Feeling It: The Science of Touch, Nerves & Sensation

Part 2 – When Feeling Shifts: Numbness, Tingling, Pain & Dysfunction

When Sensation Changes: From Protective Signal to Warning Sign

Touch is designed to inform, protect, and connect—but when normal sensation begins to shift, the body often sends early warning signals long before major dysfunction is diagnosed. Tingling, numbness, burning, hypersensitivity, chronic itching, altered temperature perception, or unexplained pain may all reflect disruption somewhere along the sensory pathway—from skin receptors to peripheral nerves, spinal roots, circulation, metabolism, or the brain itself.

Today's journey moves from how sensation works… to what it may mean when sensation changes.

The Language of Altered Sensation

Common "Sensory Shift" Terms Decoded

- **Numbness:** Reduced or absent sensation
- **Tingling / "Pins and Needles" (Paresthesia):** Abnormal nerve firing
- **Burning:** Often small fiber nerve irritation or inflammation
- **Hypersensitivity (Hyperesthesia):** Heightened sensory response
- **Allodynia:** Pain from something that shouldn't hurt (light touch, clothing)
- **Itching (Pruritus):** Can be skin-based… or nerve-based
- **Neuropathy:** Damage or dysfunction of peripheral nerves
- **Radiculopathy:** Nerve root irritation at the spine

Not all symptoms originate where they are felt.

Where the Problem May Be

The Sensory Pathway Can Malfunction at Multiple Levels

Skin: Inflammation, dryness, eczema, burns
Peripheral Nerves: Diabetes, nutrient deficiency, toxins, trauma
Spinal Nerve Roots: Disc compression, stenosis, inflammation
Circulation: Poor blood flow, oxygen deprivation
Brain: Stroke, MS, central sensitization

A symptom in the foot may begin in the spine. An itch on the skin may actually originate in the nerve.

Numbness & Tingling

Why “Falling Asleep” Happens

Temporary numbness often results from pressure that compresses a nerve or reduces blood flow.

Examples:

- Crossing legs
- Sleeping on an arm
- Tight footwear

But chronic or recurring numbness may suggest:

- B12 deficiency
- Diabetes / insulin resistance
- Thyroid dysfunction
- Cervical or lumbar spine issues
- Autoimmune attack
- Medication side effects

Occasional compression is common. Persistent symptoms deserve investigation.

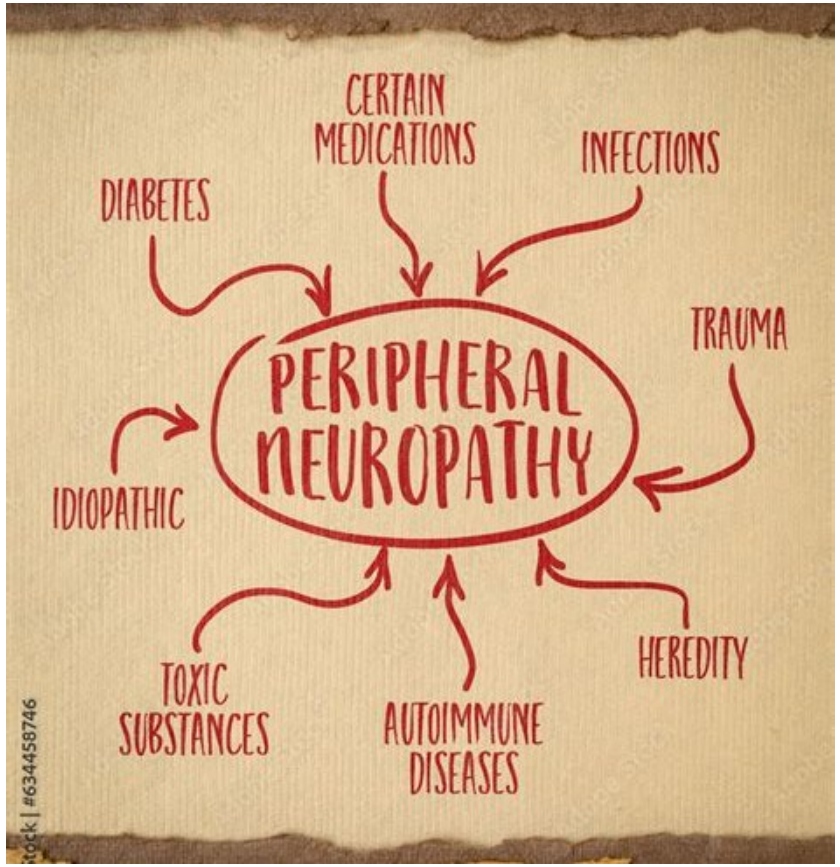
Burning, Stabbing & Electric Pain

When Nerves Become Irritated

- Healthy nerves transmit signals clearly. Damaged or inflamed nerves may misfire like frayed electrical wiring.
- Common sensations:
- Burning feet
- Electric zaps
- Shooting pain
- “Bee sting” sensations
- Crawling skin feelings

