OVERCOMING
THE MACHO MINDSET
NEW HOPE FOR NUMB FEET?
RISKY DRUG COMBINATIONS
Peripheral neuropathy, or nerve damage in the extremities, is one of the most common complications of diabetes. It is characterized by pain and numbness in the feet and legs and sometimes the hands and arms, and it is estimated to affect between 10% and 90% of people with diabetes, depending on the testing method and the population being tested. The risk of developing peripheral neuropathy rises the longer a person has diabetes. In addition to causing discomfort, peripheral neuropathy can cause problems with balance and mobility, and it is the primary cause of slow-healing foot wounds and amputations, in large part because a person who has lost sensation in his feet cannot feel when he has an injury to his foot.

While much research has been and continues to be devoted to the problem of diabetic neuropathy, it is still not known exactly what causes it, although high blood glucose levels seem to be involved. Indeed, maintaining near-normal blood glucose levels has been shown to lower the risk of developing peripheral neuropathy, to slow its progression, and to improve symptoms in those who have neuropathy. With no cure in sight, treatment of neuropathy focuses mainly on improving blood glucose control, reducing pain, maintaining mobility through exercise and balance training, and preventing further complications through frequent foot examinations and sometimes special footwear.

Current treatments for reducing neuropathy pain include tricyclic antidepressants, certain antiseizure drugs, opiates, capsaicin ointment, and transcutaneous electrical nerve stimulation (TENS). However, none of these works for everyone, and sometimes a treatment that initially helps stops working over time. In addition, little can be done to help with numbness or loss of sensation.

Given the number of people affected by neuropathy and the limited success of current therapies, it's always news when a new neuropathy treatment possibility enters the arena. One treatment that is receiving increasing attention in the medical community uses monochromatic infrared energy to increase blood circulation to the affected nerves and surrounding tissues.

**How it works**

Infrared energy is invisible to the human eye, but its effects are experienced by people every day. So-called far-infrared energy is felt as heat—from the sun, fires, space heaters, and heat lamps, for example. Near-infrared energy, which does not normally feel hot, is what television remote control devices use to communicate with the TV.

One of the monochromatic infrared energy therapy devices cleared by the U.S. Food and Drug Administration, the Anodyne Therapy System, uses a single wavelength of near-infrared energy, namely 890 nanometers. The energy is produced by light-emitting diodes that are embedded in flexible pads. The pads are placed in contact with the skin in the area of numbness or pain. The infrared energy is believed to relieve the pain of neuropathy and possibly improve nerve function by increasing blood flow to the affected area and, over time, spurring the growth of new capillaries in the area. It does this by causing red blood cells and the cells lining blood vessels to release nitric oxide.

Nitric oxide is a chemical produced by cells in the body and used for a number of important functions. One of those functions is to cause blood vessels to dilate, or widen, allowing blood to flow easily and ensuring adequate oxygen delivery to cells. Another is to inhibit blood platelets from clotting. Impaired nitric oxide production may contribute to constricted blood vessels, high blood pressure, and atherosclerosis. But too much is no good either: Overproduction of nitric oxide, which can be triggered by bloodborne infections and certain brain disorders, can contribute to severe medical problems.

For most people, one way to safely increase the amount of nitric oxide released by cells and to improve blood vessel health...
Penlac (diclofenac Topical Solution 3%)

Patient Information

Patients should be instructed to treat symptoms that are not relieved or pain that is not controlled by any of the measures recommended in this guidebook. Diclofenac Topical Solution 3% is contraindicated in patients with a history of allergic reaction to diclofenac or any of its excipients.

Effects of Overdose

Overdosage of Penlac may be manifested by signs and symptoms of acute diclofenac toxicity, such as nausea, vomiting, diarrhea, psychiatric symptoms, and central nervous system depression. Patients with a history of preexisting gastrointestinal disease or a history of peptic ulceration may experience exacerbation of these symptoms. If an overdose occurs, the patient should be monitored for signs of toxicity and treated symptomatically.

Getting treated

While diabetes is a major cause of peripheral neuropathy, it is not the only one. The condition can also be caused by circulatory problems, certain drugs, chemotherapy, alcohol abuse, vitamin deficiency, and some hereditary conditions, such as sickle cell disease. The treatment of neuropathy varies depending on the cause of the condition. In general, treatment options include medications, physical therapy, lifestyle changes, and surgery.

Getting treated

Diabetes Self-management

patient instructions

1. Before starting treatment, remove any loose nail or nail influence using nail clippers or nail file. If you have diabetes, or problems with circulation in your toes or fingers, talk to your health care provider before trimming your nails or removing any nail remnants.

2. Once the Penlac RAIL LAC - DS08, Topical Solution, 3%, is completely (perfectly absorbed) in all available nail sites with the appliance treatment provided. Apply the solution every other day to the affected nail site(s). Allow the area to dry completely before applying any type of nail polish or nail treatment that could interfere with the penetration of the Penlac RAIL LAC - DS08 into the nail. Avoid applying any approximately 30 seconds before applying any nail polish or nail treatment.

