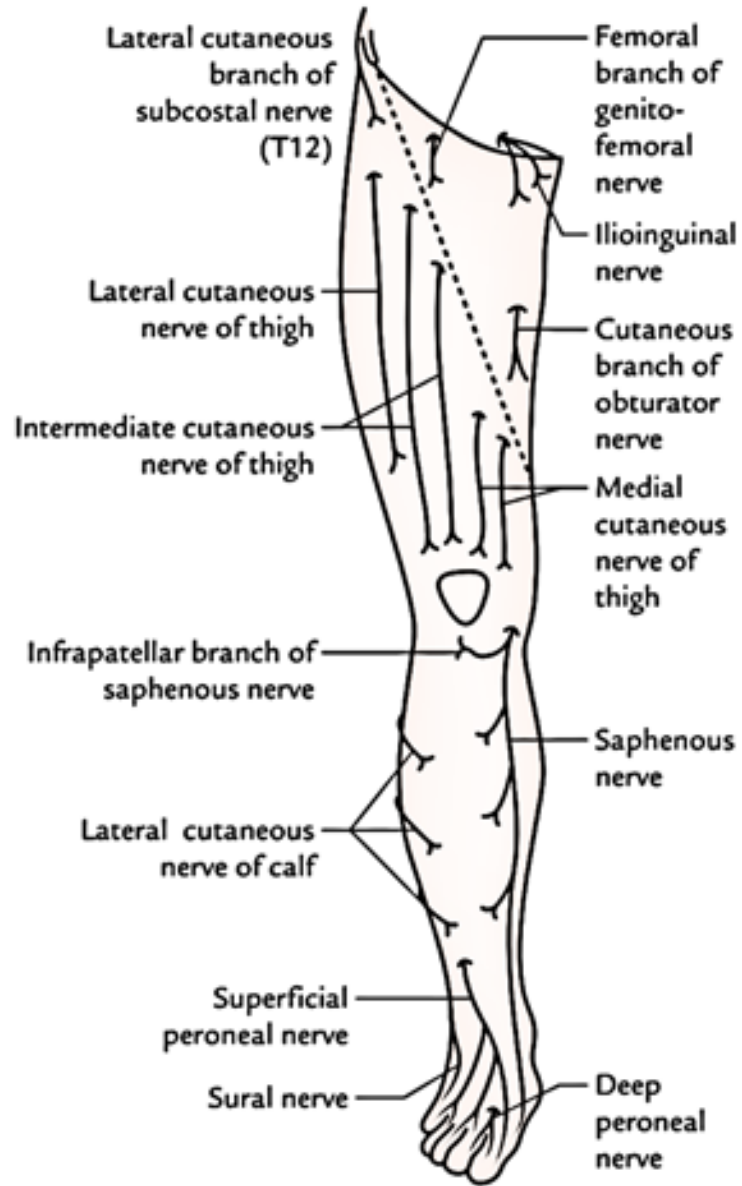


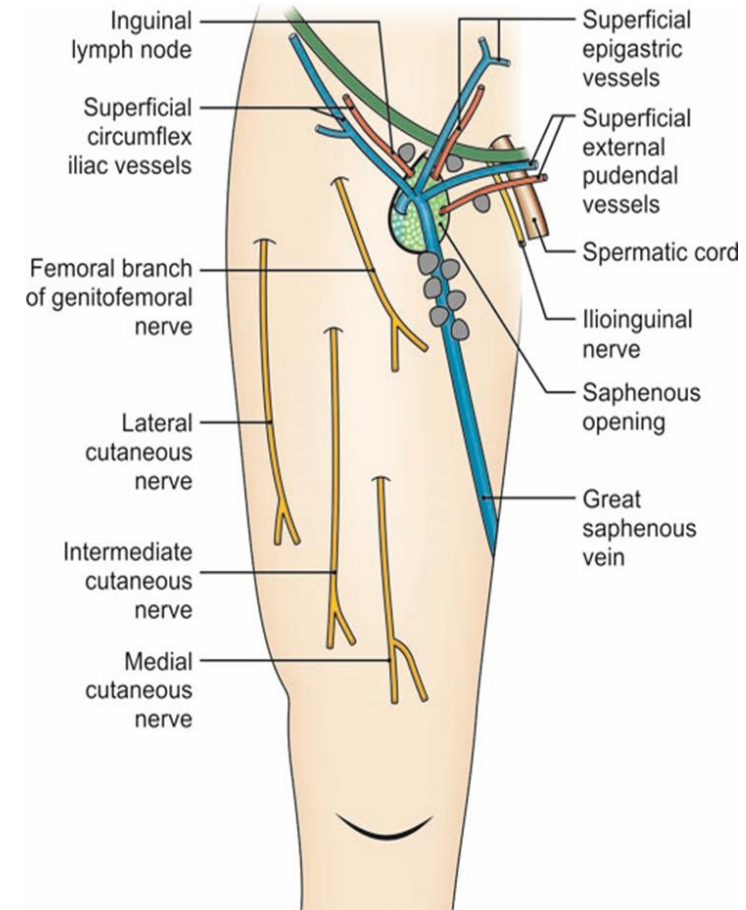
# Cutaneous Innervation of the Lower Limb