Possible contributors:

- Blood sugar dysregulation
- Chemotherapy
- Alcohol excess
- Mold/toxin exposure
- Lyme/co-infections
- Nutrient depletion (B1, B6, B12, alpha lipoic acid needs)



The Fascinating Reality of Dermatomes

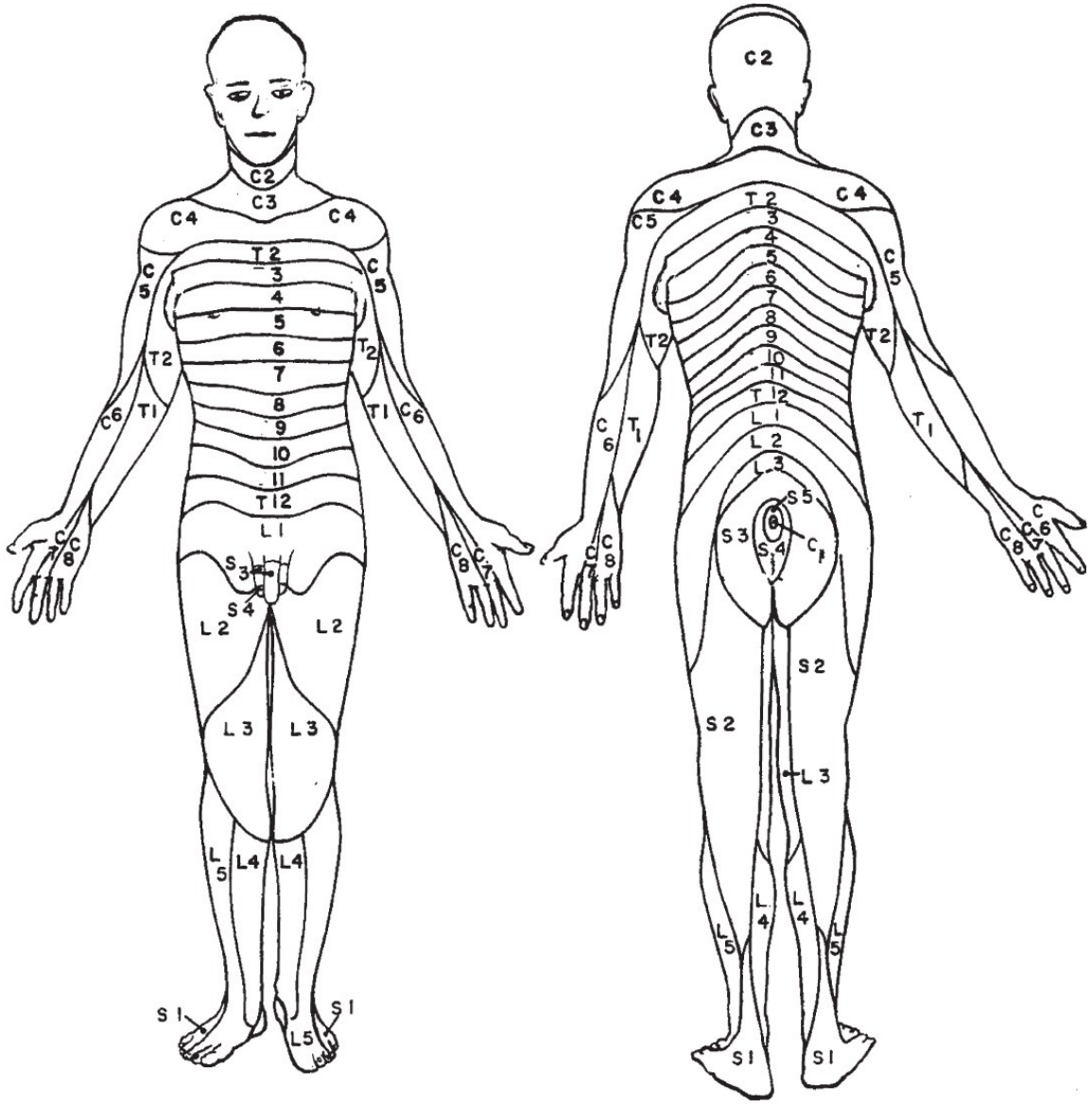
Your Skin Has a Neurological Map

Specific spinal nerves supply specific skin regions. When a nerve root is irritated, symptoms often follow a predictable pattern.

