



Mountain West Foot & Ankle Institute

Brandt R. Gibson, DPM, MS
DrGibson@UtahFootDoc.com
www.UtahFootDoc.com

36 North 1100 East, Suite B
American Fork, UT 84003
Phone: (801)756-0765
Fax: (801)756-1405

Patient Education – Neuropathy

Specializing In:

Peripheral Neuropathy
Diabetic Foot Care
Diabetic Shoes
Sports Injuries
Plantar Fasciitis
Shoe Inserts/Orthotics
Nail Fungus
Athletes Foot
Ingrown Toenails
Routine Foot Care
Foot Fractures
Ankle Fractures
Wound Treatment
Corns/Calluses
Heel Pain
Foot & Ankle Pain
Wart Treatment
Walking Abnormalities
Bunions
Hammertoes (Curly Toes)
Corrective Foot Surgery

Neuropathy can be a complex problem with multiple possible causes including diabetes, AIDS or HIV, toxins and metallic poisons, certain chemicals, alcoholism, vitamin deficiencies or nutritional imbalances, it may also occur from systemic diseases (kidney failure, liver disease, rheumatoid arthritis, abnormal blood proteins, cancer especially with chemotherapy, leukemia and shingles). Entrapment may also lead to the symptoms of neuropathy.

Treatment Options:

Oral Pain Treatments:

- **Lyrica (Pre-gabalin)** → Effective treatment for symptoms including night pain, burning or electrical shocks. It is dose dependant and becomes more effective as dosage is increased. It is usually take twice a day morning and night and should start to be effective within 7 days. (Most common side-effect if encountered includes drowsiness.) LYRICA has been clinically proven to provide effective relief from the stabbing, burning and shooting pain of neuropathy and is currently one of two FDA approved medications for neuropathy.
- **Gabapentin (Neurontin)** → Effective treatment for symptoms including night pain, burning or electrical shocks. Patients have a tendency to “get used to” this medication and require a regular up dosing. High dosages are often required. It is usually taken 2-3 times per day. It takes several weeks often to notice improvement. (Significant side-effects are often encountered.)
- **Cymbalta (Duooxetine)** → A depression medication that is FDA approved for symptoms of neuropathy. This has been very effective in some individuals, especially with depression associated with neuropathy.
- **Amitriptyline** → Additional option for pain. Not as effective as Lyrica, but often more cost effective. Less side-effects than gabapentin.
- **Pain Medications** → Typically narcotic pain medications are ineffective at treating nerve pain, and are usually only take the edge off pain. The only pain medication with medical studies supporting its use in treating nerve pain is Ultram (Tramadol), a non-narcotic pain medication that has been shown to be less addictive. This may be considered if other treatments are ineffective.

Topical or Local Pain Treatments:

- **Local Anesthetics** → Through localized injections of lidocaine or marcaine, especially with the addition of vitamin B12 can often improve symptoms from 2-3 weeks to several months. This is typical to neuropathy only, because the anesthetics only last for a period of hours.



We Optimize What You Were Born With.

Specializing In:

- Peripheral Neuropathy
- Diabetic Foot Care
- Diabetic Shoes
- Sports Injuries
- Plantar Fasciitis
- Shoe Inserts/Orthotics
- Nail Fungus
- Athletes Foot
- Ingrown Toenails
- Routine Foot Care
- Foot Fractures
- Ankle Fractures
- Wound Treatment
- Corns/Calluses
- Heel Pain
- Foot & Ankle Pain
- Wart Treatment
- Walking Abnormalities
- Bunions
- Hammertoes (Curly Toes)
- Corrective Foot Surgery

- **Biofreeze** → A topical cryotherapy (cold therapy) utilized to reduce pain. It is commonly utilized similar to similar to Icy Hot or Bengay, but contains an herbal extract Ilex that is absorbed through the skin and helps reduce pain. It comes in gel, spray and roll-on allowing treatments 2-4 times a day in various areas of the body for neuropathy pain and many other common pain problems.
- **Capsaicin Creams (Zostrix, Zostrix Neuropathy Cream or Capsaicin)** → A medication containing extract of peppers to over stimulate the nervous tissue and thus reduce pain. Has been shown to work well on neuropathy pain and arthritis pain. It typically should be applied 2-4 times per day and hands should be carefully washed after application.
- **Duoxetine (Prudoxin)** → Doxepin Hydrochloride Cream, 5% is a fast, non-steroidal alternative that provides soothing relief in minutes from neuropathy pain in several studies. As the same medication as found in Cymbalta, it interacts locally with the nerves to decrease discomfort.