**Presented by:**  
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# Cutaneous nerves on the front of the thigh

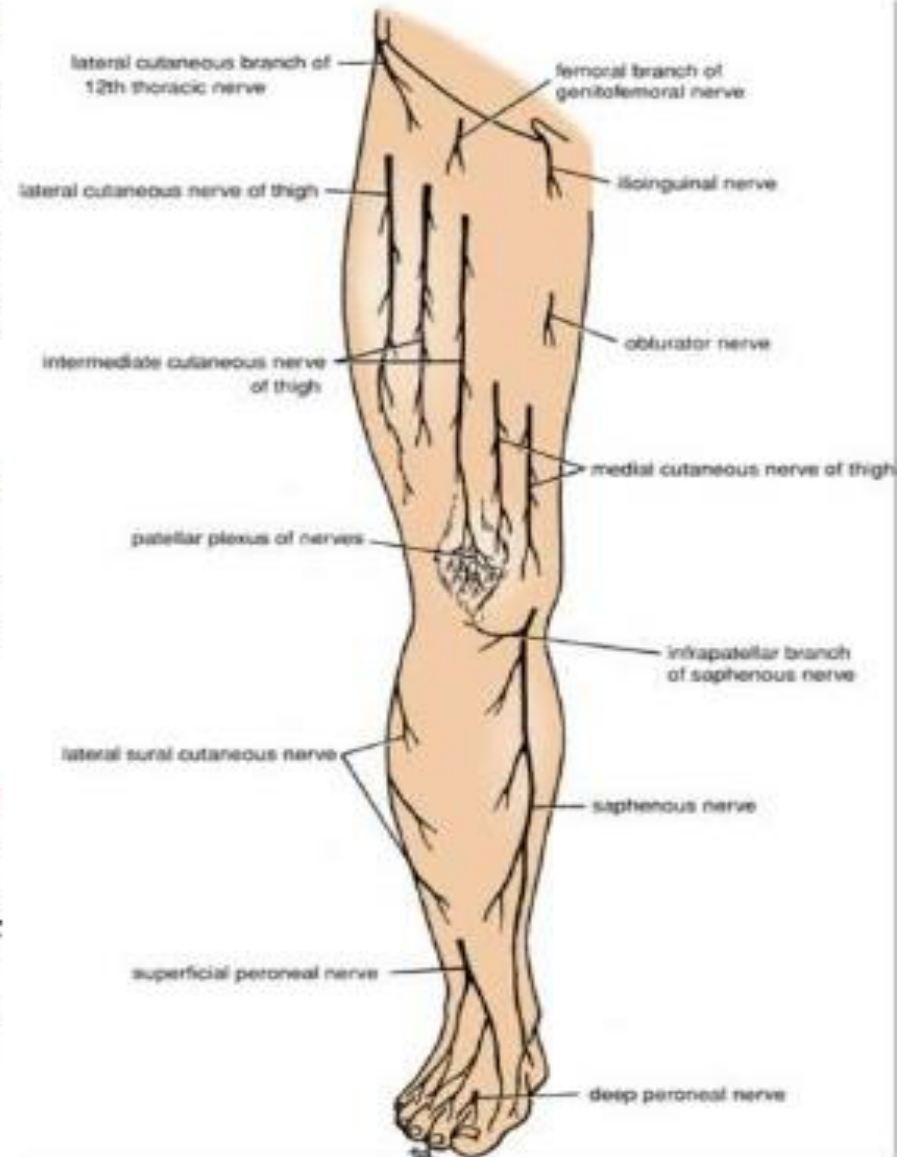
- The ilio-inguinal nerve (L1)
- The femoral branch of genitofemoral nerve (L1, L2)
- The lateral cutaneous nerve of thigh (L2, L3)
- The intermediate cutaneous nerve of thigh (L2, L3)
- The medial cutaneous nerve of thigh (L2, L3)
- The saphenous nerve (L3,4)



**The lateral cutaneous nerve of the thigh**, a branch of the lumbar plexus (L2, 3), enters the thigh behind the lateral end of the inguinal ligament. It supplies the skin of the lateral aspect of the thigh and knee.

**The medial cutaneous nerve of the thigh**, a branch of the femoral nerve, supplies the medial aspect of the thigh and joins the patellar plexus.

**The intermediate cutaneous nerve of the thigh**, a branch of the femoral nerve. It supplies the anterior aspect of the thigh and joins the patellar plexus.