Examples:

- **C6:** Thumb/forearm tingling
- **C8:** Pinky/ring finger symptoms
- **L4-L5:** Shin, calf, top of foot
- **S1:** Outer foot, heel

Pain, itching, numbness, or burning in one region may be a clue to spinal origin—not local skin disease.



Neurogenic Itch

Sometimes an Itch Is Not a Skin Problem

Not all itching is caused by rash, allergy, or dryness. Nerve-related itch may stem from:

- Spinal irritation
- Post-herpetic nerve damage
- Small fiber neuropathy
- Multiple sclerosis
- Liver dysfunction
- Histamine/mast cell activation

When skin treatments fail repeatedly, deeper neurological or systemic causes may need consideration.

Hypersensitivity & Overprotective Nerves

When the Alarm System Gets Too Loud

In some conditions, nerves become amplified:

- Fibromyalgia
- CRPS
- Migraine disorders
- PTSD-related hypervigilance
- Chronic inflammation

The nervous system can become so sensitized that normal touch, sound, or temperature becomes overwhelming.

This is not imagined—it is often a real neurological amplification issue.

Blood Flow & Feeling

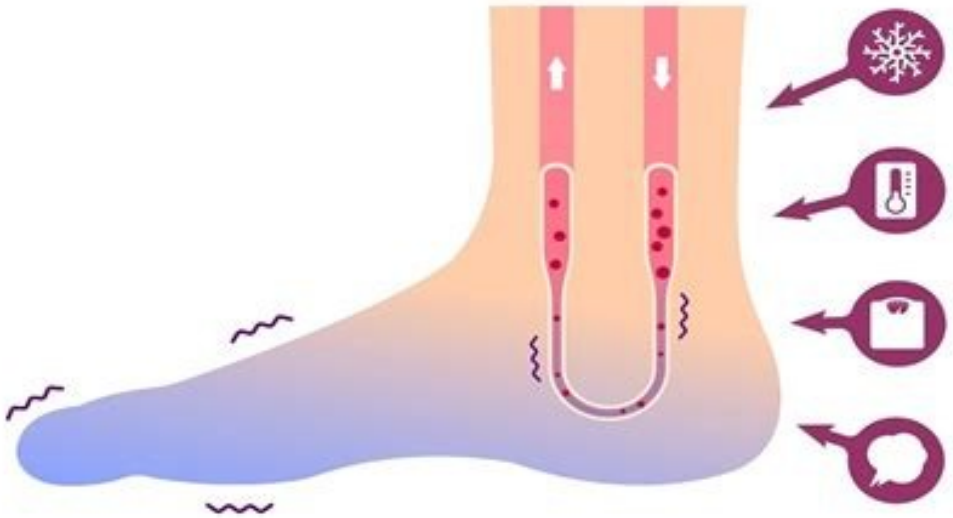
Circulation: The Overlooked Partner of Nerve Health

Nerves require:

- Oxygen
- Glucose regulation
- Minerals
- Healthy blood flow

Poor circulation may contribute to:

- Cold hands/feet
- Burning feet
- Slow healing
- Diabetic nerve decline
- Raynaud's symptoms
- Healthy sensation depends not just on nerves—but on what nourishes them.



Wondrous CircuVive: Advanced Topical Circulatory Support

Designed to warm, strengthen, and revitalize circulation where it matters most

- **Deep Delivery:** DMSO + emu oil help active compounds penetrate deeply into tissues for targeted support
- **Warm & Stimulate:** Cayenne, ginger, cinnamon, and turmeric encourage circulation, warmth, and microvascular activity
- **Strengthen Vessels:** Bilberry, butcher's broom, horse chestnut, hawthorn, and ginkgo support capillary resilience, vascular tone, and healthy blood flow
- **Relax & Flow:** Magnesium may help support vessel relaxation and ease tension
- **Soothe & Protect:** EVOO provides anti-inflammatory support while serving as a nourishing carrier
- **Circulation Boost:** Cypress + rosemary essential oils help invigorate local blood flow and sensory warmth

In essence: CircuVive combines penetration, vascular nourishment, warming botanicals, circulation support, and tissue-soothing compounds to help restore healthy blood flow, improve comfort, and bring warmth back to struggling extremities.

