
6

Chapter Six
Morton's Neuroma
is Not a Neuroma

“Pain shoots into my toe
when I step down
on the ball of my foot,
and I can’t wear heels.”

Morton's Neuroma

Morton's Neuroma is not a neuroma; it is a nerve entrapment.



Figure 6-1. Wearing narrow tipped shoes is the leading cause of the chronic entrapment of the interdigital nerve that is known, unfortunately, as Morton's neuroma. Wearing heels makes the problem worse. "Neuroma" is an unfortunate choice of a name for this pain problem. A "neuroma" is "cut out." The problem Morton described in 1876 is now understood to be a nerve entrapment. For a nerve entrapment, the nerve is not cut out.

Philadelphia, 1870's

Thomas G. Morton, MD was an Orthopedic Surgeon at the Philadelphia Orthopedic Hospital and the Pennsylvania Hospital. From 1870 to 1875, Doctor Morton either saw or collected the story of 15 people with what he was to call "A Peculiar and Painful Affection of the Fourth Metatarso-Phalangeal Articulation." Of the 15 people, 13 were women. A few gave a history of an injury to their foot, but most could only say the cause was wearing tight shoes, and three patients had no cause to give at all for their painful fourth toe. He published his observations on this group of patients in 1876.*

Morton never used the term "neuroma" for the cause of his patient's problems. In fact, Morton believed the cause of the pain to be from the *joint* where the 4TH toe joined the foot, the metatarso-phalangeal joint.

Being an Orthopedic Surgeon, and believing the pain came from a joint, Morton operated on 3 of these patients. In two of them, he removed the joint. In the third patient, a Doctor Alison, from Hagerstown, Maryland, Morton **amputated the doctor's fourth toe!**

Today, about 50,000 nerves are still cut out each year! WHY?

*Morton, T.G., A peculiar and painful affection of the fourth metatarso-phalangeal articulation, American Journal of Medical Science, 71:37-45, 1876.

Historical Accounts

Let us listen to the stories of some of Doctor Morton's patients:

Case I. Mrs. J. the mother of three, was hiking in 1868, when

“Descending a steep ravine, I trod upon quite a large stone which rolled from under my foot, causing me to slip, throwing my entire weight upon the forward foot...the pain was intense and accompanied by fainting sensations... I walked to the nearest valley... where for hours I endured great suffering. After this I found it impossible to wear a shoe even for a few moments, the least pressure inducing **an attack of severe pain**. At no time did the foot or toe swell or present any evidence of having been injured. During the [next] five years the foot was never entirely free from pain, often my suffering has been very severe coming on in paroxysms. I have been able only to wear a very large shoe, and only for a limited space of time, ..being obliged to remove it every half hour or so, to relieve the foot. **Even at night I have suffered intensely**; slight pressure of the finger on the tender spot [4TH toe, near the bone of the foot] causes the same sensation as wearing a shoe. During the past year or so I have walked but little, and have consequently suffered much less.”

Case VII. Mrs. C.H.K. of Philadelphia, age 53, wrote

“The queer feeling, which has been in my left foot for **30 years**, is a painful condition. The pain is in and about the joint of **the fourth toe**, with occasional attacks of intense suffering, when the pain extends to the knee, and if my shoe is not instantly removed with the attack comes on, **the pain reaches the hip**... it seems that the least pressure will produce the same result. Often my sufferings have been exceedingly acute, and coming on without any warning... My eldest sister has been similarly affected still longer than myself, but in her right foot, the same toe and joint... Two of my friends suffer in like manner at the present time. In one, the pain is relieved by placing the foot on the ground with the shoe off, and thus spreading the toes.”

Case X. Mrs. R, 28 years old, of New York. Consult date 10/14/1875

“Some 10 or 12 years ago, while skating, I injured my left foot. It was thought that I ruptured a tendon, but that was not confirmed. My sufferings were very acute, and I was confined a long time to my room. After this, **neuralgic attacks** came on, sometimes at night without cause. I have always referred the pain to the joint of the fourth toe. For many years I have carried about me a vial of chloroform, the only application which has ever relieved the pain, and this is now losing its effect.”