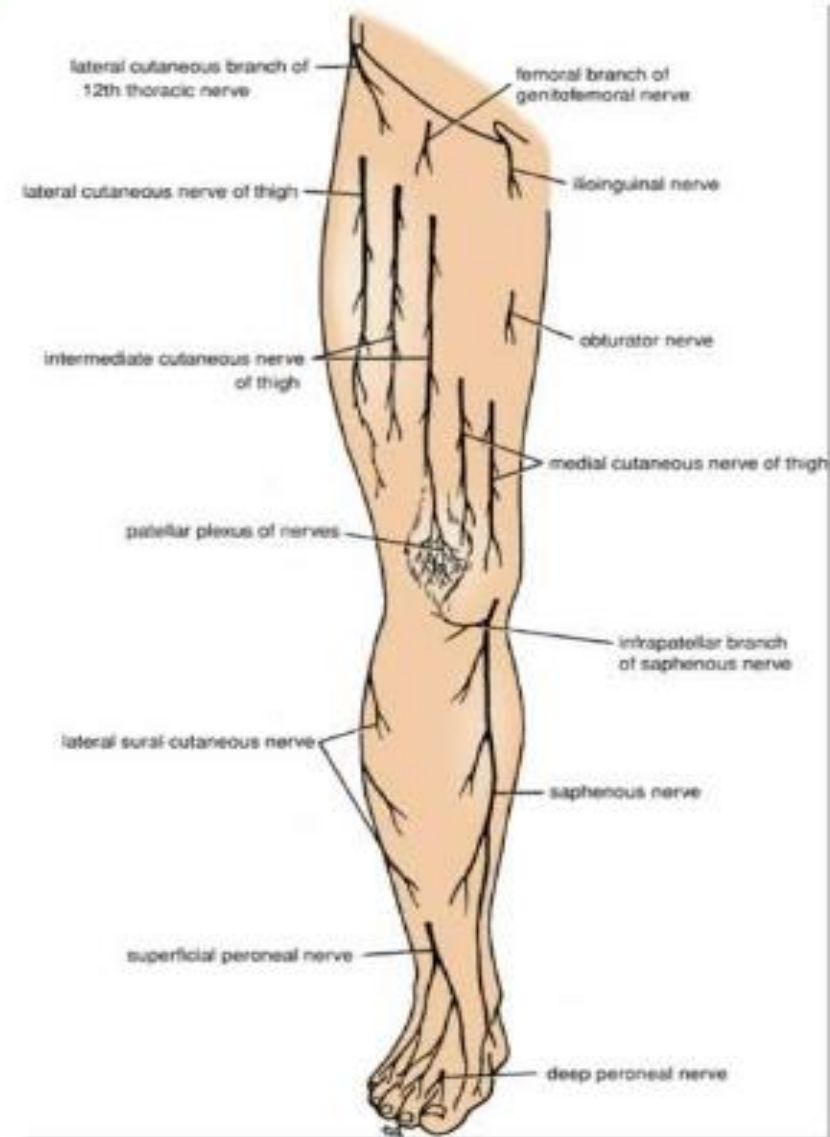




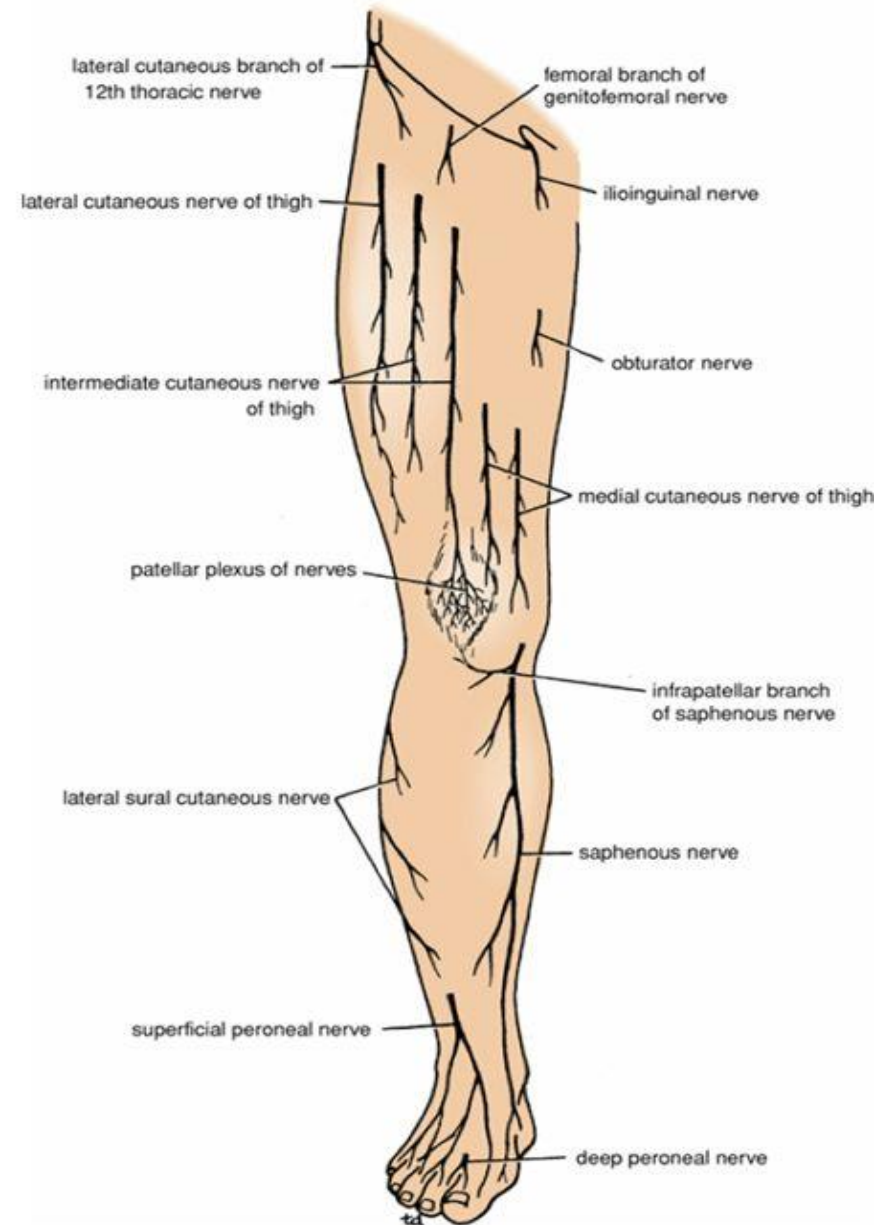
**The femoral branch of the genitofemoral nerve**, a branch of the lumbar plexus (L1, 2), enters the thigh behind the middle of the inguinal ligament and supplies a small area of skin.