Strategies to Support Circulation

Healthy circulation depends not only on vessels themselves, but also on vascular tone, nitric oxide production, inflammation balance, blood viscosity, and endothelial health. Oral strategies may help support circulation systemically by encouraging vasodilation, improving microvascular function, supporting vessel integrity, and reducing inflammatory burden.

Common Internal Circulatory Supports:

- **Nitric Oxide Support:** Beet root, L-citrulline, L-arginine, pomegranate
- **Warming Herbal Circulatory Tonics:** Ginger, cayenne, cinnamon, prickly ash
- **Vascular Strengtheners:** Hawthorn, ginkgo biloba, horse chestnut, bilberry
- **Tea-Based Support:** Green tea, hibiscus, rosemary, ginger tea
- **Antioxidant & Endothelial Support:** Vitamin C, omega-3s, lipoic acid, polyphenols

Lifestyle Synergy Matters:
Hydration, movement, muscle activity, warmth, blood sugar control, and smoking avoidance all significantly influence circulation.

Metabolism, Deficiency & Nerve Breakdown

Nutrients Matter More Than Most People Realize

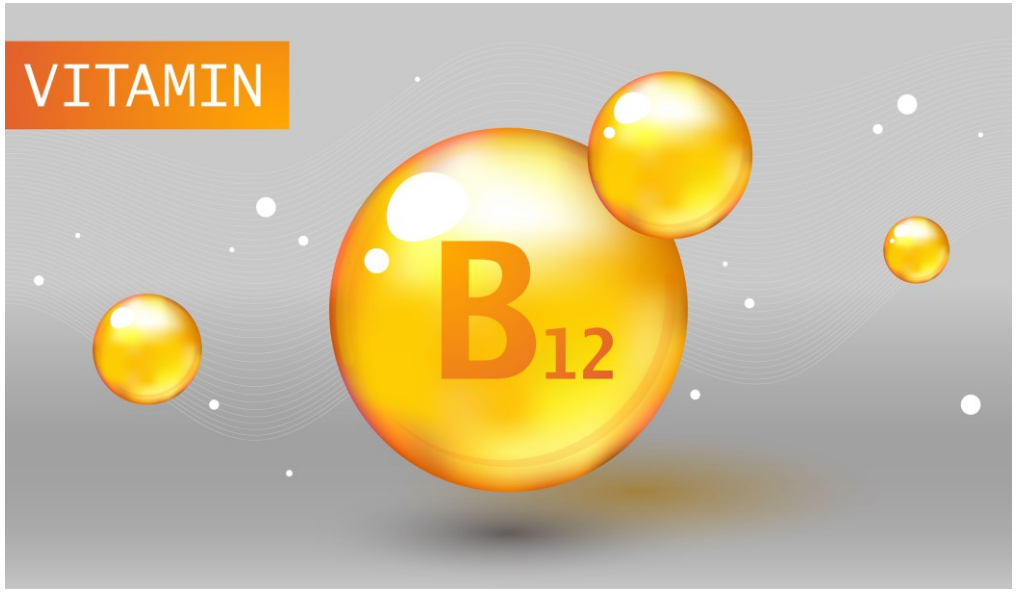
Key players:

- **B12:** Myelin integrity
- **B1 (Thiamine):** Nerve energy
- **B6 (Balanced):** Neurotransmitter support
- **Magnesium:** Nerve stability
- **Lipoic acid:** Oxidative defense
- **Glutathione:** Cellular protection
- **Omega fats:** Membrane health

Nerves are metabolically expensive tissue. Deficiency, inflammation, and oxidative stress can all distort sensation.

B12: Myelin Integrity

Vitamin B12 plays a foundational role in maintaining the myelin sheath—the protective, insulating covering around nerves that allows electrical signals to travel efficiently and accurately. Without adequate B12, nerves may become poorly insulated, leading to misfiring, slowed communication, numbness, tingling, burning, balance issues, cognitive changes, or even irreversible nerve damage over time. B12 is also essential for methylation, red blood cell production, and neurological resilience. Deficiency is more common than many realize, particularly in older adults, those using acid blockers or metformin, vegetarians, or individuals with impaired absorption, making proper form and status especially important when sensation begins to shift.