Examination of specimens removed by Morton (the three joints, one toe and nerves next to the joints) found only normal structures.

The Senator and State Police

Doctor S. (not his real name) worked at the same hospital that I did, and therefore knew of my interest in nerves.

Children’s Hospital was begun in 1909 by the Johns Hopkins Hospital’s Orthopedic Surgeons and a Plastic Surgeon as a place, in a country like setting, to care for children with bone infections and polio. Children’s Hospital transitioned into a hospital for adults and children cared for by Orthopedic and Plastic Surgeons. The residents from Johns Hopkins Hospital continued to work there until about 1993. As a medical student at Johns Hopkins School of Medicine, I first watched Doctor Raymond M. Curtis do hand surgery there, on Tuesdays, in the summer of 1968. At the time Doctor S. had this conversation with me, I was doing Hand Surgery in room 2, at Children’s Hospital, the same room in which Doctor Curtis, who inspired me to study nerves in the hand, used to operate. Doctor Curtis retired in May, 1982.

Doctor S. is an excellent Orthopedic Surgeon. One day in the operating room, in 1988, he told me about a perplexing patient.

“Lee,” he said calling me over to him, “I see you doing all these nerve operations on hands, and now you have begun to do them on feet. Unusual for a Plastic Surgeon.”

“Yes,” I said, not knowing where this conversation was going, and thinking that this conservative Orthopedic surgeon was going to tell me a Plastic Surgeon should not be operating on nerves in the feet!

“Lee,” he continued in that Professorial way that comes with having trained at one of the United States’s premiere medical institutions, “I am caring for a member of The Legislature. This person has had two years of intense pain, sudden onset. When the attacks occur, they are of sufficient pain in the foot to make him collapse on the floor of Congress. He has to rip his shoe off. The State Troopers bring him to me in Baltimore by car. The pain is in different toes, sometimes the second, sometimes the third, and sometimes the fourth. Sometimes the right, sometimes the left foot. The pain responds to cortisone injections. x-rays are normal. This person used to be a terrific athlete, tennis, squash, and now golf. But this is crippling him.”

“What can I do to help,” I asked.

Doctor S. continued, “Lee. It seems like the diagnosis should be a Morton’s neuroma. But that occurs typically in the 4TH toe, and is not often bilateral. I would not like to be taking several nerves out of each foot for this man. Lee, you are a good diagnostician. Would you see him for me?”

“Sure, I would. But I am going to have to learn a little more about Morton’s neuroma. As a Plastic Surgeon, I have not even heard of this diagnosis before,” I replied honestly.

Barber or Surgeon? What’s in a Name?

In the middle ages, Surgeons weren’t doctors of medicine. They were barbers. They cut your hair and shaved your beard. They were good with knives. The smart, well-educated, men became apprenticed, studied with a great medical doctor, and became Physicians. Physicians did not operate. They thought a lot. They applied leaches and gave powders and potions.

Barbers operated. They were good with their hands.

In England today, a Surgeons still are not addressed as “Doctor,” but rather as “Mister.” If I were in England, I would be addressed as Mister

Dellon. I am good with my hands, but I can think as well. And today surgeons do begin by going to medical school. For me, after going to Johns Hopkins University for medical school, I spent *eight more years* studying. I like to study. I still study. I like to teach, too. I am teaching you now.

Historically, Surgeons gave names to clinical problems that reflected the cause of the problem, and the Surgeon knew then what operation to do. It was pretty simple. If you had a rotten tooth, the barber/surgeon took a pliers and pulled out your tooth. If you had a bladder stone, the barber/surgeon took a knife, made a cut between your legs, and pulled out the stone. Gangrene in your toes? He would cut off your toes. Use a saw. (see Chapter 8 on Phantom Pain). Today, is it any different? Appendicitis, appendectomy. Cholecystitis (gall bladder problem), cholecystectomy (remove gall bladder).

A “neuroma” (as you will read in Chapter 1) is a collection of nerve endings that grow from an injured nerve into a small round lump. Often this neuroma is painful, especially if it is on the end of a sensory nerve that is attached to a moving part or is touched. The pain can be intense.