**The ilioinguinal nerve**, a branch of the lumbar plexus (L1), enters the thigh through the superficial inguinal ring. It supplies a small skin area below the medial part of the inguinal ligament

**The patellar plexus** lies in front of the knee and is formed from the terminal branches of the lateral, intermediate, and medial cutaneous nerves of the thigh and the infrapatellar branch of the saphenous nerve

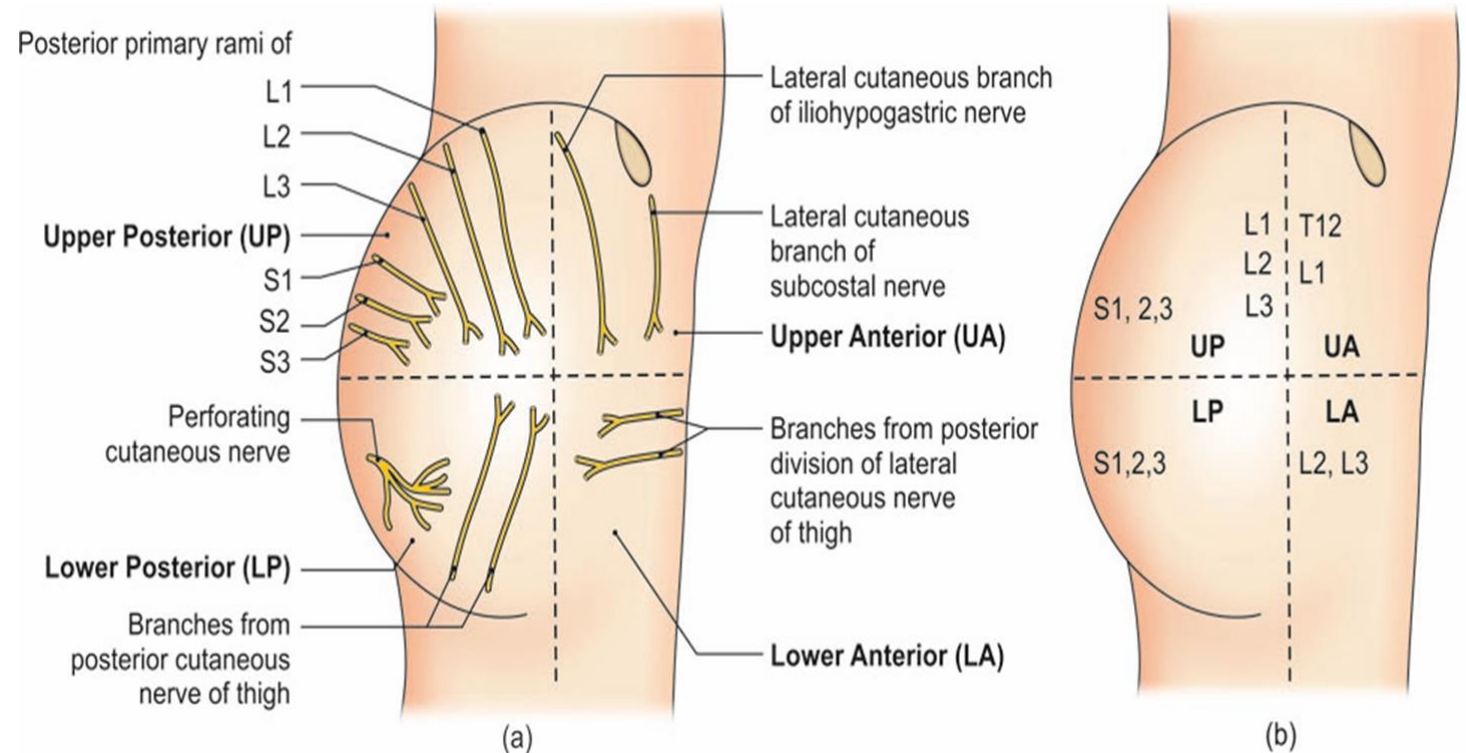


**The patellar plexus** lies in front of the knee and is formed from the terminal branches of the lateral, intermediate, and medial cutaneous nerves of the thigh and the infrapatellar branch of the saphenous nerve



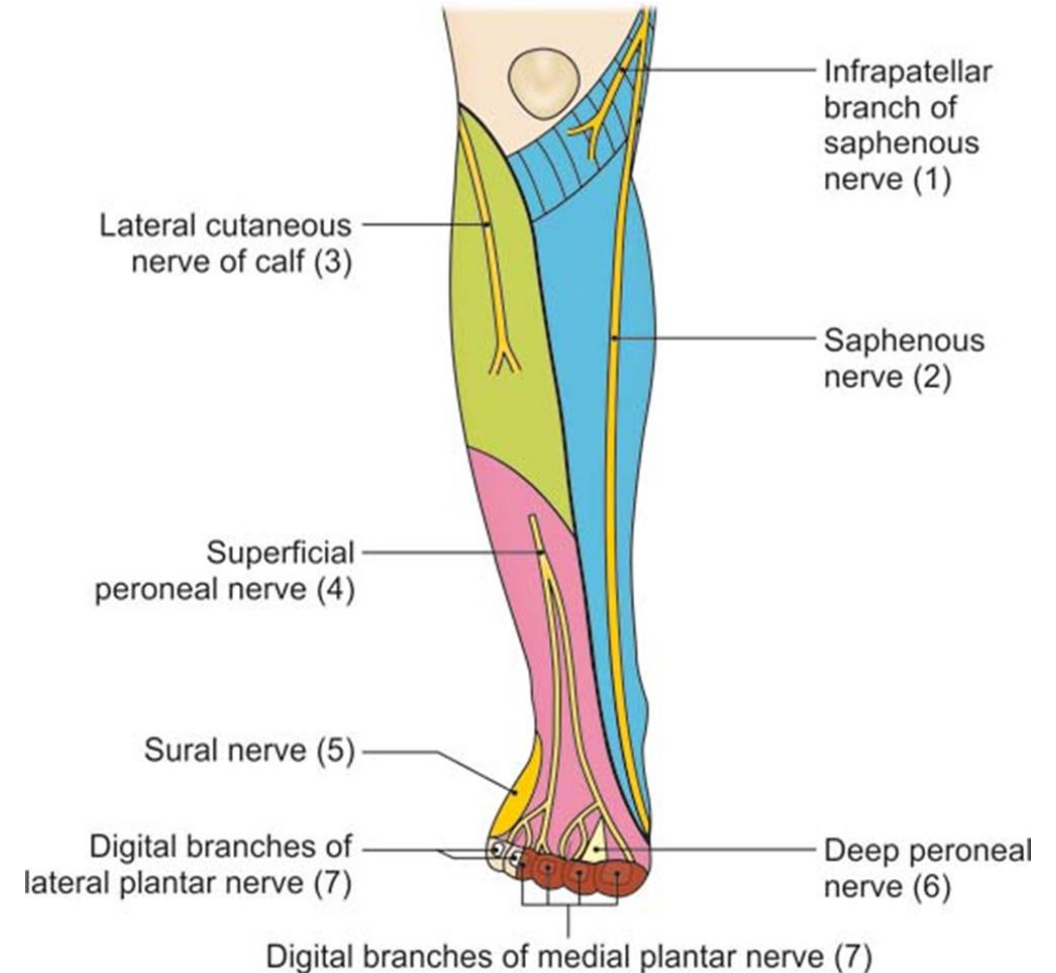
# Cutaneous nerves of the gluteal region

