

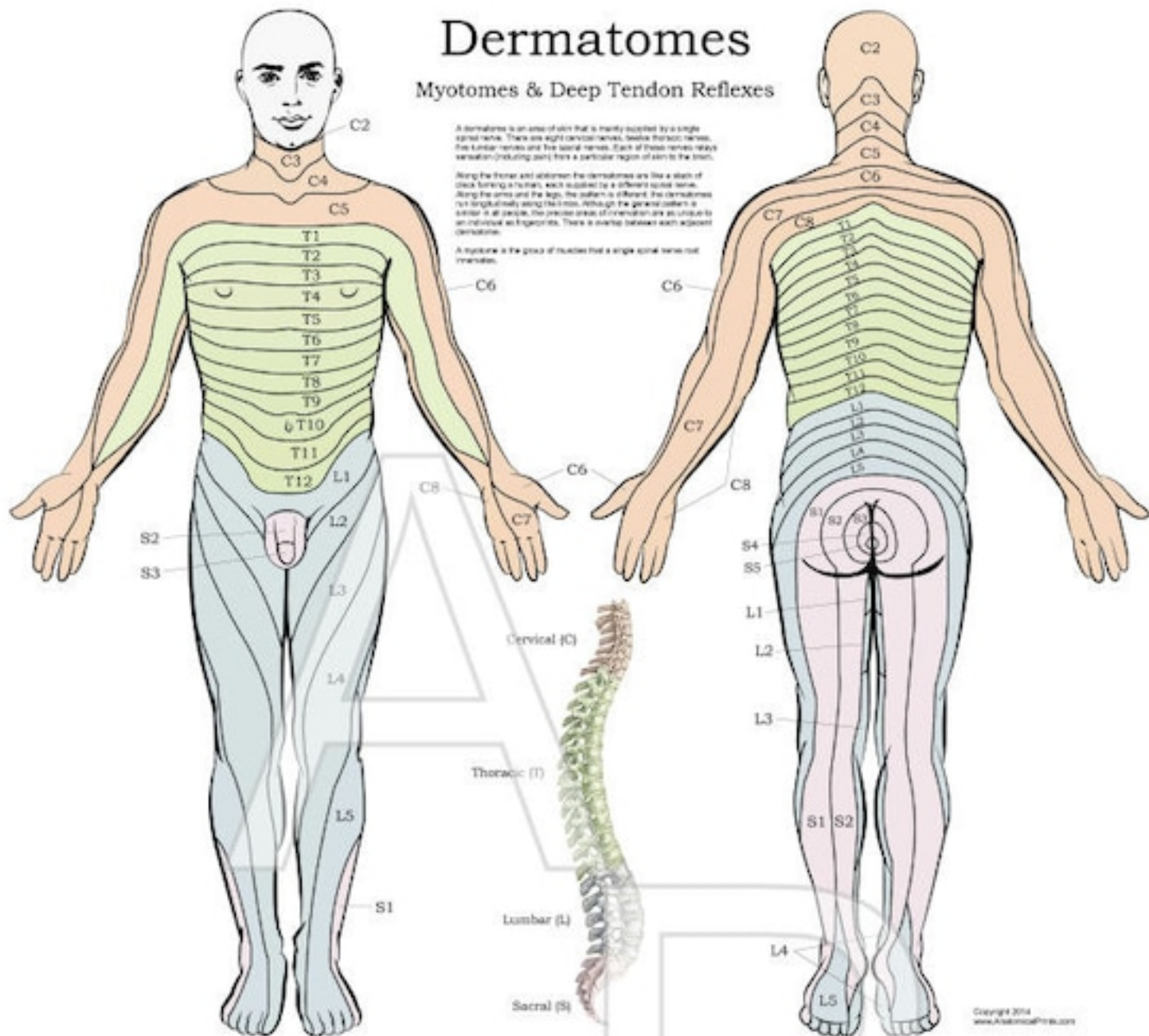
Dermatomes

Myotomes & Deep Tendon Reflexes

A dermatome is an area of skin that is mainly supplied by a single spinal nerve. There are eight cervical nerves, twelve thoracic nerves, the lumbar nerves and five sacral nerves. Each of these nerves supply sensation (including pain) from a particular region of skin to the brain.