So what should a surgeon do for a condition called a Morton’s neuroma? **Remove the nerve.** Logically the correct answer, but what if a Morton’s neuroma is not a neuroma? What if someone gave this condition the wrong name? *After all, Morton thought the problem was due to a joint, not a nerve. Morton called it “metatarsalgia.” Morton removed the joint.*

Prior to 1956, the condition in which someone has problems from the neck and shoulder down to their fingers, with aching, numbness, weakness, and coldness in their hand, was called the Scalenus Anticus Syndrome (see Chapter 5) The anterior scalene is a muscle. What did surgeons do for this? They removed the muscle. Correct name, correct operation. However, in 1956 the name for this condition changed. A Physical Therapist named Peet (correct name), from the Mayo Clinic, wrote an important paper. The paper had great exercises to do to stretch the scalenus anticus and strengthen other muscles. The title of Peet's paper was "Thoracic Outlet Syndrome." He correctly said that compression occurs to nerves (brachial plexus) that cross over the ribs from the neck as they travel to the arm. The thoracic outlet has a rib associated with it. Now what do you think became the next most popular way to treat the former Scalenus Anticus Syndrome? You guessed it: **Removal of a rib!** If this condition were named "Brachial Plexus Compression in the Thoracic Inlet" (The thoracic outlet is really the diaphragm; the thoracic inlet is the neck.), the correct treatment for this *nerve compression* would be realized again, which is to decompress the nerves by removing the muscle.

What if Morton's neuroma were really a nerve compression?

If Morton's neuroma were a nerve compression, the problem would be called Compression of the Interdigital Nerve. The surgeon, or even a barber, would know what to do. Decompress the nerve!

Having a Ball Doing Research

Many patients with Morton's neuroma symptoms complain that they are stepping on a marble, or that there is small pebble in the ball of their foot. "Pain shoots into my toe when I step hard on the ball of my foot."

When William Steward Halsted, MD, began the Department of Surgery at Johns Hopkins University School of Medicine in 1889. He taught, among so many other important educational concepts, that the surgeon should take puzzling patient problems into the laboratory to solve. Find a solution, and bring it back to heal the patient. In this way, he followed in the footsteps of the founder of scientific surgery, Mister John Hunter of England.

The "laboratory" for the puzzle of Morton's neuroma was the basic anatomy of the foot. When a patient describes the pain of a Morton's neuroma, they often say it feels as if there is a small pebble or grape in the ball of their foot, near the toes. In Figure 6-2 you see me studying "gross" anatomy of the ball of the foot, resembling what the patient imagines is actually inside their foot.



Figure 6-2. Having a ball on the Island of Ischia in Italy. Stature is entitled in Latin, *CURSUS VITAE*, meaning, I suppose, that foot pain is the curse of life. This is surely the case to the patient whose Morton's neuroma feels like a stone in the ball of the foot.

In the 1940's and 1950's, Pathologists began to examine the nerves removed by the foot and ankle surgeons. They found that the swelling in the nerve was *not a true neuroma, but was consistent with chronic nerve compression and scarring of the nerve.* When I found this information, I realized that Morton's neuroma represented compression of the nerve that went between the metatarsal heads (bones) of two toes. No where else in the human body did a surgeon remove a nerve for chronic compression.

The Man from Congress referred by Dr S. was to become the first patient I operated on for Morton's neuroma. Ultimately, I released three interdigital nerve compressions in each foot for (see Figure 6-3). I reported the results of my operation for nerve decompression in 1992.*



Figure 6-3. The blue lines are incisions where 3 nerves in each foot were released. This photo is taken 12 years after the Congressman's surgeries, when the patient returned to see me with a problem in his hand. His feet were great. He could play golf without pain.

*Dellon AL: Treatment of Morton's neuroma as a nerve compression: The role for neurolysis. Journal American Podiatric Medical Association 82:399-402, 1992.

Interdigital Nerve Compression

“So what is really causing my nerves to be compressed,” ask the new patients with interdigital nerve compression (what used to be called Morton’s neuroma). There were no good anatomical drawings to explain this problem to patients, so I asked Ruth Homber, who completed her training in Medical Illustration at Johns Hopkins University, to help me. Figure 6-4 is her drawing of this problem. Her clear illustrations are on the Dellon Institutes for Peripheral Nerve Surgery® website (Dellon.com) and throughout *Pain Solutions*.

