Peripheral nerves, plexuses and dermatomes

Movement · nerve · spinal root

SHOULDER AND ELBOW MOVEMENTS

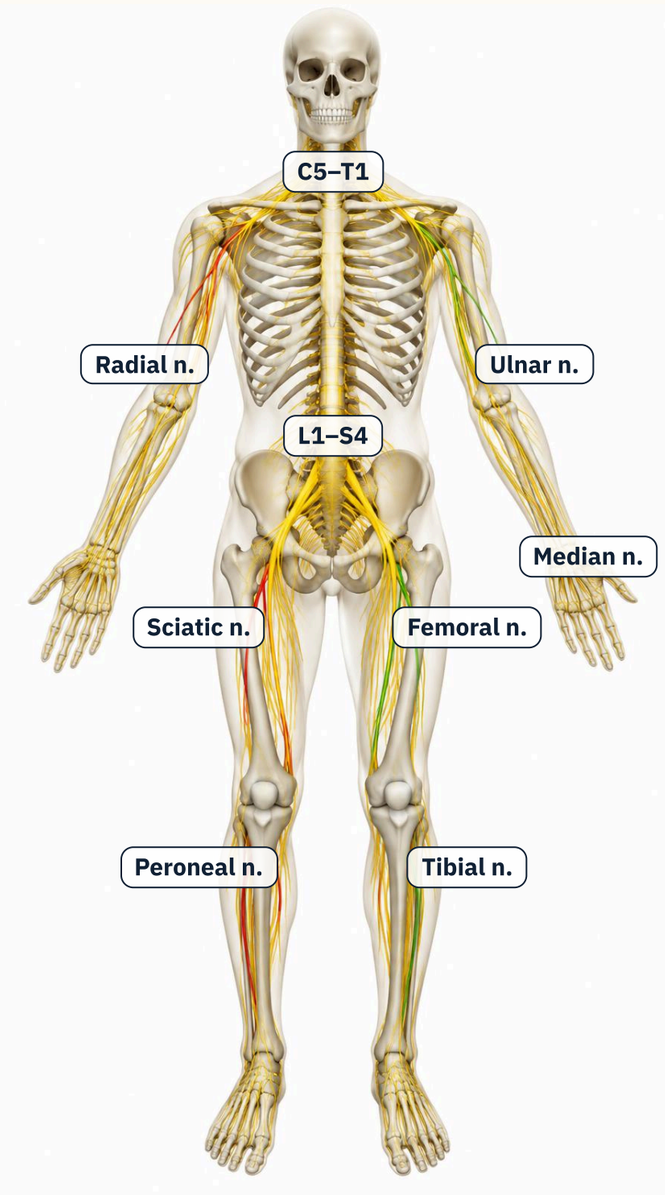
Shoulder abduction	Axillary n.	**C5**
Shoulder adduction	Thoracodorsal n.	**C7**
Shoulder external rotation	Suprascapular n.	**C5**
Shoulder internal rotation	Subscapular n.	**C6**
Elbow flexion (supinated)	Musculocutaneous n.	**C5, C6**
Elbow flexion (pronated)	Radial n.	**C5, C6**
Elbow extension	Radial n.	**C7**

LEG MOVEMENTS

Hip flexion	Femoral n.	**L1–L3**
Knee extension	Femoral n.	**L2–L4**
Hip abduction	Superior gluteal n.	**L4, L5, S1**
Hip extension	Inferior gluteal n.	**L4, L5, S1**
Hip adduction	Obturator n.	**L2–L4**
Knee flexion	Sciatic n. (tibial / peroneal)	**L5, S1**

BRACHIAL PLEXUS (C5–T1)

- Axillary n.
- Thoracodorsal n.
- Suprascapular n.
- Subscapular n.
- Musculocutaneous n.
- Radial n.
- Median n.
- Ulnar n.
- Long thoracic n. (C5–C7)
- Dorsal scapular n. (C5)



FOREARM AND HAND MOVEMENTS

Forearm supination	Radial n.	**C6**
Forearm pronation	Median n.	**C6**
Wrist flexion	Median n.	**C7, C8**
Wrist extension	Radial n.	**C5–C7**
Finger extension	Radial n.	**C7, C8**
Finger flexion, 2nd–3rd	Median n.	**C8**
Finger flexion, 4th–5th	Ulnar n.	**C8**
Pinching	Anterior interosseous n.	**C8**
Thumb adduction	Ulnar n.	**C8**
Finger abduction	Ulnar n.	**T1**

FOOT MOVEMENTS

Plantar flexion	Tibial n.	**S1, S2**
Inversion	Tibial n.	**L4**
Dorsiflexion	Deep peroneal n.	**L4, L5**
Eversion	Superficial peroneal n.	**L5, S1**