B1 (Thiamine): Nerve Energy

Thiamine is critical for converting glucose into usable cellular energy, making it particularly important for nerves, which are among the body's most energy-demanding tissues. When thiamine is insufficient, nerves may struggle to produce ATP efficiently, contributing to fatigue, neuropathy, burning sensations, dysautonomia, poor vagal tone, and impaired nerve signaling. Because thiamine is central to mitochondrial energy metabolism, deficiency or functional insufficiency can sometimes masquerade as unexplained neurological dysfunction long before frank deficiency diseases appear. Certain forms, such as benfotiamine or TTFD, are often explored for deeper metabolic and nerve support.

B6 (Balanced): Neurotransmitter Support

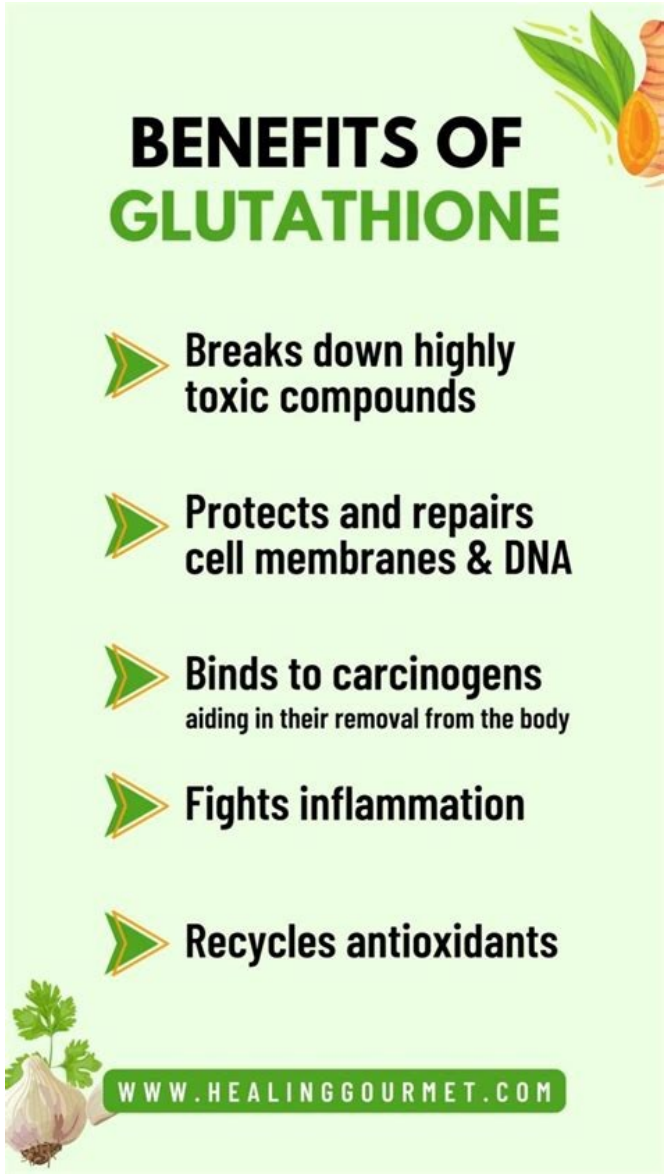
Vitamin B6, particularly in its active P-5-P form, is essential for producing key neurotransmitters including serotonin, dopamine, GABA, and norepinephrine—chemical messengers that profoundly influence mood, sensory processing, pain perception, and nerve communication. B6 also supports myelin formation and homocysteine regulation. However, balance matters: too little may impair nerve function, while excessive chronic supplementation—especially in poorly regulated forms or high doses—can itself contribute to neuropathy. Properly balanced B6 helps support healthy sensory signaling, emotional resilience, and neurological coordination.

Magnesium: Nerve Stability

Magnesium acts as a calming, stabilizing mineral for the nervous system, helping regulate electrical excitability, muscle relaxation, NMDA receptor activity, and proper calcium balance within cells. Inadequate magnesium may contribute to nerve hyperexcitability, muscle cramps, twitching, hypersensitivity, migraines, poor sleep, anxiety, and heightened pain signaling. Because magnesium influences hundreds of enzymatic reactions—including energy production—it serves as both a neurological stabilizer and metabolic support factor. For many individuals, modern diets, stress, medications, and blood sugar instability may all increase magnesium depletion, making repletion especially relevant in sensory dysfunction.