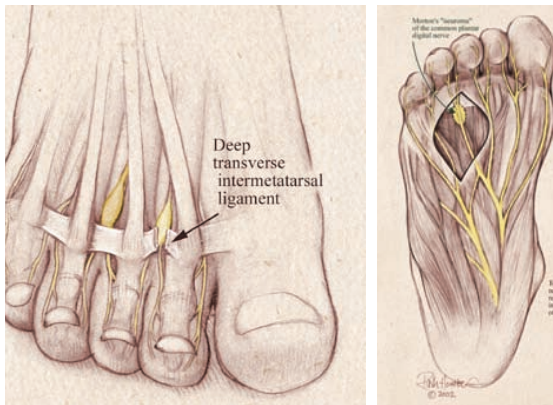


Figure 6-4. Mechanism of interdigital nerve compression. Left: The ligament that connects the toes, bone to bone (intermetatarsal ligament joins the metatarsal heads) acts as a point across which the (yellow) interdigital nerve must stretch during walking. The nerve becomes swollen, and can feel as if there is a pebble in the ball of the foot between the toes. The operation that I described divides this ligament (arrow) and *does not remove the nerve*. The nerve is decompressed, and stops hurting. Right: typical pattern of nerves on the bottom of the foot going to the toes. Note that often two nerves join to form the single nerve to the webspace between the 3rd and 4th toes. (from <http://www.dellon.com>)

“Doctor Dellon, Doctor S. referred me to you,” said the Legislator, when he was first brought to see me by the Maryland State Trooper. “I hope you can help me.”

“Congressman, it is an honor to meet you. Tell me about your pain.”

“I have episodes of horrible shooting pain into my toes. Usually my 4TH toe, but it has happened to other toes. And it happens to both feet sometimes. I have tried all types of shoes. Sometimes the pain is so intense my leg gives out and I collapse. I have become afraid to stand up in public. It feels as if there are pebbles inside my feet. The cortisone injections helped for a while. But not anymore. Can you help me?”

“Congressman,” I said. “I have been studying this problem since Doctor S. first told me about you. I think I can stop this pain by dividing the ligament that holds the toe bones close together. The bones will move a little bit farther apart. The pinched nerve should stop hurting. The swelling in the nerve that makes it seem like you have a pebble there should go away in time. I have not done this surgery before. I am sure I can do it for you. I would like to try one foot at a time, and just work on one webspace first. Your nerve will be preserved.” (See Figure 6-4 to understand this.)

“Doctor Dellon, please try. When can you begin?”

I operated first one nerve in one foot, and then that same nerve in the other foot. Ultimately, I did a neurolysis of three interdigital nerves in each foot. He completed his term in Congress and then had a second term. He is now a successful lobbyist. Figure 6-3 is a twelve year follow-up of the appearance of his feet. At the time, he came back to see me for a pain problem he was having in his right *hand*.

Do You Have Morton's Neuroma? Examine Yourself.

If you think you might have compression of your interdigital nerve, you can examine your own foot as shown in Figure 6-5.



Figure 6-5. Left: Pressure between the toes where the interdigital nerve crosses the intermetatarsal ligament causes pain. Right: Pressure of the first and fifth toes inward towards each other will cause pain and a popping sound as the swollen nerves moves against the intermetatarsal ligament (a positive Mulder's sign).

You're in Baltimore, 'Hon'

Rita was Baltimore's Best 'Hon' in 2003. Her daughter was Baltimore's Best 'Hon' in 2004. This means that you spend a lot of time in high heels looking like one of John Waters' Pink Flamingos, wearing a beehive hairdo, and not paying much attention to your feet.



Figure 6-6. Rita carries on the proud Baltimore Hon Tradition. Her fourth toe on the right foot begins to give her severe pain. She is the first Baltimore's Best Hon to develop an interdigital nerve compression.