- Subcostal (T12) and iliohypogastric (L1) nerves
- Posterior primary rami of L1,2,3 and S1,2,3
- Lateral cutaneous nerve of thigh (L2,3)
- Posterior cutaneous nerve of thigh (S1,2,3) and perforating cutaneous nerve (S2,3)



# Cutaneous nerves on the front of leg and dorsum of foot

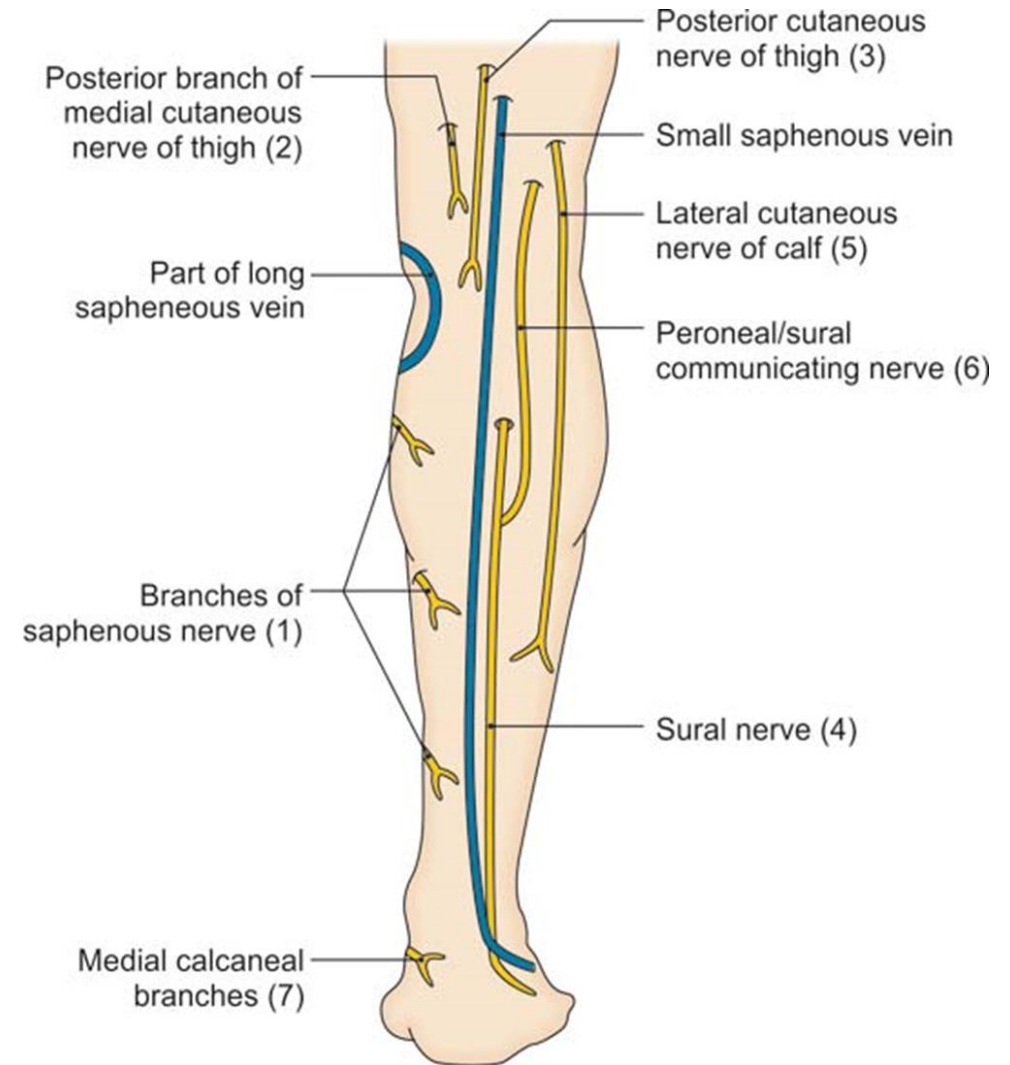
- The infrapatellar branch of the saphenous nerve
- The saphenous nerve
- The lateral cutaneous nerve of the calf
- The superficial peroneal nerve
- The sural nerve
- The deep peroneal nerve
- The digital branches of the medial and lateral plantar nerves





