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# Symptoms & Signs: A Primer on Nerve Dysfunction

**D**o you experience numbness, pain, and tingling sensations? The symptoms of numbness and tingling are usually manifestations of nerve dysfunction.

When presenting in a more diffuse fashion, these symptoms are commonly due to systemic disorders, such as metabolic derangements, low blood pressure and toxins (including certain medications). When the symptoms are more prominent at the end of the limbs, this is known as a polyneuropathy (or peripheral neuropathy). One of the most common etiologies of peripheral neuropathy is Diabetes Mellitus, which can reduce blood flow to the smallest of arteries even in very early stages. Thus, even when a fasting glucose is normal, when these symptoms arise, it is important to do sensitive screening tests for "pre-diabetes."

Other acquired etiologies (such as vitamin B-12 deficiency) are important to discover in the setting of peripheral neuropathy, since they are quite treatable. When the symptoms are more focal and fall into specific "dermatomes" of distribution, this indicates a

more isolated nerve dysfunction. This could be due to localized poor arterial blood flow, such as with vasculitis (a condition where localized inflammation of the artery constricts its opening). More commonly, compression of a nerve will cause numbness or pain (examples include disc herniations within the spine toward the nerve roots which typically present as neck or back pain, including in a linear fashion into the limb). Other regions of the body may be affected (such as shoulder or upper arm tingling), which is caused by the 5th nerve root of the cervical spine. When the inner aspect of the forearm is involved, especially movements of the shoulder, such as reaching up into a cabinet, then this would be due to thoracic outlet syndrome. The brachial plexus of nerves becomes compressed by the collarbone resulting numbness.

A common entrapment neuropathy is carpal tunnel syndrome, whereby the median nerve is compressed by tendons and fascial ligament at the wrist which results in numbness and tingling

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