“Can you help me Doctor Dellon? I am having trouble wearing my Best Hon outfit anymore. Now I look a Flamingo. I have to stand on my left foot all the time, because my right 4TH toe hurts so much.”

“I can help you, Rita” I said. “You can relax. [Time to decompress!](#)”

Rita’s Interdigital Nerve Decompression (neurolysis)



Figure 6-7. Top: Overall view of the neurolysis. The clamp is beneath the white interdigital ligament (arrow). The nerve is beneath the clamp. Center: Ligament is divided. The “pebble” in the foot is seen to be the swelling of the interdigital nerve. Bottom: The segment of the interdigital nerve that was compressed is shown as the flattened nerve (double arrow) next to the swollen segment of the nerve. Even the red blood vessel on the nerve is demonstrated to have been compressed, as the vessel abruptly stops. The divided edge of the interdigital ligament can be seen (arrow).

Decompression = Neurolysis

The nerve between any webspace in the foot can be compressed. It can happen from wearing tight cowboy boot. It can happen from getting your foot crushed. Decompression of the nerve means removing whatever structure of scar is causing the compression. [It works!](#)



Figure 6-8. Left: Cowboy boots plus arthritic foot deformity caused bilateral interdigital nerve compressions that prevented this woman from her favorite dance activity. Right: Ten years after neurolysis, she continues country line dancing and two-stepping.

Freezing (Cryoablation) or Alcohol?

Why would anyone want to put a caustic, scar-producing alcohol solution between your toes? Why would anyone want to put a freezing metal probe between your toes? These are non-operative methods to treat this painful nerve compression. **Why would you try to kill the nerve if you can save the nerve?**

When alcohol is injected between the toes, where does it go? Does it go into a vein or into an artery? Will it hurt the circulation to the toes? Look at the scarring produced when this happens (see Figure 6-9). If this fails, a neurolysis or nerve resection must then be done.

When you put a cryo-probe that turns ice-cold into the foot, without knowing really where the end is going? What do you think you are doing?

Are you freezing the blood vessels too? They are right next to the nerve.
(Gives new meaning to the phrase “ice flowing in your veins.”)

Unless your health is too big a risk for you to have an operation, just say “no” to alcohol, or other sclerosing solutions, and to cryo-ablation. Why not just open the skin through a little incision? **You can even do this through an endoscope, as described by Stephen L. Barrett, DPM, MBA.** *Why not see what you are doing rather than blindly killing tissues? Just say “no” to alcohol injections an freezing (cryo-ablation).* Even if these techniques are successful in killing the nerve, the nerve is likely to grow back, giving you recurrent Morton’s neuroma, which is now a true neuroma.

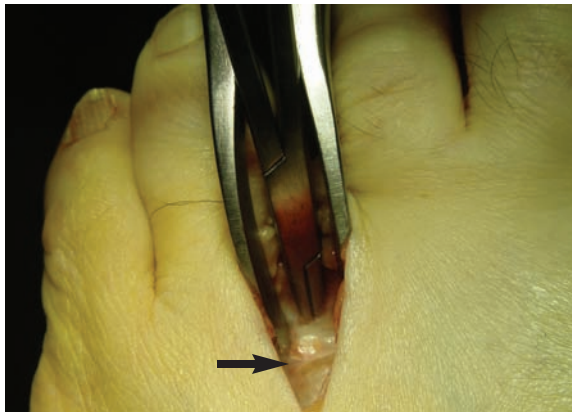


Figure 6-9. Scarring (arrow) in the interdigital space produced by alcohol injection. Pain continued, and a neurolysis had to be done anyway. Just say not to alcohol (injection)!

Recurrent Morton’s Neuroma is a **True Painful Neuroma**

If an interdigital nerve is removed for the treatment of Morton’s neuroma, the cut end of the nerve will try to grow back to the toes (regenerate). When this happens, and these nerve ends form a scar between the toes or into the skin of the bottom of the foot, a painful true neuroma will form. This is a very difficult problem to correct. The problem with walking and pain is now going to present almost all the time. This problem will require a totally different type of operation.

