
Heel Pain Syndromes

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DELLON INSTITUTES FOR PERIPHERAL NERVE SURGERY®

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YOUR COMPLAINTS ARE

Pain, numbness or burning in your heel.

The timing of this pain and the presence of other foot complaints determine what is the cause of this pain.

If you have had surgery for this problem already, then the cause of your current heel pain may include an injury to the nerve to your heel. This is called a *neuroma* of the *Medial Calcaneal nerve*.

WHAT CAUSES YOUR COMPLAINTS?

For a long time, it was believed that the presence of a *bone spur* was the source of heel pain. You should have an x-ray of your heel. But it is no longer believed that the presence of a bone spur, by itself, is the cause of heel pain.

Much heel pain is due to a problem with the *plantar fascia*, tight connective tissue bands that go from the heel bone (calcaneus) into the skin and toes of the foot. Ultrasound is an x-ray approach for learning about the thickness of the plantar fascia.

Ultimately, your experience of heel pain is due to a nerve. Variations in the formation of the nerve supply to the heel can result in these nerves being compressed, or they can be directly injured by an accident, by previous injections or by previous surgery.

TREATMENT WITHOUT SURGERY

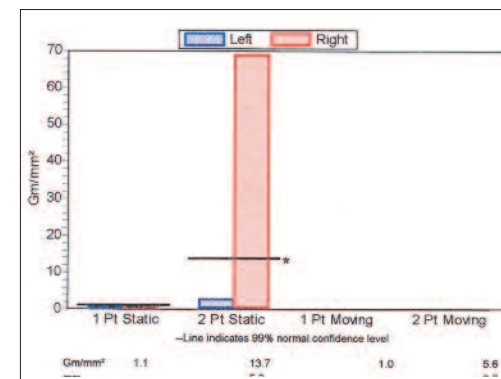
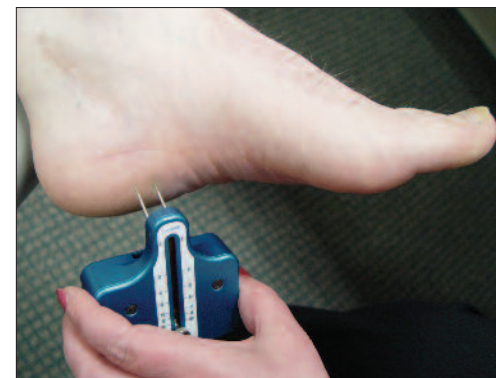
Heel pain may be related to the shoes you wear. The shape of your foot may require you to wear a specially made shoe or to insert a special pad (orthotic) into your shoe.

If your heel pain begins with your first morning step, you have a problem with your plantar fascia. This can be treated with stretching, anti-inflammatory medications, injection with steroids or other medication.

If your heel pain is associated with numbness in the bottom of your foot and/or if your foot gives you sleeping problems, you have *Tarsal Tunnel Syndrome*. This may be helped by orthotics, and changing your daily activities. (See the *Tarsal Tunnels Syndrome* brochure.)

NEUROSENSORY TESTING

Painless neurosensory testing is done (left) using the computer-assisted *Pressure-Specified Sensory Device™*. In the computer printout, blue is the left side, and red is the right. Note, the red bar is above the straight black line, and is abnormal. This demonstrates that the right heel pain is due to a problem with the calcaneal nerve. Since two-point discrimination is abnormal, nerve fibers are dying, indicating severe compression. Surgery is now needed.



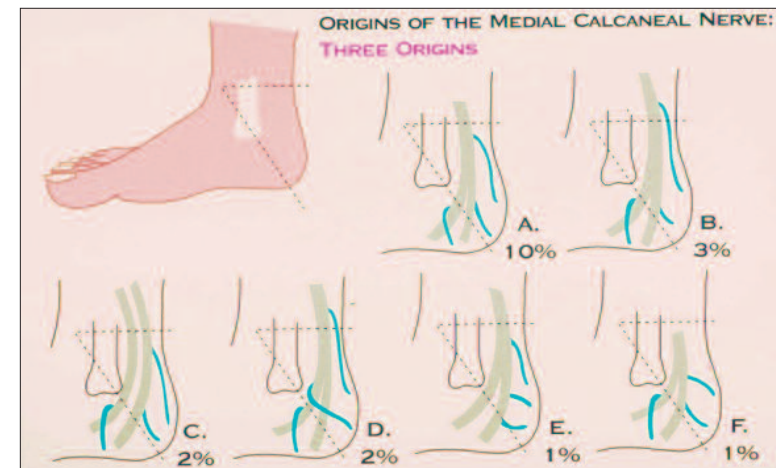
WHAT IS THE SURGERY LIKE?

For *plantar fascia* problems, the surgery takes less than one hour, and is done as an outpatient. The plantar fascia is partly divided on the side closest to the inside of the ankle. Shock wave treatment, which is given using anesthesia, and is therefore similar to surgery, may be offered. These procedures should not be done if your problem is due to a nerve compression or nerve injury. When these procedures are not helpful, the cause of persistent heel pain is usually due to a nerve problem.

For *medial plantar nerve compression*, the surgery takes about one hour, and is done as an outpatient. The approach is similar to that for tarsal tunnel syndrome (see the brochure on *Tarsal Tunnel Syndrome*). An incision is made on the inside of the ankle that permits release of all branches of the tibial nerve, including one or more compressed medial calcaneal nerves. General anesthesia is required. A tourniquet is placed on your thigh so there is no bleeding during the surgery. Microscope glasses are worn by the surgeon to help identify the nerves.

For *medial plantar nerve injury (NEUROMA)*, the surgery takes about one hour, and is done as an outpatient. The approach is similar to that for tarsal tunnel syndrome, except that the injured nerve must be identified and removed. The hurt end of the nerve is put into a muscle.

VARIATIONS IN NERVES TO THE HEEL



Presence of a heel bone spur (arrow) does NOT mean this spur is the source of pain. Sensory testing is needed.

There are many variations to the nerve to the heel: often there is more than one nerve. These variations may affect treatment.

Plantar fasciotomy incisions (arrow) can cause a painful neuroma in the scar, requiring surgery.

That surgery (shown) opens the tarsal tunnel to identify the calcaneal nerve.

WHAT ARE THE RISKS OF SURGERY?
The published outcomes of the Dellon-approach to the treatment of heel pain of neural origin offer the best chance for success for relief of your symptoms. There are risks associated with every surgical procedure, such as the risk of anesthesia, bleeding and infection.

Complications unique to plantar fasciitis surgery are: a neuroma of the medial calcaneal nerve, or to another branch of the tibial nerve. These complications require treatment of heel pain due to a painful neuroma.

Treatment of heel pain related to medial calcaneal nerve problems can result in unique complications such as:

Unpredictable nature of the healing process (thick or painful scar).

Areas of numbness in heel or toes.

Residual burning in the heel or toes.

WHO SHOULD DO THIS SURGERY?
Surgeons from the *Dellon Institutes for Peripheral Nerve Surgery*® have the most advanced training and experience doing this surgery, which offers you the best chance for success.

BEING ACADEMIC IN PRIVATE PRACTICESM
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