Lipoic Acid: Oxidative Defense

Alpha lipoic acid (ALA), particularly its more bioactive R-lipoic acid form, is both a powerful antioxidant and mitochondrial cofactor that helps defend nerves from oxidative stress while supporting glucose metabolism. It is especially studied in diabetic and metabolic neuropathy, where oxidative damage and blood sugar dysregulation can injure delicate nerve tissues. ALA also helps regenerate other antioxidants such as vitamins C and E, supports mitochondrial enzyme systems, and may improve nerve blood flow. By reducing oxidative burden and supporting cellular energy, alpha lipoic acid may help protect vulnerable nerves from progressive wear and dysfunction.



Glutathione: Cellular Protection

Glutathione is often called the body's master antioxidant because of its central role in detoxification, oxidative defense, immune balance, and mitochondrial protection. Nerves are especially vulnerable to oxidative stress, inflammation, toxins, and metabolic waste, all of which glutathione helps neutralize. Adequate glutathione status may support nerve resilience in the face of toxic exposures, chronic inflammation, glycation, mold, medication burden, and mitochondrial decline. Because glutathione depletion is associated with aging and chronic illness, supporting its levels may be an important strategy for preserving both nerve and broader neurological health.

Omega Fats: Membrane Health

Healthy fats—particularly omega-3 fatty acids such as DHA and EPA—are vital structural components of nerve cell membranes, influencing flexibility, signaling efficiency, inflammation balance, and cellular communication. Nerves depend on healthy membranes to transmit signals properly, and DHA is especially important in the brain and nervous system. Insufficient or imbalanced fatty acid intake may contribute to inflammatory states, membrane rigidity, poor nerve repair, and altered signaling. Omega fats also help modulate inflammation, which is particularly relevant when nerves are irritated, compressed, or metabolically stressed. In essence, healthy fats help create healthier communication pathways throughout the sensory system.

Wondrous NeuroVive: Advanced Topical Nerve Support

Designed to calm irritation, nourish damaged nerves, and support restoration at the source

- **Deep Delivery:** DMSO + emu oil help carry active compounds deeply into tissues
- **Calm & Soothe:** Magnesium + PEA support nerve relaxation, comfort, and reduced neuroinflammation
- **Repair & Rebuild:** B12, benfotiamine (B1), and P-5-P (B6) provide key nutrients for nerve repair and signaling
- **Protect:** R-lipoic acid helps defend nerves from oxidative stress and metabolic damage
- **Supportive Structure:** Lecithin provides phospholipids important to healthy nerve membranes
- **Circulation & Comfort:** Peppermint, rosemary, and sweet orange support circulation, sensory comfort, and a more pleasant application experience
- **In essence:** NeuroVive combines penetration, nourishment, anti-inflammatory support, antioxidant defense, and targeted topical delivery to help soothe, repair, and renew compromised nerves.

DMSO – Deep Delivery, Circulation & Tissue Penetration

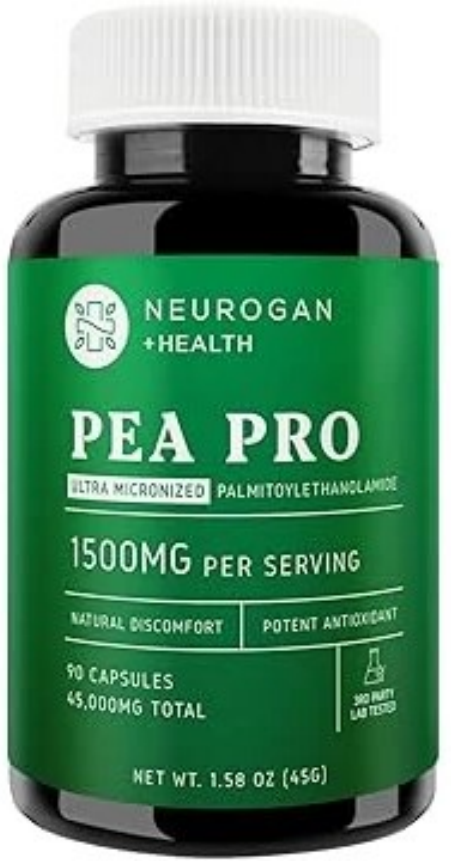
More Than a Carrier: Why DMSO Has Long Fascinated Integrative Medicine

Dimethyl sulfoxide (DMSO) is known for its remarkable ability to penetrate skin and carry therapeutic compounds deeply into tissues—an unusual property that makes it especially relevant in topical strategies targeting nerves, muscles, fascia, and connective tissue. Beyond delivery, DMSO has been studied for anti-inflammatory, antioxidant, circulation-supportive, and membrane-stabilizing effects, which may help calm irritated tissues and improve local therapeutic access. In nerve-related applications, DMSO's greatest value may lie in helping beneficial compounds reach areas that are otherwise difficult to influence topically, while also potentially reducing oxidative stress and swelling in the surrounding environment.