In 1988, I was referred a young college student who had a Morton's neuroma removed through an incision on the top of his foot. A true neuroma formed. He was unable to run on the track team. He was unable even to walk to class. As I began to think through this problem, I realized that there were no muscles large enough in the forefoot, the ball of the foot, in which to hide the end of the interdigital nerve. In the hand, I would put the end of a nerve to the finger into a bone in the finger, or into a muscle in the wrist. What was the solution for the foot? I decided to place the end of the nerve into the arch of the foot, since the arch carries on direct pressure while walking, and the nerve end would be safe there. *The first time I did this operation, I did it for that young runner.* He gave me his trophy from his first track team win. I published this case report in 1989.* This requires identifying the nerves to all the toes through the bottom of the foot (Figure 6-10).



Figure 6-10. Recurrent Morton's Neuroma. When treating a Morton's neuroma by excision of the nerve fails, a true, painful neuroma forms. This pain is located (arrow) where the cut end of the nerve grows into the bottom of the foot. To correct this, the known pathway for the nerves is drawn on the bottom of the foot. Here, a branch of the medial plantar nerve (MP) and a branch of the lateral plantar (LP) will connect in the painful neuroma, similar to the anatomy of Figure 6-4. Each of these connections (marked with a ?) will need to be divided. The dotted line is the proposed incision.

*Dellon AL: Treatment of recurrent metatarsalgia by neuroma resection and muscle implantation: Case report and algorithm for management of Morton's "neuroma". *Microsurgery* 10:256-259, 1989.

Surgery for Failed Morton's Neuroma

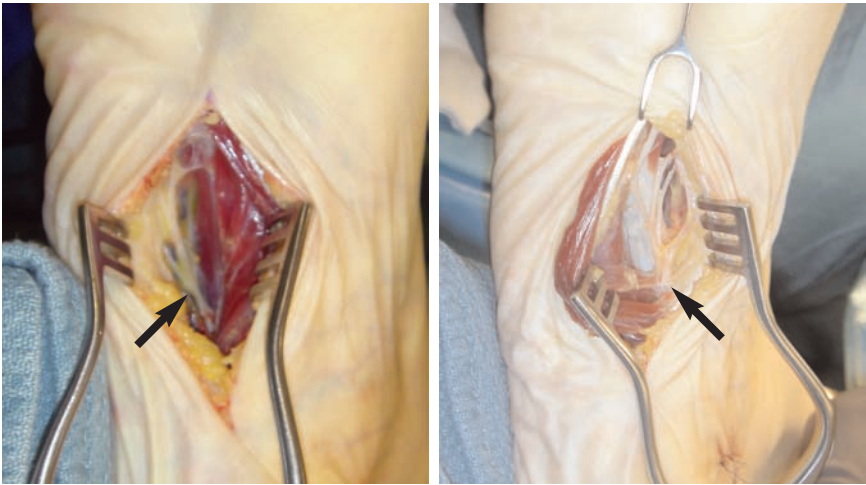


Figure 6-11. Left: The lateral plantar nerve is exposed and the branches to the 4th and 5th toe are identified (arrow). Right: The medial plantar nerve is exposed and the branches to the first three toes are identified (arrow). This is a right foot.

