



Book Supplement

History and Physical Examination Elements for Distal Sensory Polyneuropathy (DSP)

Symptom Sign	Notes
Paresthesias and dysesthesias	Sensory symptoms such as numbness, pain, paresthesias, or dysesthesias often are the earliest symptoms of polyneuropathy. Multiple sensory symptoms are more predictive of polyneuropathy. Symptoms are distally predominant and symmetrical. As the polyneuropathy worsens, symptoms evolve in a centripetal manner (i.e., sensory symptoms spread up the legs).
Weakness	Motor symptoms of weakness or atrophy in the feet and distal legs may occur, particularly as the polyneuropathy worsens. The earliest symptoms are usually weakness of toe dorsiflexion (especially the big toe) followed by weakness of foot dorsiflexion.
Decreased sensation	Depressed sensation for primary sensory modalities (pain, touch, hot, cold, vibration, and proprioception) in the feet usually is the earliest sign of polyneuropathy. The sensory loss is distal and relatively symmetrical. As the polyneuropathy progresses, the sensory loss evolves in a centripetal manner. Because most cases of DSP have a "fiber length"-dependent evolution, by the time sensory loss has ascended to the upper shin, numbness usually is detected in the fingertips, giving rise to a "stocking-glove" pattern of sensory loss. As with sensory symptoms, sensory loss for multiple primary sensory modalities is more predictive of polyneuropathy.
Muscle weakness and atrophy	Muscle weakness or atrophy in the feet and distal legs may occur, particularly as the polyneuropathy worsens. The earliest findings are usually weakness of toe dorsiflexion (especially the big toe) followed by weakness of foot dorsiflexion. As weakness of foot dorsiflexion progresses, patients have difficulty walking on their heels; however, in most polyneuropathies foot plantar flexion remains reasonably strong, allowing patients to walk on their toes. The weakness should be distally predominant, relatively symmetrical, and evolve in a centripetal manner.

Depressed or absent tendon reflexes, especially ankle reflexes	Tendon reflexes are often depressed or absent in polyneuropathy. The earliest abnormality is depressed or absent ankle jerks, which is a valuable sign of polyneuropathy. The finding should be symmetrical. As the polyneuropathy evolves, other tendon reflexes, especially knee jerks, become depressed or absent. Tendon reflexes are depressed more frequently in demyelinating or large fiber polyneuropathies and are not depressed in pure "small fiber" polyneuropathies.
Autonomic dysfunction	Signs of autonomic nervous system dysfunction may be seen in polyneuropathy if autonomic fibers are involved. If present, the signs are distally predominant and may include abnormalities of sweating or circulatory instability in the feet.
Foot deformities	Pes cavus and hammertoes may be present in long-standing polyneuropathies, especially hereditary or other neuropathies that begin in childhood. These foot deformities are valuable keys that may indicate a hereditary neuropathy. The presence of pes cavus does not always indicate a polyneuropathy.

Table from *Physicians Information and Education Resource (PIER), Peripheral Neuropathy* module.