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New therapy offers relief for feet

Paul Armstrong has seen the light - the near-infrared light of anodyne therapy, to be exact. Now it is helping him put his best foot forward.

The general contractor from Orange Park is a diabetic who, like many, suffers from peripheral neuropathy, nerve damage that had left him with almost no feeling in his feet.

Three years ago, he stubbed his big toe on a wood deck at a Fourth of July party.

"It was just like having frostbite, and a few weeks later, I lost the toe," Armstrong said.

That was just the beginning.

The contractor was at a job site when one of his employees stopped him.

"He said to me, 'Boss, do you know you've got a nail sticking out of your foot?' "

Armstrong said he looked down and saw that a nail had gone through the bottom of his sneaker, penetrating the ball of his foot. He hadn't felt a thing. Two days later he was in the hospital, and lost another toe.

The nail left an ulcerous sore on the bottom of his foot, and as is often the case with diabetics, the wound would not heal.

That's when he was referred to Lake Area Physical Therapy in Melrose to try something new - anodyne therapy. Lake Area Physical Therapy is one of many places that offers the treatment.

"When you can't feel your feet, you can't tell where you're stepping or what you're hitting, so you end up with diabetic wounds," said physical therapist Laura Hodges.

An estimated 50 percent of those with diabetes have some form of peripheral neuropathy; the highest rates are among those who have had the disease for at least 25 years.

Diabetics afflicted with peripheral neuropathy have trouble with balance and coordination. Walking can become difficult. One such patient describes it as trying to walk with big wooden blocks at the end of your legs.

The nerves to the feet are the longest in the body and the ones most affected by neuropathy. Because the foot has grown numb, an injury can go unnoticed until it gets infected. If the infection spreads to the bone, the toe or foot itself may have to be amputated.

More than half the lower limb amputations in the United States occur in diabetic patients - 86,000 amputations a year, according to the National Diabetes Information

Clearinghouse.

Drugs can control the pain associated with diabetic peripheral neuropathy, but until fairly recently, no medical device had been shown to increase sensation in the feet once it had been lost.

Anodyne therapy, which uses near-infrared light from an array of diodes, has changed that for many diabetics, including Armstrong.

The treatment has been around since 1994, when it was approved by the Food and Drug Administration for pain relief and to stimulate circulation in soft tissue injuries. Now it is used in an ever-increasing number of neuropathic applications.

Armstrong said he has come to Lake Area Physical Therapy three times a week for five weeks to be treated with anodyne therapy. Each session lasts 45 minutes.

Four small black pads, each about the size of a hand and fitted with rows of pencil eraser-shaped diodes, are strapped to the soles of his feet and just above his ankles. The pads are wired to a control box, and when the machine is turned on, the diodes emit a form of infrared light, which has a penetrating, heating effect.

"When it's on, I feel some warmth and a tingling sensation - that's all," Armstrong said.

Studies show the infrared light is absorbed by hemoglobin in the blood, which causes the release of nitric oxide, a gas that is key to circulation and nerve function. The microcirculation under the diode array is increased, and the increased blood flow promotes wound healing.

The treatment is covered by Medicare, and a patient who shows significant improvement can qualify for a home unit for maintenance treatments.

Results of a new study conducted at Morton Plant Hospital in Clearwater were reported in the January issue of *Diabetes Care*.

That study showed that after a dozen 45-minute treatments with anodyne therapy, there was a 46 percent improvement in sensation and a 45 percent decrease in pain. Seventy percent of the patients in the study said their balance had improved and they were less afraid of falling.

Armstrong said that for the first time in a long time, he has feeling in his feet. That's both good news and bad news, he added.

"The good news is that I have sensation back. The bad news is that if I get an ulcer, I'm going to feel the pain."

Two weeks ago, he related, he was at the podiatrist, who was working with a scalpel on that small wound where the nail had penetrated his foot.

"He hit one spot and I shot straight up. I think it shocked us both," Armstrong said.

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