Ultramicronized PEA (Palmitoylethanolamide) – Calming the Inflamed Nerve

Supporting the Body's Own Neuroprotective Response

Palmitoylethanolamide (PEA) is a naturally occurring fatty acid amide produced by the body as part of its protective response to inflammation and cellular stress. It has gained growing attention for its ability to modulate neuroinflammation, calm overactive mast cells, and help reduce pain signaling without acting as a conventional pharmaceutical painkiller. Ultramicronized PEA (UM-PEA) is processed for enhanced absorption and is often used in neuropathy, sciatica, neuralgia, autoimmune irritation, and chronic pain states where nerves may be inflamed or hypersensitized. Rather than simply masking symptoms, PEA may help create a calmer biochemical environment in which irritated nerves can function more normally.

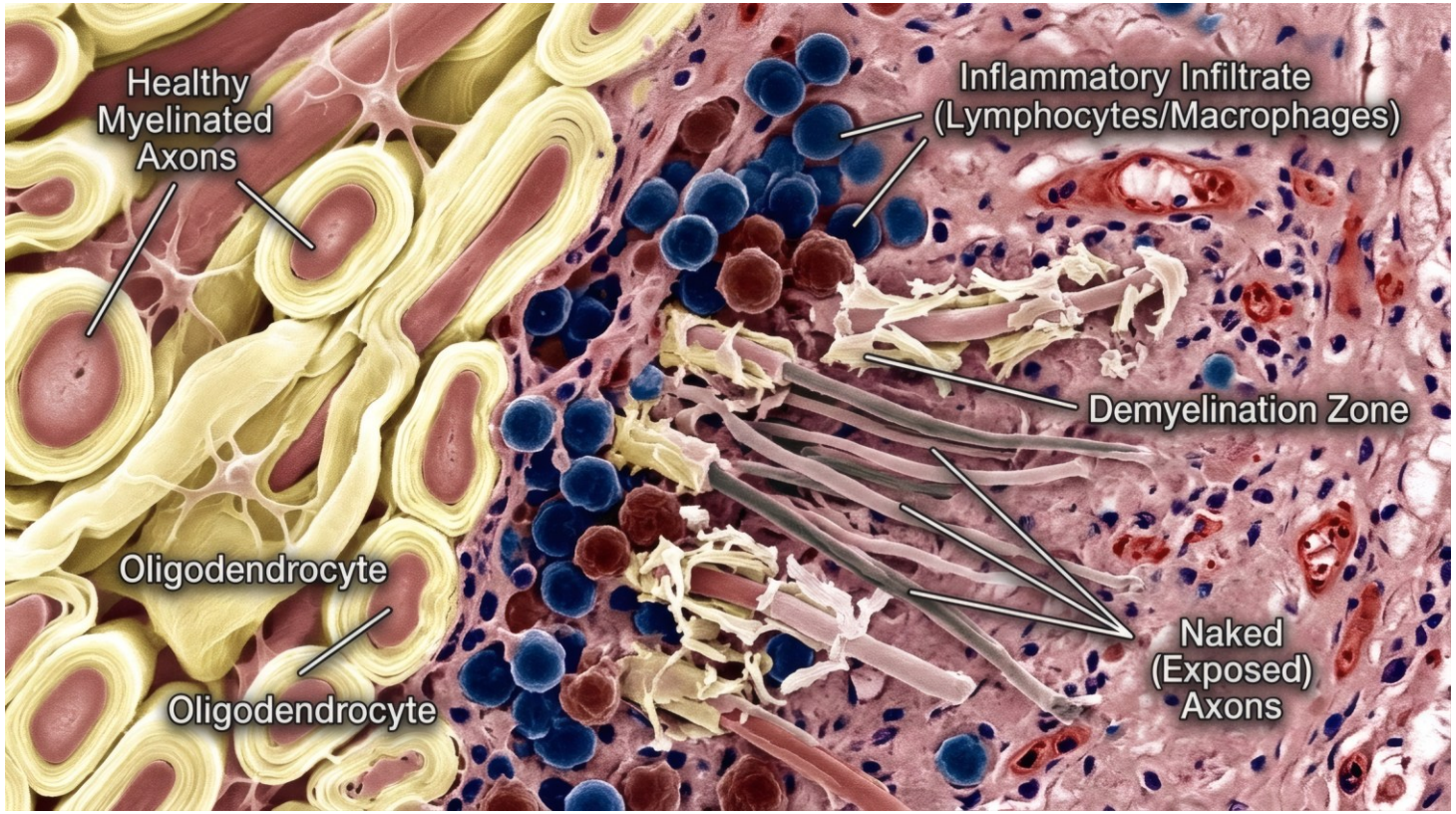


Autoimmunity, Inflammation & Misfiring

When the Body's Defense System Affects Sensation

- Conditions such as:
- Multiple sclerosis
- Sjögren's
- Lupus
- Guillain-Barré
- CIDP
- Rheumatoid arthritis

...may directly or indirectly alter sensation through immune-mediated nerve damage or inflammatory compression.



Glutathione – Antioxidant Defense & Immune Modulation

More Than Detox: A Master Regulator in Inflammation & Immune Balance

Glutathione is often called the body's "master antioxidant," but its relevance in autoimmune and inflammatory conditions extends far beyond simple oxidative defense. By helping neutralize free radicals, reduce inflammatory burden, support mitochondrial resilience, and protect tissues from collateral damage, glutathione may help calm environments where immune dysfunction thrives. Importantly, glutathione also appears to influence immune signaling pathways—including modulation of Th1, Th2, and Th17 activity—making it particularly intriguing in conditions where immune responses may be excessive, misdirected, or poorly regulated. Rather than simply "boosting" immunity, glutathione may help support a more balanced, adaptive immune response while protecting tissues from inflammatory wear.

Moducare –
Plant Sterols, Sterolins & Th1:Th2 Balance

Supporting Immune Adaptability Rather Than Simple Suppression