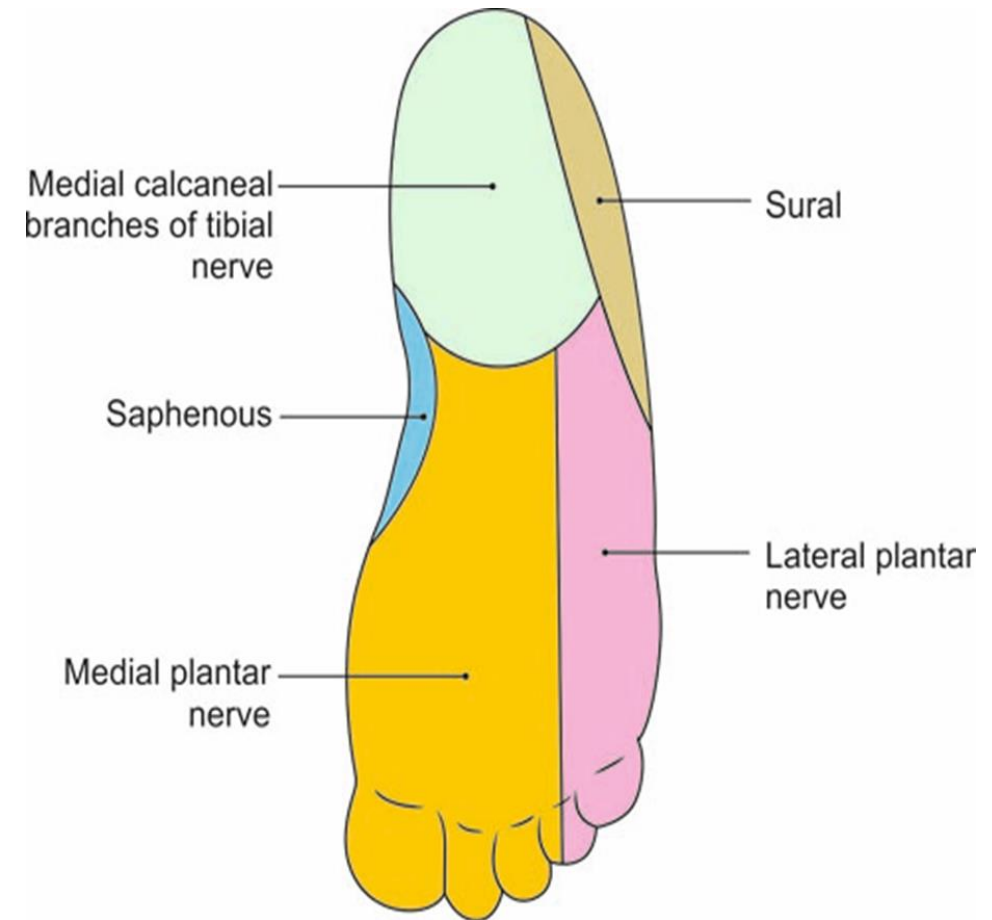
# Cutaneous nerves on the back of leg

- Saphenous nerve (L3, L4)
- Posterior division of the medial cutaneous nerve of the thigh (L2, L3)
- Posterior cutaneous nerve of the thigh (S1, S2, S3)
- Sural nerve (L5, S1, S2)
- Lateral cutaneous nerve of the calf (L4, L5, S1)
- Peroneal or sural communicating nerve (L5, S1, S2)
- Medial calcaneal branches (S1, S2)



# Cutaneous nerves of the sole

- Medial calcaneal branches of tibial nerve
- Branches from medial plantar nerve
- Branches from lateral plantar nerve