Along the front and abdomen the dermatomes are like a stack of sheets forming a human, each supplied by a different spinal nerve. Along the arms and the legs, the pattern is different: the dermatomes run longitudinally along the limbs, although the general pattern is similar. At all levels, the precise areas of innervation are as unique to an individual as fingerprints. There is overlap between each adjacent dermatome.

A myotome is the group of muscles that a single spinal nerve innervates.



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Nerve Root	Test Action	Muscles
Myotomes of the Upper Limb		
C1/C2	Neck flexion/extension	Rectus lateralis, rectus capitis anterior, longus capitis, longus colli, longus cervicis, semioleocostocervical.
C3	Neck lateral flexion	Longus capitis, longus cervicis, longus colli, longus medialis.
C4	Shoulder elevation	Diaphragm, trapezius, levator scapulae, scapula anterior, scapula medius.
C5	Shoulder abduction	Deltoid major and minor, coracobrachialis, infraspinatus, teres minor, biceps, scapula anterior and medius.
C6	Elbow flexion and/or wrist extension	Serratus anterior, latissimus dorsi, subscapularis, biceps major, pectoralis major, biceps, coracobrachialis, brachialis, brachioradialis, supinator, extensor carpi radialis longus, extensor carpi radialis medius and posterior.
C7	Elbow extension and/or wrist flexion	Serratus anterior, latissimus dorsi, pectoralis major, pectoralis minor, triceps, pronator teres, flexor carpi radialis, flexor digitorum superficialis, extensor carpi radialis longus, extensor carpi radialis medius, extensor digitorum, extensor digiti minimi, extensor medius and posterior.
C8	Thumb extension and/or ulnar deviation	Pectoralis major, pectoralis minor, biceps, flexor digitorum superficialis, flexor digitorum profundus, flexor pollicis longus, pronator quadratus, flexor carpi ulnaris, abductor pollicis longus, extensor pollicis longus, extensor pollicis brevis, extensor indicis, abductor pollicis brevis, flexor pollicis brevis, opponens pollicis, scapula medius and posterior.
T1	Abduction and/or adduction of hand intrinsic	Flexor digitorum profundus, intrinsic muscles of the hand, flexor pollicis brevis, opponens pollicis.
Myotomes of the Lower Limb		
L1/L2	Hip flexion	Psoas, iliacus, sartorius, gracilis, pectineus, adductor longus, adductor brevis.
L3	Knee extension	Quadriceps, adductor longus, magnus and brevis.
L4	Ankle dorsiflexion	Tibialis anterior, quadriceps, tensor fasciae latae, adductor magnus, obturator externus, iliotibial band.
L5	Toe extension	Extensor hallucis longus, extensor digitorum longus, gluteus medius and minimus, obturator internus, semimembranosus, semitendinosus, peroneus tertius, popliteus.
S1	Ankle plantar flexion and eversion, hip extension, knee flexion	Gastrocnemius, soleus, gluteus maximus, obturator internus, piriformis, biceps femoris, semitendinosus, popliteus, peroneus longus and brevis, extensor digitorum brevis.
S2	Knee flexion	Biceps femoris, piriformis, soleus, gastrocnemius, flexor digitorum longus, flexor hallucis longus, intrinsic foot muscles.
S3	Rectal sphincter tone	Intrinsic foot muscles, flexor hallucis brevis, flexor digitorum brevis, extensor digitorum brevis.

Deep Tendon Reflex	Spinal Level	Action / Normal Response	Deep Tendon Reflex Grading
Biceps Tendon	C5-C6	Contraction of the biceps muscle	Grade 0 - Absent, no reflex
Brachioradialis Tendon	C5-C6	Elbow flexion and/or forearm pronation	Grade 1 - Diminished, trace, or seen only with reinforcement
Triceps Tendon	C7-C8	Elbow extension or contraction of the triceps muscle	Grade 2 - Active normal response
Patellar Tendon	L3-L4	Knee extension	Grade 3 - Brisk, exaggerated response
Tibialis Posterior Tendon	L4-L5	Plantar flexion/inversion of the foot	Grade 4 - Clonus, very brisk/hyperactive
Achilles Tendon	S1-S2	Plantar flexion of the foot	