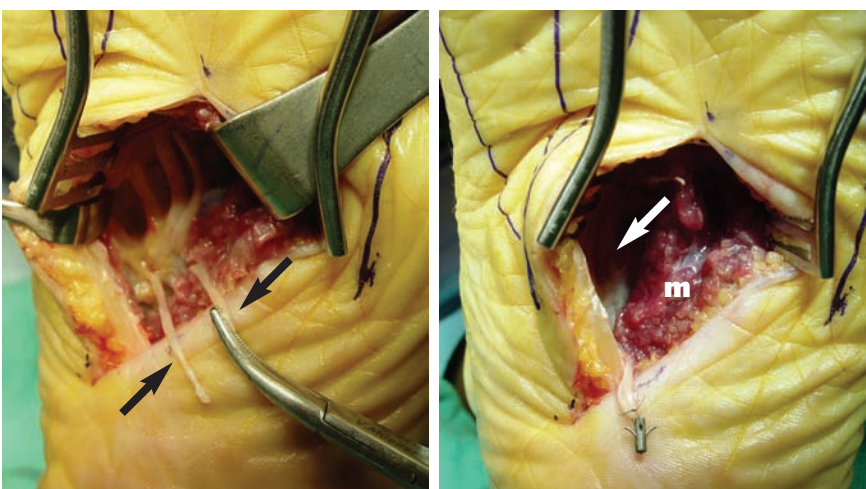


Figure 6-12. Left: The connecting nerves to the painful neuroma have been identified and divided (arrows). Right: The two nerves have been connected to a small metal “anchor” that is going to be used to suspend the nerves high in the arch of the foot (white arrow), so they cannot come back down into the weight bearing part of the foot again. The nerve endings and the “anchor” will then be covered by the muscle (**m**) layers shown.

At first, I used a suture to connect the nerve into the arch. In 1998, a Plastic Surgeon working with me from Florida, David Halpern, MD, suggested I use a little metal “anchor” to secure the nerves into this area. I began doing this (Figure 6-13). It is a good technical improvement for insuring the nerve endings are safe in the new deep location.



Figure 6-13. Small metal “anchor” (arrow) holding nerve ends into the arch of the foot so painful neuroma is no longer in the weight bearing part of the foot.



Figure 6-14. Left: Sondra S. putting her operated foot into the stirrup to mount her horse, 6 months after the surgery for her recurrent neuroma (operation shown above). Right: She wrote “Last Sunday we rode 2.5 hours, and about 2.5 hours today. Last week we had a lot of steep downhill riding and my foot hurt, but eased when the slope was reduced. Today it only hurt a little bit and it was a beautiful ride. Thank you Doctor Dellon.”

Confusing Morton’s Neuroma with Neuropathy or with Tarsal Tunnels Syndrome

“Doctor Dellon, I had a Morton’s neuroma removed. I was better for a little while. Now the ball of my foot hurts, is numb, and it is spreading to my other foot? Can you help me?”

In Chapter 1, you will learn about neuropathy and nerve compression. In the foot, numbness of the ball of the foot, and similar feelings in both feet are NOT related to interdigital nerve compression. Sometimes, because an interdigital nerve compression gives symptoms first, your Doctor has focused on that one nerve. Now you must determine if nerves in the top and bottom of your feet are involved. *You need to have neurosensory testing with the Pressure-Specified Sensory Device™.*

Name _____

If The Reason For Your Visit Today is Pain Related, Please Take The Time To Fill Out The Following:

- Please circle the face that shows your pain at its best:
☺ ☹ ☹ ☹ ☹ ☹
- Please circle the face that shows your pain at its worst:
☺ ☹ ☹ ☹ ☹ ☹
- Where is your pain?
Mark the areas on your body where you are feeling pain.
- Circle the word(s) that best describe your pain:
Aching Throbbing Shooting Stabbing
Burning Exhausting Tiring Nagging
Gnawing Penetrating Sharp Numb
Tender Miserable
- When is your pain?
Continuous Occasional
Afternoon Evening Night

Figure 6-15. Patient who had previous surgery for Morton’s Neuroma filled out this form on the day she came to see me because of complaints about failure of that operation. Note that the areas of pain are the top and bottom of both feet. This is a neuropathy pattern.

If the top of the foot has not problems, and the bottom of the foot is numb, then most likely there is compression of the tibial nerve in the tarsal tunnel. In our series of patients who have failed to get better after traditional Morton's neuroma surgery, about 75% have pressure on the tibial nerve and its branches in the four medial ankle tunnels (see Chapter 3, and Figure 6-16).



Figure 6-16. Tarsal Tunnels Syndrome present in patient with “failed” Morton’s neuroma surgery. At the first surgery, this patient had the interdigital nerve removed from the top of the foot, but never got better AND a true neuroma formed. Here are scars in the patient one year after I operated to release the four medial ankle tunnels (single arrow) and move the true neuroma from the ball of the foot into the arch of the foot (double arrow).

To determine, traditional, painful, electrodiagnostic nerve conduction testing is usually NOT helpful in at least half of patients. Neurosensory testing with the Pressure-Specified Sensory Device™ is not painful and is more sensitive. This test can document nerve function (see Figure 6-17).

