



ADVANCED SPINAL CARE
AND REGENERATIVE MEDICINE

Neuropathy

Shockwave & EMTT — Repairing Nerves, Restoring Sensation

Patient Guide | Advanced Spinal Care & Regenerative Medicine

More Than Nerve Pain — What Neuropathy Really Is

Neuropathy is damage or dysfunction of the peripheral nerves — the vast network of nerve fibers that carry sensation, movement signals, and autonomic function between your brain and the rest of your body. When these nerves are damaged, the signals they carry become distorted or disappear entirely, producing symptoms that can range from burning, tingling, numbness, and sharp pain, to weakness, balance problems, and sensitivity to touch.

An estimated 20 million Americans live with some form of peripheral neuropathy — and most are told the same thing: there's not much that can be done beyond managing the pain. Medications like gabapentin or duloxetine can reduce the intensity of symptoms for some people, but they don't repair the underlying nerve damage, and they come with side effects — cognitive fog, fatigue, dizziness — that significantly affect quality of life.

Shockwave therapy and EMTT (Extracorporeal Magnetotransduction Therapy) take a fundamentally different approach. Rather than dampening the pain signal, they work to repair the nerve itself — stimulating the body's own regenerative mechanisms to rebuild damaged nerve fibers, restore blood supply to nerve tissue, and create the biological conditions in which nerves can recover. For many patients, this means not just less pain, but a genuine return of sensation, function, and quality of life.

73%

of neuropathy patients report meaningful pain reduction with shockwave [1]

Measurable

nerve fiber regrowth documented in clinical studies [2]

Drug-free

no systemic side effects — no cognitive fog, fatigue, or dependency

What Type of Neuropathy Do You Have?

Neuropathy is not a single condition — it's a category of nerve dysfunction that can come from very different places. Understanding your type helps explain what's driving your symptoms, and why shockwave and EMTT are effective across such a wide range of presentations:

Type	What's Happening and How We Help
Diabetic Neuropathy	The most common type. High blood sugar damages nerve fibers over time, and also damages the tiny blood vessels that supply nerves with oxygen and nutrients. Without that



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Type	What's Happening and How We Help
	blood supply, nerves progressively die. Shockwave and EMTT directly address both the nerve damage and the vascular insufficiency driving it — something no medication currently does.
Chemotherapy-Induced Neuropathy	Many chemotherapy drugs are toxic to nerve fibers as a side effect. Patients finish cancer treatment only to find themselves with persistent burning, numbness, and weakness in their hands and feet. EMTT is particularly effective here because it works to restore the cellular energy that chemotherapy disrupts in nerve cells — supporting recovery that the body struggles to achieve on its own.
Pinched Nerve /Radiculopathy	When a nerve is compressed by a disc, bone spur, or tight tissue — in the neck, back, or limbs — it can produce radiating pain, numbness, or weakness along the entire length of that nerve. Shockwave reduces the inflammation and soft tissue restriction contributing to the compression, while EMTT supports healing of the irritated nerve itself.
Entrapment Neuropathy(Carpal / Tarsal Tunnel)	Nerves running through narrow tunnels in the wrist, ankle, or other joints can become compressed by surrounding tissue. Shockwave and EMTT reduce the inflammation and tissue thickening that cause the compression — often providing lasting relief without surgery.
Idiopathic /Small Fiber Neuropathy	Some patients have burning pain, temperature sensitivity, or autonomic symptoms — abnormal sweating, heart rate, or digestion — with normal standard nerve tests. These presentations involve the smallest nerve fibers, which standard testing often misses. Both shockwave and EMTT have demonstrated benefit in these patients, even when conventional approaches have offered little.

How Shockwave Therapy Repairs Nerves

Shockwave delivers focused acoustic energy into the nerve's environment — not just where you feel the pain, but where the damage is actually occurring. The effects operate on several levels at once:

- **Wakes up the cells that rebuild nerves:** Shockwave activates the specialized support cells responsible for rebuilding the insulating sheath around nerve fibers [1] — restoring the structure that allows nerves to conduct signals properly. This is the core regenerative mechanism, and it is not replicated by any pain medication.
- **Restores blood supply to starving nerves:** Peripheral nerves depend on a network of tiny blood vessels for oxygen and nutrients. In diabetic and other vascular neuropathies, this supply is severely compromised. Shockwave stimulates the growth of new blood vessels [3] around nerve pathways — directly addressing one of the primary drivers of progressive nerve damage.
- **Calms the inflammatory environment:** Chronic inflammation surrounding damaged nerves accelerates the damage and blocks the repair process. Shockwave significantly reduces this inflammation — creating the conditions nerves need to recover.



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- **Promotes nerve fiber regrowth:** Shockwave encourages the sprouting of new nerve fiber branches and the reestablishment of nerve connections in tissue that has lost them [2] — a measurable structural change that goes beyond symptom management.
- **Reduces pain hypersensitivity:** Shockwave desensitizes the overactive pain signals at the nerve terminal level — reducing the burning, tingling, and hypersensitivity that make neuropathy so disruptive to daily life, with effects that deepen progressively across the treatment course.