3. Apply the Penlac RAIL LAC - DS08 Topical Solution, 3%, daily or per the product's instructions.

4. Once a week, remove the Penlac RAIL LAC - DS08 Topical Solution, 3%, with alcohol. Remove as much as possible of the dried nail using a nail file, your fingernail, or nail file. Do not remove any remaining dry or wet Penlac RAIL LAC - DS08 Topical Solution, 3% from the affected nail.

5. Repeat process (steps 2 through 4).

Note: For patients with diabetes, it is important to consult with a healthcare professional to monitor the effectiveness of the treatment and adjust the dosage if necessary.

Expiry

March/April 2024

The Electromagnetic Spectrum

Ultraviolet, Visible, and Infrared Ranges

Ultraviolet

Visible

Infrared

You may know more about the electromagnetic spectrum than you realize. The visible spectrum is the range of light that can be seen by the human eye. It includes ultraviolet and infrared waves, which are invisible to the human eye. Ultraviolet light can cause burns if the energy level is too high, therefore, the doctor or therapist must wear protective glasses when applying this treatment. Any excess heat in the area may cause burns if the energy level is too high, therefore, the doctor or therapist must wear protective glasses when applying this treatment.

The perception of color is created by the reflection of particular wavelengths of light off objects and into the eye. A blue sweater, for example, absorbs all of the wavelengths in the visible spectrum except for the blue wavelength, which corresponds to the color blue; this wavelength is reflected off the object and into the eye. A red umbrella may appear as red due to the absorption of other wavelengths in the visible spectrum that are not reflected off the object.

Wavelengths that fall just beyond the visible spectrum fall into the infrared range, which extends from approximately 200 nanometers to 400 nanometers (or 1 millimeter). Humans generally do not detect near-infrared energy, which has the shortest wavelengths in this range. Rather, we observe its effects indirectly, such as when we use a remote control to operate a television set. The Anodyne Therapy System emits energy in the near-infrared band. Far-infrared energy, on the other hand, is detected directly by the human body in the form of heat. In fact, when someone holds his or her hand against a hot stove or a space heater, the sensation of heat is actually caused by the body's absorption of far-infrared energy.
Penlac®
(occipital Topical Solution 8%)

Patient Information

Patients should have detailed instructions regarding the use of Penlac® RAIL (lacquer) Topical Solution 8%, a semi-permanent, colorless, clear adhesive for temporary hair color change that is fast, easy, and safe when used correctly. Before using this medication, read the Patient Information that follows carefully. Proper use of Penlac® RAIL (lacquer) Topical Solution 8% is important to ensure effectiveness of the product. This product should be used only once before a new treatment is started. The patient's hair must be washed and dried before applying the color.
ment or as a result of improved neuropathy symptoms—can also lower blood glucose.

While monochromatic infrared energy therapy is considered safe for most people, the makers of the Anodyne Therapy System caution that the device should not be used over or near the womb of pregnant women or over an active malignancy (cancer).

**Reimbursement**

Medicare and most private insurance carriers will cover monochromatic infrared energy therapy (after any deductibles and copayments) if you are being treated by a physical therapist. In some cases, doctors can also be reimbursed for treatments, but that varies from state to state. You will need a prescription from your doctor to be referred to a physical therapist if you want the treatments to be covered by your insurance or Medicare.

**Ongoing care**

Because diabetes and most other causes of neuropathy are chronic conditions, your therapist or doctor will likely recommend home exercises to help you continue to improve your balance and ability to walk. They may also suggest continued use of monochromatic infrared energy at home for ongoing pain relief and to help you maintain your circulation. Medicare or your private insurance may cover a monochromatic infrared energy home treatment system with your doctor’s prescription if you have shown improvement during your clinical treatment program.

No matter how your feet feel, regular foot exams are critical for people with diabetes. The American Diabetes Association (ADA) recommends that all people with diabetes receive an annual foot exam to assess the sense of feeling in their feet, foot structure, blood circulation to the feet, and skin health. The ADA says those with peripheral neuropathy should have a visual inspection of their feet at every scheduled visit to a healthcare professional. In addition, you should check your feet for any blisters or irritation every day. If your feet have changed shape because of neuropathy, your doctor may refer you to a podiatrist, who can prescribe special shoes or shoe inserts to protect your feet from injuries and relieve pressure points.

Neuropathy does not inevitably worsen in everyone who has it. By controlling your blood glucose levels, blood pressure, and cholesterol, as well as by exercising regularly and staying abreast of new therapies, you may be able to slow this complication, avoid others, and make a real difference in your life.

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Dr. Prendergast has been a practicing diabetologist for over 30 years and is the founder of the Endocrine Metabolic Medical Center in Redwood City, California. Pamela Scarborough is currently the director of education for Educators 2000Plus, providing continuing education to medical professionals on wound care and diabetes management in Dallas, Texas. Dr. Burke is currently Director of Research and Clinical Affairs at Anodyne Therapy, LLC, in Tampa, Florida.