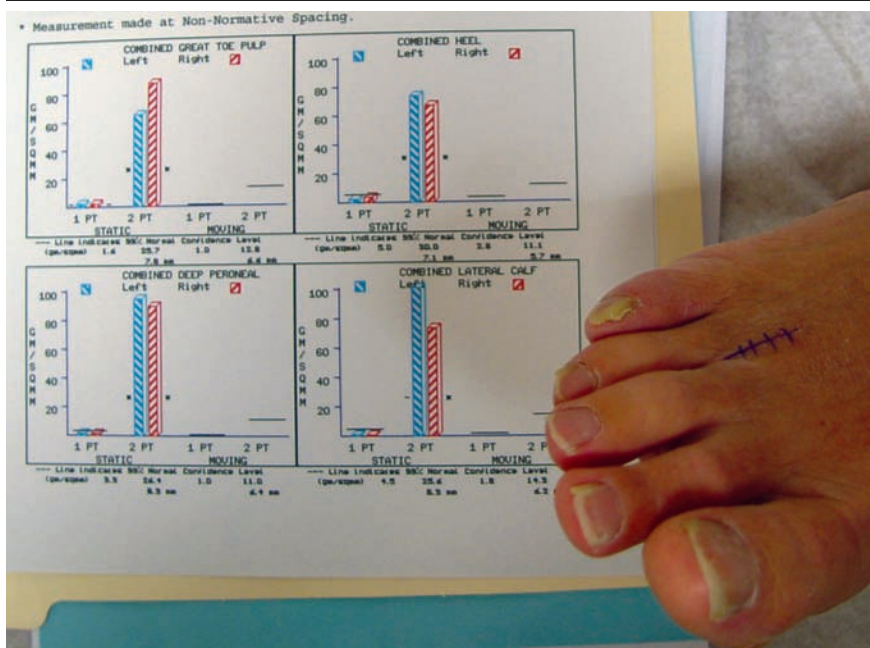


Figure 6-17. Patient with previous Morton’s neuroma surgery, now complaining that the surgery failed, and that the problem is in both feet. Neurosensory testing with the Pressure-Specified Sensory Device™ (PSSD) is painless and documents what nerve problems are present. Above, note the blue (left foot) and red (right foot) have bars that are elevated, almost off the chart, for the amount of pressure required to determine whether one or two metal prongs are touching the skin. There are * (asterisks) present next to these bars, indicating nerves are dying. The nerves to the bottom of the foot (big toe and heel, the tibial nerve) are abnormal as are the nerves to the top of the foot (peroneal and calf). This is the definition of a neuropathy. This patient will be found to have either diabetes or perhaps we will never know why they have neuropathy. *Their new symptoms however are NOT due to failed Morton’s neuroma surgery, but to neuropathy. Neurosensory testing with PSSD is critical for the correct diagnosis of foot pain.*

The best way to identify the presence of an underlying neuropathy from diabetes, or any source, and the best way to identify the presence of compression of the tibial nerve co-existing in the patient with symptoms of interdigital nerve compression is to *do neurosensory testing with the Pressure-Specified Sensory Device™ in each patient complaining of pain or numbness in the foot or feet.*

Pain Solutions Summary

The nerves to the toes can become pinched, compressed, or entrapped between the bones and underneath a ligament that connects the bones.

This can come from an injury or tight shoes. Often we do not know why it happens.

This interdigital nerve compression has been called a neuroma, which means a truly damaged nerve. The treatment for a neuroma is to cut out the neuroma. The treatment for a compressed nerve is to decompress it.

After traditional measures to relieve the pain of the pebble in the bottom of the foot have failed, such as less tight shoes, less step aerobics, cortisone injection, and anti-inflammatory drugs, do not have the nerve cut out. Have the nerve decompressed. Do a neurolysis, not a neurectomy.

If you cut out the nerve, a true neuroma will form. Then the bottom of the foot must be opened, and this painful neuroma relocated to the arch of the foot. This is a difficult operation, but will solve this pain problem.

Visit Dellon.com or call +1 877-DELLON-1 (+1 877-335-5661) for more information.

