

Dermatome Reference Chart

Spinal nerve root map of the body, C2 to S5

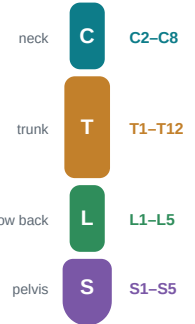
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A dermatome is an area of skin that takes its sensation from a single spinal nerve root. The body has 30 of them, running from C2 at the back of the head down to S5 at the perineum.

When one of these zones feels numb, tingly, or painful, it usually points back to compression or irritation of the matching nerve root in the spine. Clinicians read the pattern across several zones, then confirm the level with imaging such as MRI, CT, or X-ray, along with EMG or nerve conduction studies where needed.

SPINAL REGIONS



Why the zones overlap: every patch of skin is fed by fibres from more than one nerve root, so a single root injury rarely leaves a sharply bordered numb area. Symptoms tend to blur into the neighbouring zones, which is why the overall pattern matters more than any single point.

Cervical C2-C8

Head, neck, shoulders, arms, and hands

Thoracic T1-T12

Chest, upper back, and abdomen in bands

Lumbar L1-L5

Lower back, hips, front of thighs, inner legs

Sacral S1-S5

Back of legs, feet, buttocks, and perineum

C2-C8 Cervical Dermatomes

Compression here, often a disc or bone spur, sends pain or numbness into the arm.

ROOT	SKIN AREA	COMMON SIGNS OF COMPRESSION
C2	Back of the head and upper neck	Occipital headache, numbness over the scalp
C3	Lower neck and upper shoulders	Neck pain, numbness along the collar line
C4	Upper shoulders and top of the chest	Shoulder pain, numbness across the shoulder "cape"
C5	Outer shoulder and upper arm	Deltoid pain, weakness of the shoulder and biceps
C6	Outer forearm, thumb, index finger	Thumb numbness, weak biceps and wrist extension
C7	Middle finger and back of the forearm	Most commonly compressed cervical root. Triceps weakness, middle finger numbness
C8	Ring and little finger, inner forearm	Weak grip, numbness in the small fingers

T1-T12 Thoracic Dermatomes

Radiculopathy is uncommon here, but the landmarks are clinically reliable.

ROOT	SKIN AREA	LANDMARK
T1	Inner forearm and inner upper arm	Medial arm line
T2-T3	Upper chest and armpit	Axilla
T4	Across the chest at the nipples	Nipple line
T6	Lower breastbone	Xiphoid process
T10	Level of the navel	Umbilicus (belly button)
T12	Just above the groin crease and pubic area	Inguinal region

Quick landmarks: **T4 at the nipple**, **T6 at the xiphoid**, and **T10 at the navel** are the levels clinicians use to read sensory height after a suspected spinal cord injury.

ROOT	SKIN AREA	COMMON SIGNS OF COMPRESSION
L1	Groin and very upper thigh	Groin numbness, weak hip flexion
L2	Front of the upper thigh	Pain across the front of the thigh, weak hip flexion
L3	Front of the mid thigh and inner knee	Quadriceps weakness, numbness over the front of the thigh
L4	Inner shin, inner ankle, inner foot	Quadriceps weakness, reduced knee reflex, inner shin numbness
L5	Outer shin, top of the foot, big toe	Foot drop, weak big toe lift, numbness on top of the foot

L4 to L5 and L5 to S1 are the two levels where lumbar discs herniate most often, so **L5 and S1 radiculopathy** account for the majority of lumbar nerve root cases.

ROOT	SKIN AREA	COMMON SIGNS OF COMPRESSION
S1	Back of the calf, outer edge of the foot, little toe	Calf weakness, reduced ankle reflex, the classic sciatica pattern
S2	Back of the thigh	Numbness running down the back of the thigh
S3–S5	Perineum, genital area, and around the anus	Saddle numbness , a red flag for cauda equina syndrome



Clinical red flag. Numbness in the saddle area (S3 to S5) together with new bowel or bladder trouble can signal **cauda equina syndrome**. This is a surgical emergency. Seek immediate medical care rather than waiting for a routine appointment.

How the chart is used in clinic

- Pinpoint which nerve root is compressed, which guides how the MRI is read and how surgery is planned.
- Tell radiculopathy apart from a peripheral nerve problem such as carpal tunnel, which follows a different pattern.
- Set the level of a spinal cord injury from the highest zone that still has normal sensation.
- Track shingles, which erupts along one dermatome in a band on a single side of the body.
- Follow recovery after spine surgery, since returning sensation is one of the earliest signs of decompression.

Dermatome vs myotome

A **dermatome** is the skin area served by one spinal nerve root for sensation. A **myotome** is the muscle group served by that same root for movement.

A full neurological exam checks both: dermatomes for numbness and tingling, myotomes for strength. When one root is pinched, a sensory loss and a motor loss usually appear together at the same level, which is what makes the pairing so useful for finding the source of the problem.

This chart is a general reference. Dermatome borders vary from person to person and overlap with their neighbours, so findings are always read alongside imaging and other tests, never in isolation. It is not a substitute for examination by a qualified physician. Your orthopaedic or spine surgeon will decide which tests are appropriate for you.

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