How EMTT Supports Nerve Recovery

EMTT uses high-intensity pulsed magnetic fields to reach deep into the body — penetrating far beyond what surface-level treatments can access, including the sciatic nerve, the nerve roots in the spine, and the nerve networks running through the lower limbs. At the cellular level:

- **Gives nerve cells their energy back:** Nerve cells in a neuropathic environment are exhausted — they don't have enough cellular energy to maintain their membranes, conduct signals, or carry out repair. EMTT restores the energy production of these cells [5], giving them what they need to begin recovering. This is especially relevant in chemotherapy-induced neuropathy, where the drugs specifically disrupt nerve cell energy metabolism.
- **Reduces the damage that keeps nerves from healing:** A key driver of ongoing nerve degeneration is oxidative stress — an accumulation of harmful molecules the body's defenses can't keep up with. EMTT boosts the cell's own protective systems [6], reducing this damage at the source.
- **Supports myelin repair:** EMTT promotes the survival and activity of the cells that produce myelin — the insulating sheath around nerve fibers. This amplifies and sustains the same repair process that shockwave initiates, making the two therapies more effective in combination than either is alone.
- **Calms abnormal nerve firing:** EMTT reduces the erratic electrical activity in damaged nerve membranes that produces burning, tingling, and hypersensitivity — without the systemic side effects of medications that work on the brain to do the same thing.
- **Reaches nerves that other treatments can't:** EMTT's penetration depth exceeds 15 cm — making it effective for the sciatic nerve, lumbar and cervical nerve roots, and the nerve networks in the thigh and lower leg that are beyond the reach of surface-level treatments [4].

Why results last

The reason patients often experience lasting relief from shockwave and EMTT — rather than the temporary reduction typical of medications — is that the treatments change the biology of the nerve itself. Nerve support cells are more active. Blood supply has been restored. Inflammation is lower. The cellular energy available for repair has increased. The nerve environment is genuinely different after treatment. Most patients continue to improve for weeks after their final session as the repair processes initiated during treatment continue to unfold.



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The equipment matters: why we use Storz Medical

Not all shockwave devices are equal. We use Storz Medical systems — Swiss-engineered, clinically validated machines that set the standard for output precision, tissue penetration depth, and treatment consistency.

Storz devices have been the instruments of choice in the majority of peer-reviewed shockwave clinical trials published over the past two decades, and are used by Olympic training centers, professional sports medicine programs, and leading regenerative medicine practices worldwide. When you see statistics like ‘80% response rate,’ those results were achieved with devices at this level of quality — and that’s what we bring to every session.

Shockwave as a diagnostic tool: mapping your tissue

One of the most clinically useful — and often surprising — aspects of shockwave therapy is what it reveals about your tissue before treatment even begins.

When the shockwave applicator is moved over healthy tissue, patients typically feel mild pressure but little discomfort. When it passes over damaged, inflamed, or dysfunctional tissue, it produces a clear, localized pain response. This differential pressure sensitivity allows us to precisely map where pathology exists — often identifying areas of dysfunction that weren’t apparent on palpation or even imaging.

This real-time tissue mapping guides where we focus treatment, helps track improvement across sessions (as tissue heals, the pain response normalizes), and gives both you and your provider objective feedback on how your body is responding.

Conditions We Address

Diabetic Peripheral Neuropathy	Improves sensation and reduces burning and tingling; supports nerve repair and blood vessel health alongside diabetes management
Chemotherapy-Induced Neuropathy	Supports nerve recovery in post-treatment cancer patients; EMTT particularly effective for the cellular energy disruption caused by neurotoxic chemotherapy agents
Cervical Radiculopathy	Addresses nerve compression from the neck radiating into arms, hands, and fingers
Lumbar Radiculopathy / Sciatica	Reduces nerve root irritation and supports healing of the inflamed nerve pathway from low back into the leg
Tarsal Tunnel Syndrome	Relieves nerve entrapment in the ankle and foot that produces burning and numbness on the bottom of the foot
Carpal Tunnel Syndrome	Reduces inflammation and tissue compression around the median nerve; supports nerve healing alongside structural correction
Small Fiber / Idiopathic Neuropathy	Addresses burning pain and autonomic symptoms in patients who have had limited response to standard medical approaches



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Protecting Your Nerves Before Symptoms Worsen

If you have diabetes, prediabetes, a history of chemotherapy, or other risk factors for neuropathy, shockwave and EMTT can be used proactively — before significant nerve damage has occurred — to protect nerve health over time:

- Maintain healthy blood supply to peripheral nerve tissue before circulation is significantly compromised
- Reduce the low-grade oxidative stress and inflammation that accumulates in metabolic conditions long before symptoms appear
- Support the cellular health of nerve fibers under chronic stress — slowing the progression of early subclinical damage
- Provide a drug-free, side-effect-free strategy for patients who want to be proactive about their neurological health

What to expect

Neuropathy treatments are gentle and well-tolerated — even for patients with hypersensitive skin. Sessions take 20–40 minutes. Nerve healing is gradual: most patients notice improvement in burning and tingling within 4–8 weeks, with continued gains through a full course of 6–10 sessions. Longstanding neuropathy takes longer to respond than recent-onset symptoms — but even patients who have had neuropathy for years regularly experience meaningful improvement.

References

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