

TABLE 121-7 COMMON MONONEUROPATHIES

	PRECIPITATING FACTORS	MOTOR SIGNS AND SYMPTOMS	SENSORY SIGNS AND SYMPTOMS	TREATMENT
MEDIAN NERVE				
Entrapment at the wrist (carpal tunnel syndrome)	Repetitive wrist flexion or sleep	Weakness in thenar muscle; inability to make a circle with the thumb and index fingers	Numbness, tingling, and/or pain in thumb, index finger, middle finger, and medial half of ring finger. Tinel and Phalen signs	Neutral wrist splint, carpal tunnel injections or surgery
ULNAR NERVE				
Entrapment at the elbow	External compression in condylar groove, fracture of humerus	Weakness or atrophy of the interossei and thumb adductor	Sensory loss in the little finger and contiguous half of the ring finger	Elbow pads; ulnar nerve transposition or decompression of cubital tunnel
RADIAL NERVE				
Entrapment at the spiral groove	Prolonged sleeping on arm after drinking excessive amounts of alcohol: "Saturday night palsy"	Wrist drop with sparing of elbow extension; weakness of finger and thumb extensors	Sensory loss on dorsum of hand	Spontaneous recovery; wrist splint
FEMORAL NERVE				
	Abdominal hysterectomy, hematoma, prolonged lithotomy position, diabetes	Weakness and atrophy of quadriceps	Sensory loss in anterior thigh and medial calf	Physical therapy
LATERAL FEMORAL CUTANEOUS NERVE				
Meralgia paresthetica	Obesity, pregnancy, diabetes, constrictive belts	None	Sensory loss, pain, or tingling over anterolateral thigh	Weight loss; spontaneous recovery
PERONEAL NERVE				
Entrapment at the fibular head	Habitual leg crossing, knee casts, prolonged squatting, profound weight loss	Weakness of ankle dorsiflexors or evertors and toe extensors	Sensory loss in anterolateral leg and dorsum of foot	Ankle-foot orthosis; remove source of compression
SCIATIC NERVE				
	Injection injury, fracture or dislocation of hip	Weakness of hamstrings, ankle plantar flexors or dorsiflexors	Sensory loss in buttock, lateral calf and foot	Ankle-foot orthosis; physical therapy
TIBIAL NERVE				
Entrapment in tarsal tunnel	External compression from tight shoes, trauma, tenosynovitis	None	Sensory loss and tingling in sole of foot	Tarsal tunnel injection, eliminate source of compression, medial arch support

physical injuries to nerves. Although these examples have nearly pure demyelination, many neuropathies have both axonal degeneration and demyelination. This mixed pathologic abnormality reflects the mutual interdependency of the axons and the myelin-forming Schwann cells. Vasculitic neuropathies occur as a result of disease of the small- or medium-sized blood vessels that leads to ischemia and infarction of isolated peripheral nerves. The term *mononeuritis multiplex* is also used to describe this clinical situation, in which there is multifocal involvement of individual nerves.

Clinical Presentation

The clinical picture of an *axonal* polyneuropathy includes early loss of muscle stretch reflexes at the ankle and weakness that initially involves the intrinsic muscles of the feet, the extensors of the toes, and the dorsiflexors at the ankle. The motor signs are usually mild in contrast to the sensory abnormalities, which may include numbness, tingling, and burning sensations (dysesthesias). The sensory symptoms usually begin symmetrically in the toes and feet and then ascend proximally to the legs in a "stocking" distribution. When the sensory abnormalities reach the level of the knees, the symptoms begin in the hands, in a "glove"

distribution. Truncal and abdominal dysesthesias may develop once the sensory abnormalities ascend to the level of the elbows.

The prominent clinical feature of an acquired *demyelinating* polyneuropathy is weakness that affects not only the distal muscles, but also the proximal and facial muscles. Unlike in an axonal neuropathy, sensory loss is rarely the presenting symptom. Patients generally have diffuse hyporeflexia or areflexia.

Vasculitic neuropathies typically present with acute or subacute asymmetrical, predominantly distal weakness and sensory loss associated with severe pain.

Diagnosis and Differential Diagnosis

Neuropathic disorders can be broadly divided into those that are acquired and those that are hereditary (Table 121-8). Acquired disorders are the more common and have many causes: metabolic or endocrine disorders (diabetes mellitus, renal failure, porphyria); immune-mediated disorders (GBS, CIDP, multifocal motor neuropathy, antimyelin-associated glycoprotein neuropathy); infectious causes (human immunodeficiency virus [HIV], Lyme disease, cytomegalovirus [CMV], syphilis, leprosy, diphtheria); medications (HIV drugs, chemotherapies); environmental toxins (heavy metals); or paraneoplastic processes. Diabetes