Moducare is a plant sterol and sterolin blend best known for its potential role in helping normalize the balance between Th1 and Th2 immune activity—two major branches of adaptive immunity that can become disproportionately dominant in various autoimmune, allergic, or chronic inflammatory states. Rather than acting as a blunt immune stimulant or suppressant, Moducare is often valued for encouraging healthier immune modulation and adaptability. This balancing influence may be particularly relevant when immune responses are either overreactive or poorly coordinated, contributing to chronic inflammation, autoimmune imbalance, or excessive allergic activity. For many practitioners, its appeal lies in supporting regulation rather than forceful suppression.

Prevention: Protecting the Pathway

Nerve Health Is Often More Preservable Than People Realize

Protective priorities:

- Blood sugar control
- Nutrient sufficiency
- Healthy thyroid function
- Circulation support
- Reducing toxic burden
- Spinal health / posture
- Managing inflammation
- Movement

The sensory system often declines gradually… which means early intervention matters.

Hope & Repair

Can Nerves Recover?

Sometimes, yes—depending on cause, severity, and duration.

Nerves may improve through:

- Removing compression
- Correcting deficiencies
- Improving mitochondrial function
- Blood sugar balance
- Physical therapy
- Anti-inflammatory strategies
- Time

Peripheral nerves regenerate slowly—but they are not always beyond repair.

Wrap-Up: When Feeling Changes, Listen

Protecting, Restoring & Respecting the Body's Sensory Warning System

Today, we've moved beyond the normal science of touch into the deeper reality of what altered sensation may reveal—numbness, tingling, burning, hypersensitivity, itching, pain, circulation changes, immune dysfunction, and nerve distress. We've seen that symptoms are often not random annoyances, but potential clues pointing toward shifts in nerve health, blood flow, metabolic stability, inflammation, spinal integrity, or immune balance.

From nutrient restoration and mitochondrial support… to circulation strategies, topical interventions, immune modulation, and targeted nerve support, the encouraging truth is that many sensory changes may be influenced—sometimes significantly—when underlying contributors are recognized and addressed.

Thank you!

Wondrous Roots, Inc.
103 Roxbury St.; Keene, NH 03431
603-439-2603
www.shopwondrousroots.com
www.wondrousroots.org

Rebecca Roentsch Montrone, BS

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