

Why the Type of Pain Matters More Than the Number

Rating your pain from zero to ten tells us **how much** it hurts. It tells us nothing about **why** — and the why determines the treatment.

Pain is not one condition. Three distinct biological mechanisms produce it. They feel different, they are diagnosed differently, and they respond to entirely different treatments. **A treatment aimed at the wrong mechanism will fail no matter how well it is performed.**

Type 1 — Nociceptive Pain: The Alarm Is Working Correctly

Specialized nerve endings called **nociceptors** sit in skin, muscle, joint, bone, ligament, and internal organs. They detect real or threatened tissue damage — strain, inflammation, chemical irritation — and convert it into a signal traveling to the brain. Here the nervous system is **working exactly as designed**, accurately reporting a real problem in a real tissue.

- **Feels like:** well-localized — you can point to it. Aching, throbbing, or sharp with movement. Worse with use, better with rest, proportional to activity. Organ pain is the exception: deep, cramping, and often felt away from the organ itself.
- **Examples:** arthritis of the knee, hip, or spine; facet and sacroiliac joint pain; tendon injuries; fractures; muscle strains; bursitis; post-surgical pain; pancreas or gallbladder pain.

Type 2 — Neuropathic Pain: The Wiring Itself Is Damaged

Here the nerve is the problem. A nerve that is compressed, injured, inflamed, or diseased becomes **spontaneously electrically active** — firing on its own with no stimulus, because injured membranes accumulate abnormal ion channels that leak current. The signal is manufactured inside the wire rather than at the tissue it reports on, which is why the pain is felt where nothing is wrong.

- **Feels like:** burning, electric, shooting, stabbing, or pins-and-needles, following the path of a nerve rather than the shape of a joint. Frequently **numb and painful in the same place** — the most useful single clue. Often worse at night; bedsheets or light touch may hurt.
- **Examples:** sciatica and pinched nerves from disc herniation or stenosis; diabetic neuropathy; shingles pain; trigeminal neuralgia; carpal tunnel; chemotherapy neuropathy; nerve injury after surgery; phantom limb pain.

Type 3 — Nociplastic Pain: The Volume Control Is Stuck Too High

The most recently defined category. There is **no ongoing tissue damage and no damaged nerve** — the amplifier is the problem. Spinal cord neurons become hyperexcitable, the brainstem pathways that normally dampen pain signals underperform, and immune cells in the nervous system stay switched on. Normal signals arrive and get turned up. This is a measurable change in signal processing: **a physical condition, not a psychological one. A normal MRI does not mean the pain is not real.**

- **Feels like:** widespread rather than confined to one spot, often in several regions, and it may move. Out of proportion to exam and imaging findings. Usually with fatigue, unrefreshing sleep, and trouble concentrating, plus heightened sensitivity to light, sound, or touch. Flares with stress and poor sleep.
- **Examples:** fibromyalgia; much long-standing back and neck pain; irritable bowel syndrome; jaw (TMJ) disorder; bladder pain syndrome; chronic pelvic pain; tension headache; persistent pain after a technically successful surgery.

Most Patients Have More Than One

- These categories describe mechanisms, not patients. Having two or all three at once is normal, and pain of any type that lasts long enough tends to recruit the third.
- A patient with knee arthritis who has hurt for years may develop central amplification on top of it — which is why the knee replacement helped less than expected.
- **This is why one treatment rarely fixes everything**, and why we often treat more than one mechanism at once rather than trying one thing at a time for years.

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The Three Types of Pain

MATCHING TREATMENT TO MECHANISM

The Right Treatment for the Wrong Mechanism Will Fail

Every treatment below works — for the mechanism it targets, and only that one. **This is the most common reason a patient tells us that nothing has ever worked.** Usually nothing was wrong with the treatments; they were matched to the wrong problem.

Nociceptive Pain: Address the Tissue

- **Medications:** anti-inflammatories (ibuprofen, naproxen, meloxicam), topical diclofenac gel, acetaminophen — these match the mechanism directly.
- **Physical therapy and load management:** targeted strengthening, activity modification, weight reduction. Each pound lost removes roughly four pounds of force from the knee.
- **Image-guided injections:** facet and medial branch blocks, radiofrequency ablation, sacroiliac and joint injections — these treat and confirm the source at once. Joint replacement or tendon repair when damage is advanced.
- **Opioids are a poor match.** Anti-inflammatories outperform them here at a fraction of the risk.

Neuropathic Pain: Quiet the Nerve

- **Membrane stabilizers:** gabapentin and pregabalin, reducing the abnormal currents that drive spontaneous firing.
- **Antidepressant-class medications:** duloxetine, venlafaxine, nortriptyline, amitriptyline. **Not for mood** — they restore the brainstem's pain-dampening pathways, and are first-line here.
- **Procedures:** epidural steroid injection for an irritated nerve root, peripheral nerve blocks, nerve ablation, and — for diabetic neuropathy or persistent pain after spine surgery — spinal cord or peripheral nerve stimulation.
- **Topicals:** lidocaine 5% and capsaicin 8% patches. **Anti-inflammatories and opioids work poorly here.**

Nociplastic Pain: Turn the Volume Back Down

- **Graded aerobic exercise is first-line and outperforms every drug** in this category. Start below your current tolerance and build slowly; too much too soon reliably causes a flare.
- **Sleep restoration.** Poor sleep both causes and results from sensitization. Treating a sleep disorder often helps more than any medication.
- **Medications that strengthen your own pain-dampening system:** duloxetine, milnacipran, amitriptyline, pregabalin. **Pain neuroscience education and cognitive behavioral therapy** change how the nervous system processes signals — physiology, not attitude.
- **Opioids are ineffective and often make this worse**, driving the same amplification that defines the mechanism. **Procedures aimed at incidental imaging findings also tend to fail here.**

Why a Treatment Fails

- **Right treatment, wrong mechanism.** An epidural for pain that is not coming from a nerve root will not work, however well it is placed.
- **Two mechanisms present, only one treated.** The treated part improves, the untreated part remains — which feels like total failure.
- **Mismatched targets.** Some treatments reduce pain, others restore function. Judged against the wrong one, a success looks like a failure — as does anything tried while sleep, anxiety, or depression go untreated and amplify all three mechanisms.

How You Can Help Us Get This Right

The words you use are diagnostic data. **Burning and electric** point one direction; **aching and throbbing** another; **everywhere, and worse when I am exhausted** a third. Before your visit, note whether numbness accompanies the pain, what makes it better and worse, how you are sleeping, and what you have already tried — including how much it helped and for how long. **A treatment that gave you two good days is a result, not a failure.**

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