

OREGON
HEALTH
& SCIENCE
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Pain: The Old and The New

Presented by: Kimberly Mauer, MD, MBA
Date: February 13, 2026

The Old



Image from Alamy

Ketamine Studies

- Most placebo-controlled trials demonstrate no benefit from oral ketamine, though one showed an opioid sparing effect
- RCTs have demonstrated short but not long-term benefit from intranasal ketamine for acute & chronic pain, neuropathic pain and migraines
- Cohen et al. (2004, 2006, 2009) found that IV ketamine predicts response to oral dextromethorphan for neuropathic pain, fibromyalgia and for opioid-tolerant people

Ketamine Studies

- Dextromethorphan, amantadine – conflicting results
- Memantine- negative
- Magnesium- positive, but few studies & small sample sizes
- Carbamazepine- positive

Take Home Points for Ketamine



The rapidly increasing use of ketamine warrants the development of consensus guidelines, which may improve patient care, inform regulatory guidelines, and improve safety



Compared to use for depression and anesthesia, research on ketamine for chronic pain is undeveloped and needs further development on indications, patient selection, long-term efficacy, and side effects

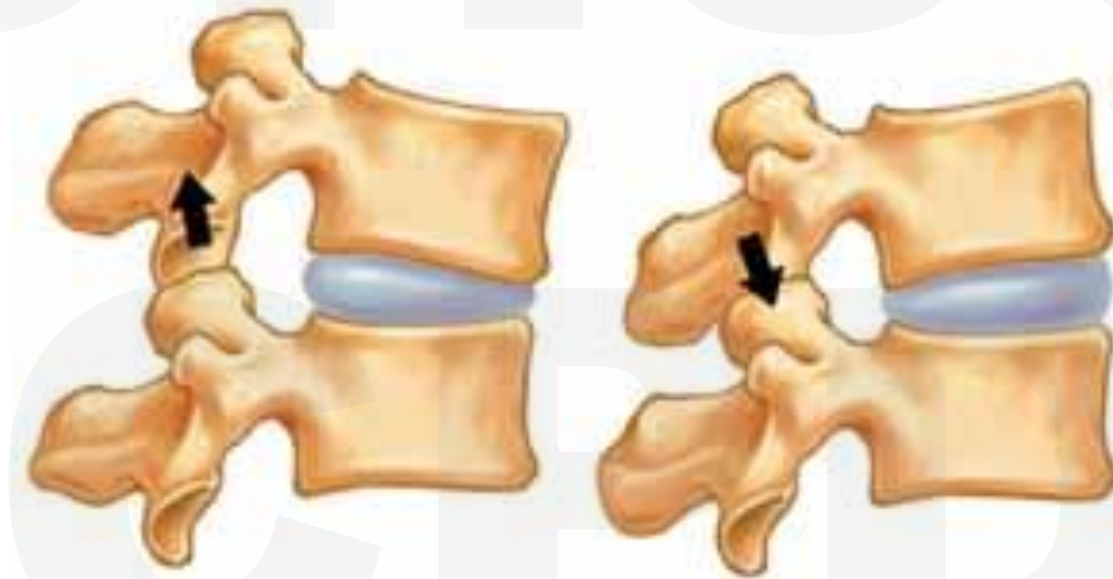
What do we treat a lot?

- Arthritis
- Spondylosis
- Spinal stenosis
- Facet arthropathy
- Osteoarthritis
- Facet degeneration



Facet Joint Motion

**Lateral (Side) View:
Working Facet Joints**



Facet Joint

- A common source of axial pain
- Possibly more likely if pain ↑s with extension
- Studies of denervation show positive results in cervical and lumbar area
- Medial branch vs facet joint injection

Dreyfuss P et al. *Spine* 2002; Sapir DA et al. *Spine* 2001; Lord S et al. *NEJM* 1996



