

Practice Protocol: Neuropathy

Nature: Burning, tingling, stinging pain or numbness that can occur all day. May be worse at night.

Location: From toes to ankle

Course: It gets progressively worse as time goes on.

Testing:

1. Epithelial Nerve Fiber Density Test – How many fibers per mm. Uses Zamboni's Fixative.
2. Electromyogram (EMG) and Nerve Conduction Velocities (NCV) – Can rule out large nerve compression (Radiculopathy – compression of nerve exiting the back, Tarsal Tunnel – Compression in Tarsal Canal)
3. Sudomotor Testing – Measures function of sweat glands to rule out Autonomic Neuropathy
4. Strapping – Correction of Equinus Deformity and supporting a Flatfoot can resolve symptoms of nerve pain. A 1-2 week trial with a supportive strapping can support a diagnosis of Pseudostenosis

Differential Diagnosis:

1. Diabetic/Alcoholic Neuropathy
2. Spinal Stenosis
3. Tarsal Tunnel Syndrome
4. Fibromyalgia/RSD/CRPS
5. Pseudostenosis
6. Restless Leg Syndrome

Our Treatment Options

Conservative

1. Topical OTC: Biofreeze/Capzasin/Icy Hot – Chemical over-excitation of the nerve fibers causing temporary analgesia
2. Topical Rx: Amitriptyline HCL, Baclofen, Gabapentin, NSAIDs
3. Oral Rx: Neurontin and Lyrica – Raises the threshold for stimulus needed for a pain sensation
4. Medical Foods/Vitamins:
 - a. Alpha-Lipoic Acid (ALA) – Antioxidant to protect peripheral nerves
 - b. Vitamin B6 – Produces neurotransmitters essential in the formation of nerve sheath
 - c. Vitamin B12 – Essential in function of nerves, forms nerve sheath and removes homocysteine from blood. Shown to reduce painful symptoms of neuropathy.
 - d. Benfotiamine – Protects nerves and small blood vessels, shown to reduce painful symptoms of neuropathy.
 - e. L-methylfolate Calcium – Stimulates blood flow and nourishes nerves ($\uparrow\text{NO}_2$).
5. Strapping/Orthotics – Correction of foot deformity resolves symptoms of pseudostenosis.
6. Bracing/Splinting – Holding the foot and ankle in a decompressed position can alleviate symptoms of tarsal tunnel.

Surgical

1. Tarsal Tunnel Decompression – Systematic dissection of nerves around the tarsal tunnel to ensure they are not compressed.
2. Spinal Stimulator – Referral to pain management specialist that can implant a spinal stimulator to reduce or eliminate nerve pain.