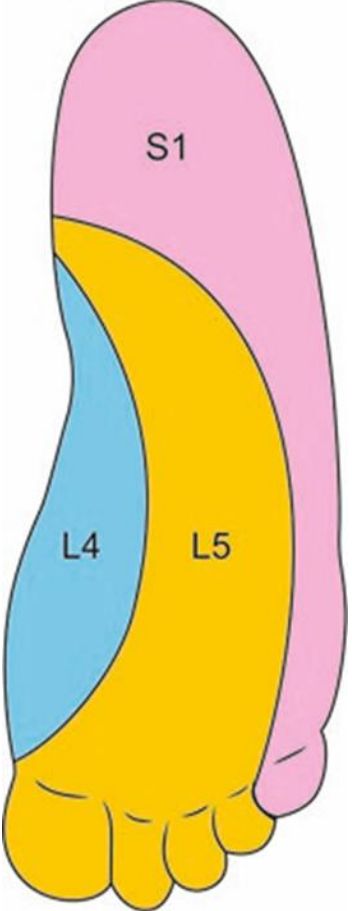
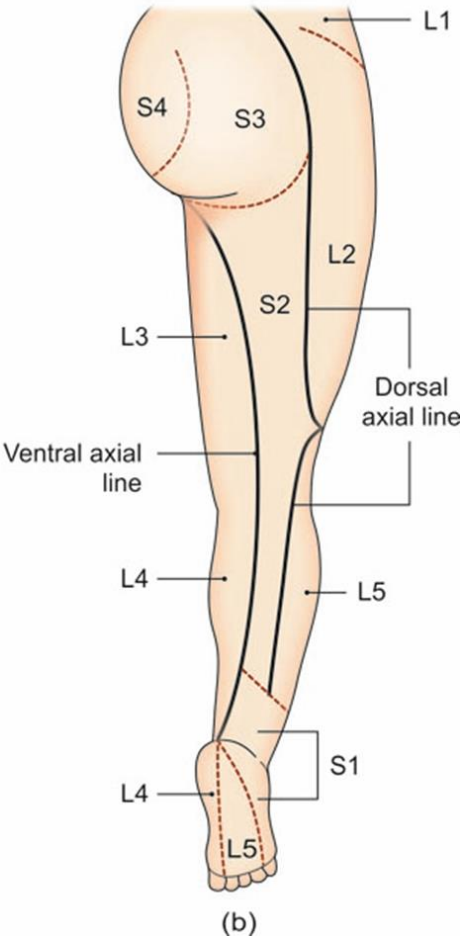
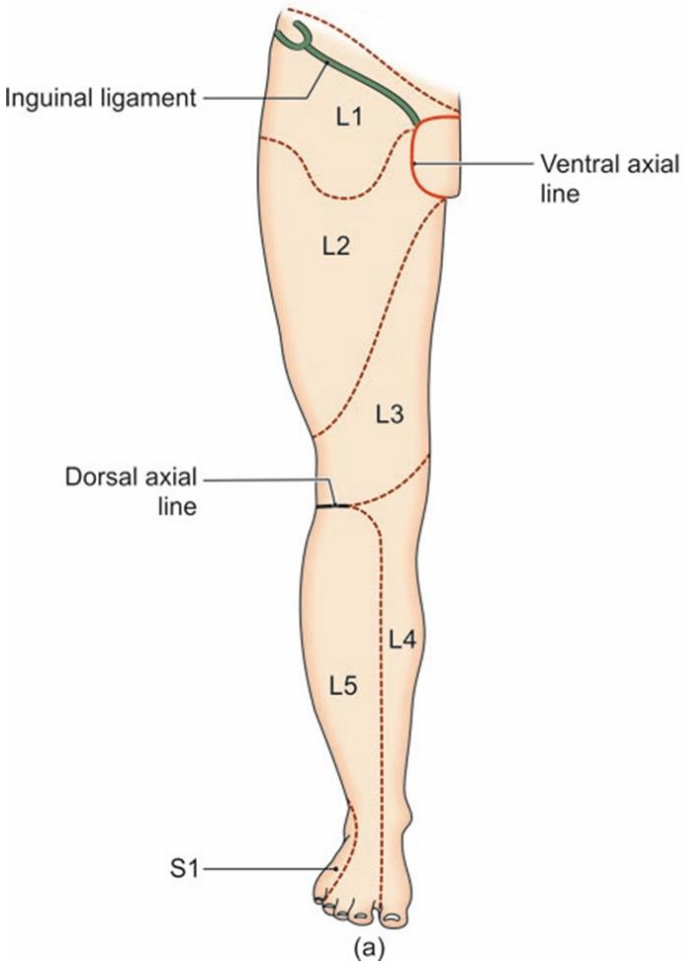


# SEGMENTAL INNERVATION

## Dermatomes

- The area of skin supplied by one spinal segment is called a dermatome.
- The cutaneous innervation of the lower limb is derived: mainly from segments L1 to L5 and S1 to S3 of the spinal cord.