Radiofrequency Facet Denervation for Axial Spinal Pain



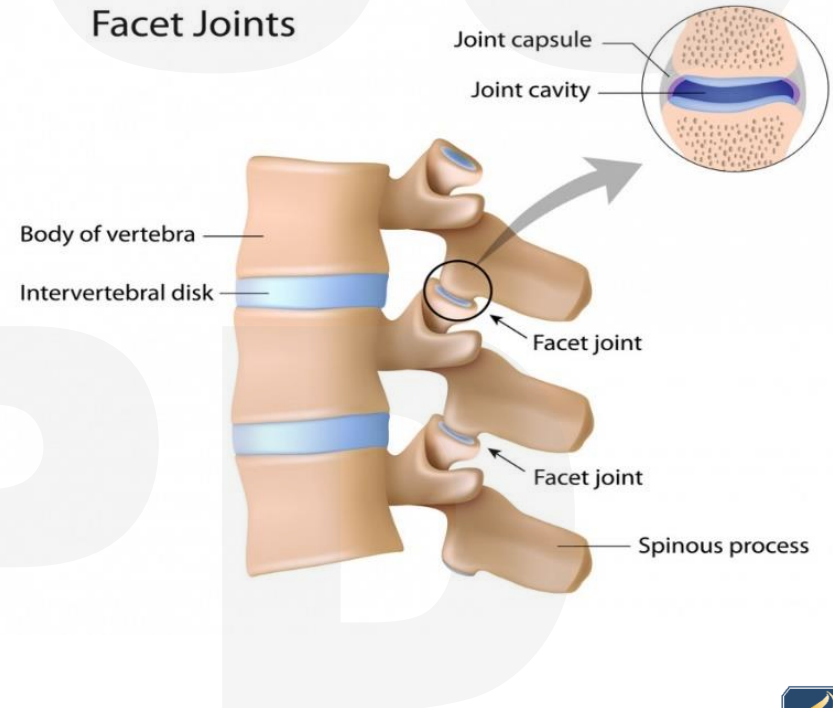
Cervical Medial Branch
Denervation



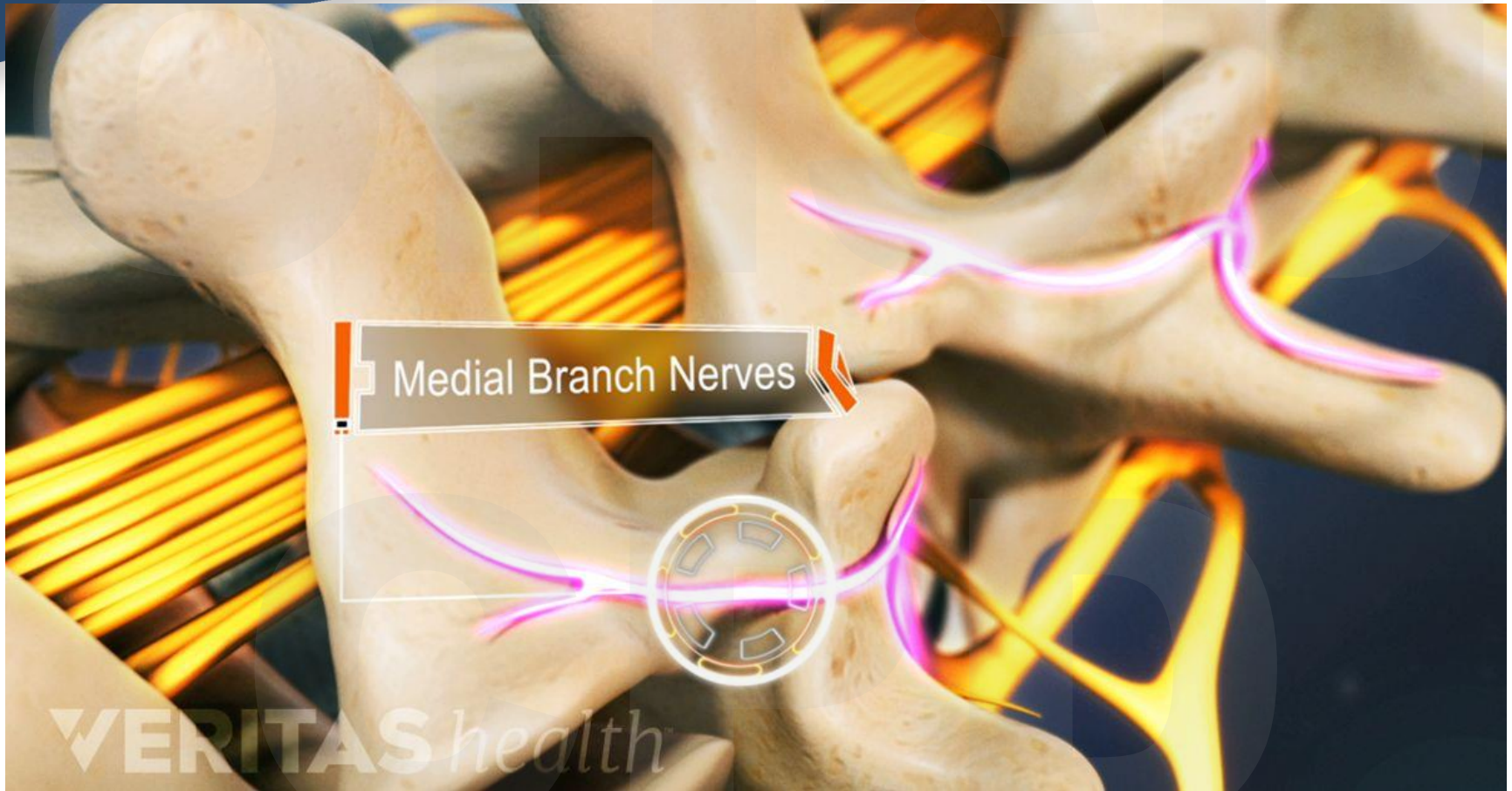
Lumbar Medial Branch
Blocks

The Facet Joints

- They have synovial fluid and a fibrous capsule.
- Their innervation is the medial branch .



The Medial Branch Anatomy (compliments of Veritas Health)



Coolief: What is It?

OHSU



CPD

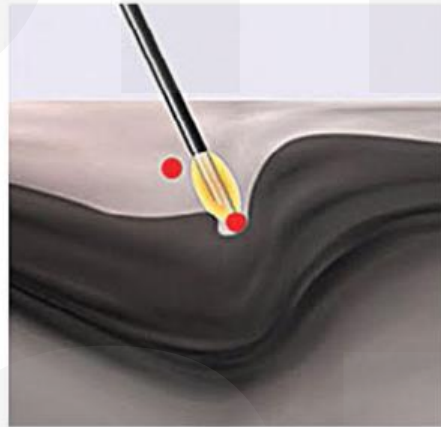
Coolief

- Large volume, spherically shaped lesions.
- The possibility of perpendicular, oblique or parallel approaches toward the target structure.
- Increased probability that target nerves with known nerve path complexity and variability will be successfully captured and ablated.

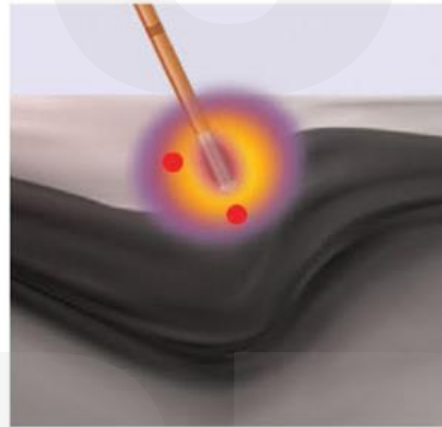
Coolief Technology

- Elliptically-shaped lesions immediately adjacent to the active tip
- Transmit a current of radiofrequency energy through the electrode.
- With a water-cooled electrode, you can transmit greater radiofrequency energy.