How Can We Improve Your Symptoms?

Monochromatic Infrared Therapy (MIRE or Anodyne): Infrared light therapy provided at a regimen of 2-3 times a week for 12 treatments. This has been shown in studies to improve some in many individuals.

It stimulates Nitrous Oxide (NO) release from the blood cells that interacts with surrounding tissues and decreases nerve pain, stimulates vasodilation (opening of blood vessels to increase circulation), increases nerve functioning. Often it has been shown to return sensation to a previously numb foot.

Metanx: This is a prescription medical food for the dietary management of endothelial dysfunction in patients with diabetic peripheral neuropathy. Traditional over-the-counter vitamins are synthetic forms of the nutrients found in nature and must be converted to their active forms before they can actually be used by the body's cells for such vital functions as DNA production, cell reproduction and homocysteine metabolism.

<u>B Vitamin</u>	→	<u>Active Form</u>
Folic acid	→	L-methylfolate (2.8mg)
Vitamin B ₆	→	Pyridoxal 5'-phosphate (25mg)
Vitamin B ₁₂	→	Methylcobalamin (2mg)

Metanx is a unique formulation providing the active forms of folate, vitamin B₆ and vitamin B₁₂ to manage the distinct nutritional requirements of neuropathy patients who often experience numbness, tingling, and burning sensations in their feet. Per studies run by the makers of Metanx, one tablet is equivalent to taking 19 folic acid tablets (1mg each), 2 B₁₂ tablets (1mg each), and 2 B₆ tablets (25mg each). You would need to take a handful of over-the-counter tablets to equal one dose of Metanx. Metanx is given at 1 tablet twice a day.

Neuremedy: This is a medical food consisting of benfotiamine, that nourishes dysfunctional nerves allowing them to conduct impulses more normally. Since the early 1960s, benfotiamine has been used successfully to treat neuropathy in Asia and Europe. Has has extensive studies that show it to be both effective and

Specializing In:

*Peripheral Neuropathy
Diabetic Foot Care
Diabetic Shoes
Sports Injuries
Plantar Fasciitis
Shoe Inserts/Orthotics
Nail Fungus
Athletes Foot
Ingrown Toenails
Routine Foot Care
Foot Fractures
Ankle Fractures
Wound Treatment
Corns/Calluses
Heel Pain
Foot & Ankle Pain
Wart Treatment
Walking Abnormalities
Bunions
Hammertoes (Curly Toes)
Corrective Foot Surgery*

safe. It has recently been brought to the USA for treatment of neuropathy in our population.

Adequate blood levels of the micro-nutrient thiamine (Vitamin B1) are essential for the proper functioning of the nervous system. Recent studies have shown that many people suffering from peripheral neuropathy have low plasma levels of this essential micro-nutrient. They are unable to maintain adequate plasma thiamine levels through normal dietary means, or even through most of the B complex vitamins. They need a more bioactive form of thiamine for their nerves to function properly. In populations like diabetics, the elderly or neuropathy patients from other causes, Neuremedy alleviates the symptoms of peripheral neuropathy by delivering a highly bioactive form of the micro-nutrient thiamine to where it is needed, the nerve cells. Neuremedy works by nourishing the nerves.

Due to its overall efficacy, often people will experience improvement within days of starting the treatments. It does not reduce the symptoms of neuropathy for everyone, but is definitely a viable options. Neuremdy is dosed at one capsule twice a day.

Evening Primrose Oil: This is an herbal medication consisting of an oil from a plant native to North America that has yellow flowers that bloom in the evening. This oil extract contains up to 25% of essential fatty acids including linoleic acid (LA) and gamma-linolenic acid (GLA), an essential fatty acid. Essential fatty acids are required by the body for growth and development, and must be obtained from the diet. This formulation of LA and GLA are effectively absorbed and utilized by the body. At correct dosages, it has been shown to reduce symptoms of neuropathy including numbness, tingling, pain, burning, or lack of sensation.

Evening Primrose Oil is usually dosed at 2000mg (2 grams) daily, but can be increased to 3000mg (3 grams). Precautions include some side effects that are rare and mild, and include nausea, stomach pain, and headache. Stomach pain and loose stools may be indications that the dosage is too high. There are also some reports of seizure induction if a patient has a history of seizure disorders.