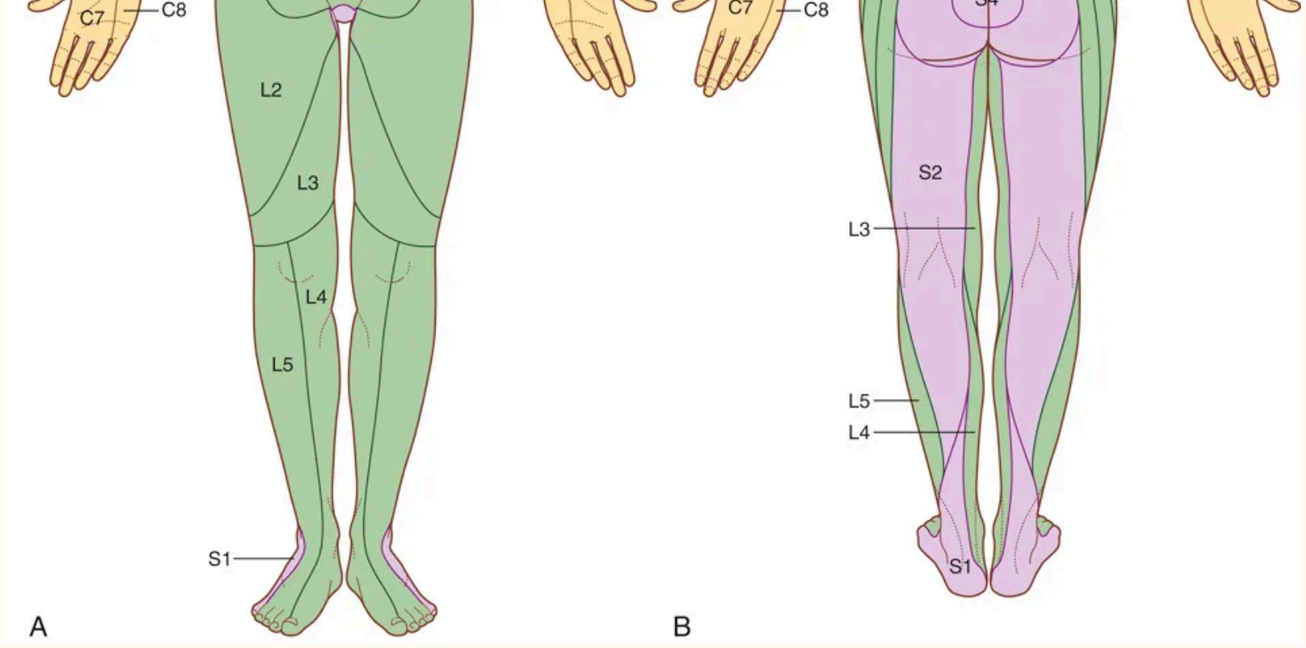
LUMBOSACRAL PLEXUS (L1–S4)

- Iliohypogastric n. (L1)
- Ilioinguinal n. (L1)
- Genitofemoral n. (L1–L2)
- Lateral femoral cutaneous n. (L2–L3)
- Femoral n.
- Obturator n.
- Superior gluteal n.
- Inferior gluteal n.
- Sciatic n. (L4–S3)
- Pudendal n. (S2–S4)

COMMON INJURIES AND ENTRAPMENTS

- C5–C6 roots: Erb's palsy
- C8–T1 roots: Klumpke's palsy
- C7 root: most often affected by disc herniation
- Thoracic outlet syndrome: lower trunk of the brachial plexus
- Axillary n.: fracture of the humeral neck, shoulder dislocation
- Radial n. in the spiral groove: wrist drop
- Median n.: carpal tunnel syndrome
- Ulnar n.: cubital tunnel at the elbow
- Lateral femoral cutaneous n.: meralgia paresthetica
- Sciatic n.: piriformis syndrome
- Peroneal n. at the fibular head: foot drop
- Tibial n.: tarsal tunnel syndrome

DERMATOMES



A · Anterior **B · Posterior**

CN V = trigeminal nerve; V_1 ophthalmic, V_2 maxillary, V_3 mandibular divisions.

C2	Occiput	**C3**	Supraclavicular region
C4	Acromioclavicular joint	**C5**	Lateral elbow
C6	Thumb	**C7**	Middle finger
C8	Little finger	**T1**	Medial elbow
T2	Axilla	**T4**	Nipple line
T6	Xiphisternal level	**T10**	Umbilicus
T12	Inguinal region	**L1**	Inguinal / upper medial thigh
L2	Anterior mid-thigh	**L3**	Medial knee
L4	Medial malleolus	**L5**	Dorsum of foot
S1	Lateral heel / foot	**S2**	Popliteal fossa
S3	Ischial region	**S4–S5**	Perianal region

Illustrative dermatome territories and common sensory landmarks, not exact diagnostic boundaries. Adjacent territories overlap; maps vary. The perianal S4–S5 landmark is assessed separately and is not visible in this posterior view. Facial sensation is supplied mainly by CN V.