Coolief



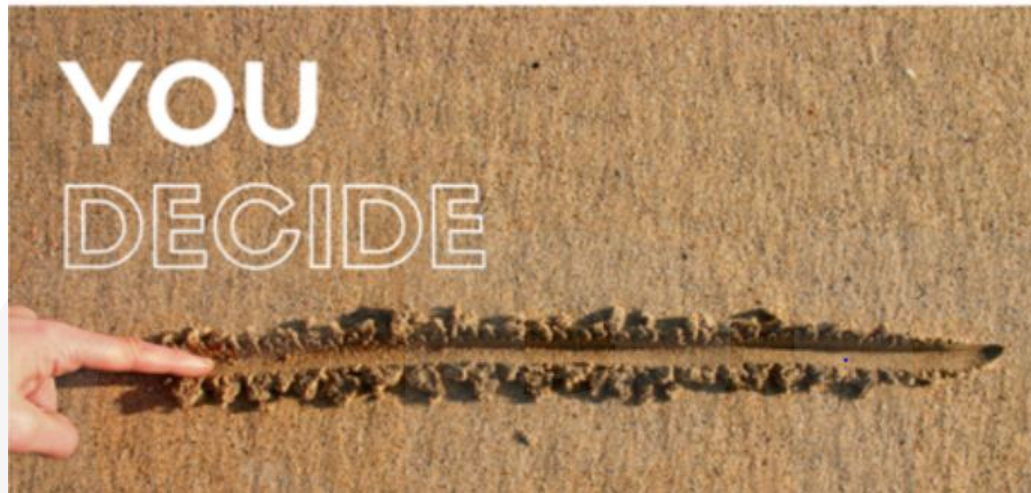
Standard RF



Cooled RF

CDC 2022 Guidelines

“Removing the Line in the Sand”



Why do we taper opioids?

CDC guidelines are 50% of why we taper

The second most prevalent reason was patient misuse at 32%.

Patient request and insurance is 29%

Myofascial Pain vs. Fibromyalgia vs. Myofascial Pain Syndrome

- Myofascial pain
- Fibromyalgia-**DX is ONLY HPI**
- Myofascial Pain Syndrome
- Dystonia- **NEW CRITERIA**



Topical Agents and Herbal Therapies

- Many agents don't cross the skin barrier
- We use lidocaine, ketamine and amitriptyline
- Variable absorbent of muscle relaxants, gabapentin and other agents in agents.
- Many have bleeding risk
- Hidden ingredients



Topical Ointment and Herbal Therapy for Pain Relief

- Gained in popularity with the opioid epidemic and growth of naturopathic field



" I'm taking you off the *herbal tea* . "

The New



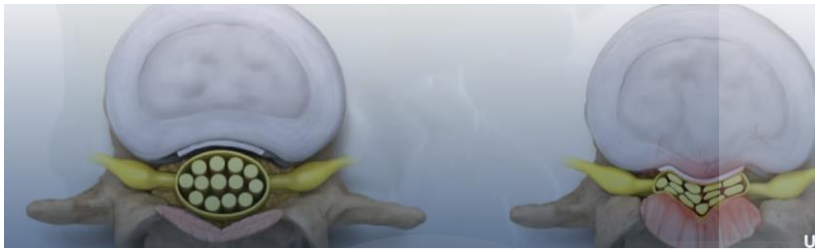
Image from LinkedIn

Acute Pain- New Definition

- Acute pain is ubiquitous • Definitions vary, but time-limited •
- At least 80 million in the US annually receive prescription medications for acute pain •
- Nearly all systemic treatments include NSAIDs, acetaminophen, or opioids •



Minimally Invasive Lumbar Decompression (MILD)



- Minimally Invasive Lumbar Decompression
- “Mild” removes excess ligament tissue to increase space in the canal.

Minimally Invasive Lumbar Decompression (MILD)

- The MILD procedure for lumbar spinal stenosis helps open the spinal canal to relieve pressure on the spinal cord or other nerves. The procedure is also referred to as percutaneous image-guided lumbar decompression (PILD).



”Vertiflex”

- Vertiflex stands for a specialized approach to treating spinal stenosis using the Superior® Indirect Decompression System.