# Dermatomes of the lower limb



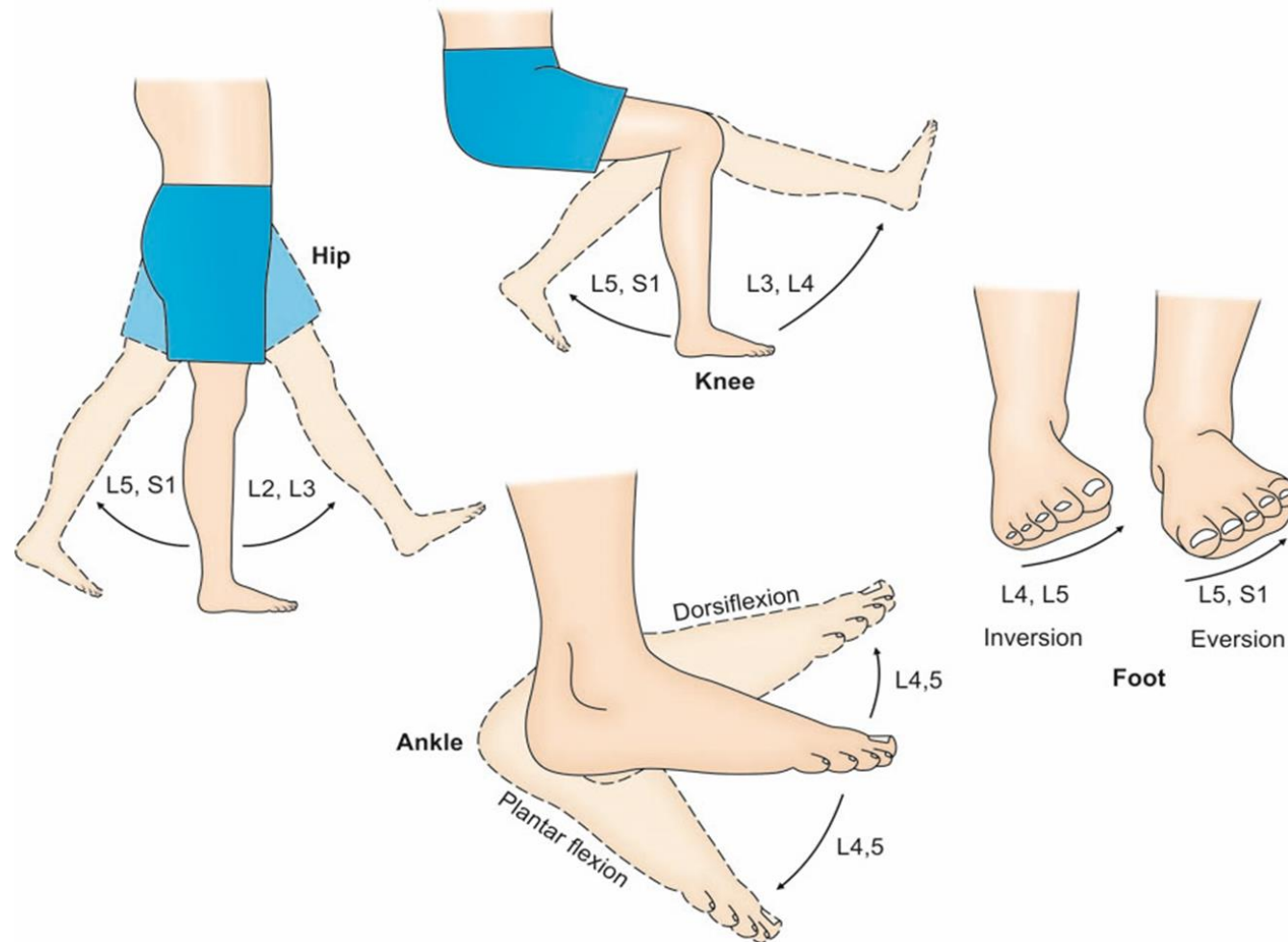


# Joint Movements

The segmental innervation of muscles can also be expressed in terms of movements of joints.

- Hip
  - Flexors, adductors and medial rotators ... L1, L2, L3
  - Extensors, abductors and lateral rotators ... L5, S1
- Knee
  - Extensors ... L3, L4
  - Flexors ... L5, S1
- Ankle
  - Dorsiflexors ... L4, L5
  - Plantar flexors ... S1, S2
- Foot
  - Invertors ... L4, L5
  - Evertors ... L5, S1

# Segmental innervation of the joints



# Clinical Anatomy

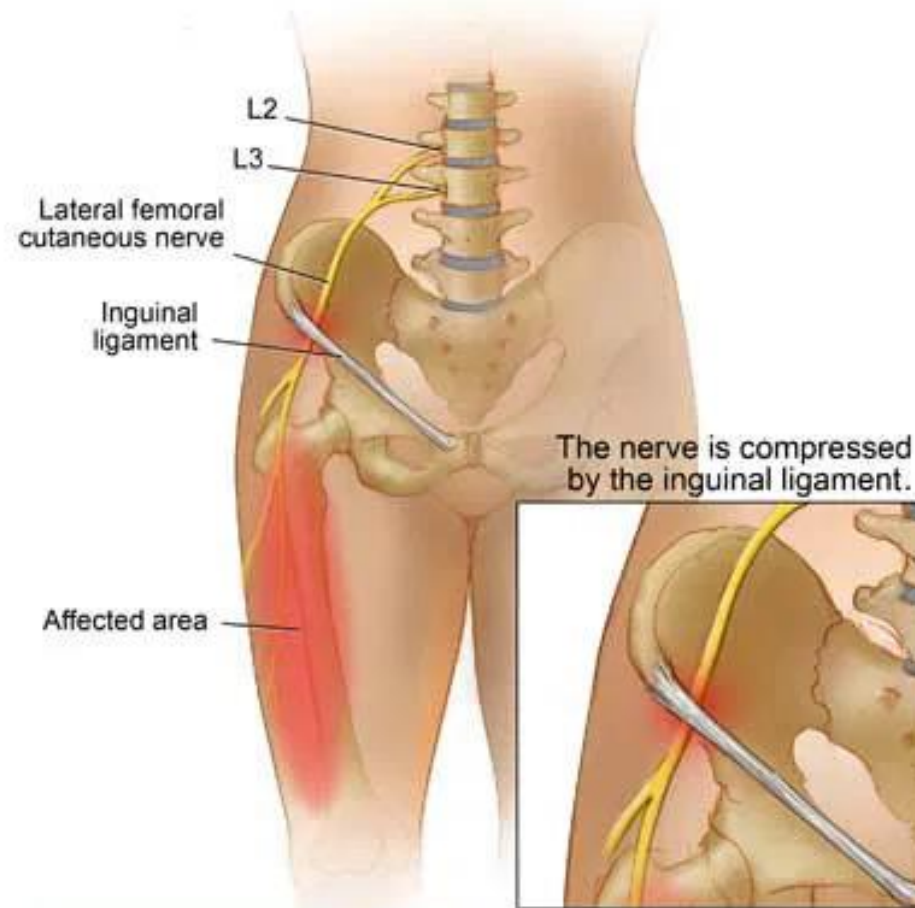
- Blocks of the lateral femoral cutaneous, posterior femoral cutaneous, saphenous, sural, and superficial peroneal nerves are useful anesthetic techniques for a variety of superficial surgical procedures and carry a low risk of complications.
- Saphenous nerve may be subjected to entrapment neuropathy as it leaves the adductor canal, leading to pain in the area of its supply.

AFFECTED NERVE	SENSORY LOSS
FEMORAL NERVE	Anterior side of thigh and medial side of leg upto big toe.
SCIATIC NERVE	Back and lateral side of leg, most of dorsum of foot, sole of foot.
COMMON PERONEAL	Lateral & anterior side of leg, most of dorsum of foot, most of digits.
TIBIAL	Skin of sole. Trophic ulcers can develop.
OBTURATOR	Small area on the medial side of thigh.
SUPERIOR GLUTEAL	-
INFERIOR GLUTEAL	-
PUDENDAL	Skin of perineum
DEEP PERONEAL	1 <sup>st</sup> inter digital cleft
SUPERFICIAL PERONEAL	Lateral side of leg, most of dorsum of foot.



INJURED NERVE	SENSORY LOSS
MEDIAL PLANTAR	Medial 2/3 rd of sole and digital nerves to medial 3 ½ toes, including nail beds.
LATERAL PLANTAR	Lateral 1/3 rd of sole and digital nerves to lateral 1 ½ toes, including nail beds.

# Meralgia Paresthetica



**Thank You**