

# Understanding the Symptoms of Peripheral Neuropathy

**T**HE SYMPTOMS OF NEUROPATHY depend on the type and distribution of the nerves that are affected as well as on the severity of the disease. Early on, the symptoms can be subtle, and they are often ignored or attributed to other conditions such as old age or arthritis. It is important to recognize them, however, so as not to delay diagnoses and treatment. Nerves have a limited capacity to regenerate, and the sooner the condition is diagnosed and treated, the greater the chances the neuropathy can be arrested or reversed before there is significant permanent damage.

## MOTOR SYMPTOMS

Motor neuropathy is manifest by weakness in the arms or legs, but early on, the weakness maybe too mild to be recognizable. Subtle symptoms include heaviness in the legs, difficulty getting up from a low chair, pulling on the rail when walking up stairs, or catching a toe on the carpet. The arms may fatigue easily when carrying groceries, or brushing your hair, or turning a lock may require more force. Weakness will become more obvious as the neuropathy progresses. Muscle atrophy or wasting and spontaneous muscle twitching (called *fasciculations*) are also signs of motor nerve damage. Clawing of the toes (called *hammertoes*) is a subtle sign of neuropathy that results from uneven forces pulling on the muscles that flex or extend the toes.

## SENSORY SYMPTOMS

Sensory symptoms can be highly variable, and may include pain, insensitivity or loss of sensation (hypesthesia or anaesthesia), spontaneous sensations (paresthesias), unpleasant altered sensations (dysesthesias), or hypersensitivity (hyperalgesia) to pressure or touch.

Pain is normally a protective sensation, providing a warning of existing or pending injury. People who are insensitive to pain may be unaware that they have burned themselves on a hot stove or with hot water; they might step on a nail or another sharp object without feeling any pain. It is not unusual for such people to report that they did not realize they were injured until after they took off their shoes at night and found their foot bloodied.

Paresthesias are variably described as numbness, pins and needles, stinging, prickling, crawling, burning, cold, itching, buzzing, vibrating, aching, tearing, squeezing, stiff, and deadened, or encased in cement, among others. They can occur alone or in combination, and are typically more bothersome at night when there are few other sensory stimuli or distractions, and make it difficult to fall asleep. These symptoms sound bizarre and people who complain of them are often not taken seriously; they may be considered depressed or hysterical by those who are unfamiliar with neuropathy.

Disruption of joint or position sensation prevents the flow of information about the position of the body or limbs in space, resulting in impaired balance or coordination. Symptoms include a widened stance, unsteady or less fluid gait, a tendency to fall, or difficulty with fine manipulations such as tying a shoelace, turning the pages of a book, or buttoning a shirt. The eyes can compensate to some extent by providing visual cues, but balance is rapidly lost in the dark, or in the shower when closing the eyes.

Normal stimuli, such as touch or pressure, can at times cause altered unpleasant or disagreeable sensations called *dysesthesias*. These sensations have variably been described as a feeling of sandpaper rubbing the skin, burning, itching, stinging, ice cold, or lingering, among others. Dysesthesias can be elicited by such ordinary stimuli as light touch or pressure, the feel of clothes against the skin, or a light breeze.

Hypersensitivity to touch or pressure can also cause severe pain, especially in the feet. Tight socks or shoes are particularly a problem, and the pain can make it difficult to walk. Wearing socks without elastic bands, shoes that are soft and roomy, and orthoses that keep pressure off sensitive spots can often bring relief.

## AUTONOMIC SYMPTOMS

Autonomic symptoms are less common in generalized neuropathies than sensory or motor symptoms, but they can be the presenting symptoms in predominately autonomic neuropathies. They result from abnormalities in blood pressure, gastrointestinal motility, bladder emptying, sexual functions, temperature regulation, or integrity of the skin.

The autonomic nervous system regulates blood flow to where it is most needed by controlling blood pressure, vascular tone, and heart rate. For example, blood flow is directed to the muscles when running, or to the stomach after eating, which is why it is not a good idea to exercise after a big meal. When standing up from a lying position, the blood vessels in the legs normally constrict to prevent pooling, and the heart pumps a bit faster to ensure sufficient blood flow to the head. In autonomic neuropathy, however, that system fails, resulting in a fall in blood pressure when standing up, a phenomenon that is called *postural hypotension*. The lack of oxygen can cause dizziness or lightheadedness when standing up or, less frequently, headache, neck pain, confusion, or visual blurring. An overly rapid heart beat when standing up (called *postural tachycardia*) can also impair blood flow to the brain.

The autonomic nerves also regulate gastrointestinal motility and bladder emptying. Autonomic neuropathy can cause a lack of physiologic control of the bladder, resulting in atony, loss of bladder sensation, an inability to contract the musculature of the bladder wall, difficulty with initiating a stream, and incomplete bladder emptying, which increases the incidence of infection. There may also be urinary urgency and overflow incontinence. Impaired gastrointestinal motility can cause gastroparesis, with epigastric discomfort or fullness, early satiety, and occasional nausea or vomiting. Bowel dysmotility can cause alternating

constipation and diarrhea. Denervation of the internal anal sphincter can cause fecal incontinence.

Autonomic neuropathy also causes sexual dysfunction, manifest by impotence or erectile dysfunction in men, and inadequate lubrication with inability to achieve orgasm in women. Temperature regulation and sweating are also regulated by the autonomic nervous system, and sweating may be impaired in the arms or legs, with compensatory excessive sweating in unaffected areas such as the face or chest. Other manifestations of autonomic neuropathy include swelling at the ankles, dryness and thinning of the skin, hair loss on the legs, delayed healing of the skin, and ridged or brittle nails.