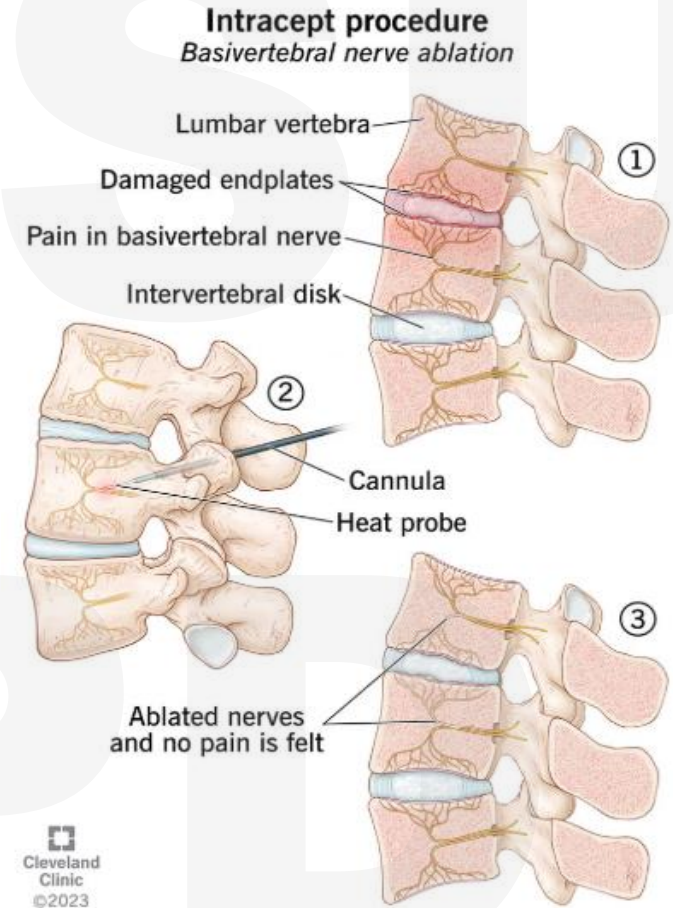
“Vertiflex”

The implant works by spreading the compressed vertebrae apart and holding them in the proper position. Because the Vertiflex procedure restores the space between the vertebrae and where the nerves exit the spine, the pressure on the spinal cord and surrounding nerves can be relieved.



Basivertebral Nerve Ablation “Intrasept”

- It is treated by basivertebral nerve ablation minimally invasive procedure that uses heat to disable the nerves causing the pain.
- Basivertebral nerve (BVN) ablation is a minimally invasive spinal procedure targeting the BVN, which is responsible for carrying nociceptive information from damaged vertebral endplates, an entity recently postulated as a source of chronic axial low back pain (LBP).
- Intrasept procedure, uses radiofrequency energy to destroy this nerve to treat chronic, vertebrogenic lower back pain.



Gabapentin Misuse

Evidence emerging for gabapentenoinds
as a primary agent of abuse
Evolving area of new literature

POLITICS

STAT+

FDA officials warn about the 'next wave' of drug abuse: opioid substitutes



By [Lev Facher](#) May 30, 2018

[Reprints](#)



Evey, KE, et al. "Abuse and misuse of pregabalin and gabapentin: a systematic review update" *Drugs* 91.1 (2021): 125-156.

What Should I do with Pregabalin?



Photo taken from Getty Images

Risk Factors

The gabapentinoids pregabalin and gabapentin have a potential for being abused and misused, which could result in substance dependence and intoxications.

Individuals with a history of psychiatric disorders or substance use disorder seem to be at high risk for misuse and abuse.

Some evidence suggests that patients with opioid use disorders may be at an increased risk of abusing gabapentinoids.

Available evidence suggests that abuse and misuse are more frequent in users of pregabalin compared with gabapentin.

Risk

Risk Factors for Gabapentinoid Misuse and Overdose

Gabapentinoids like gabapentin and pregabalin are increasingly recognized for their potential misuse and overdose risk, especially when combined with opioids or other CNS depressants. Key risk factors include a history of substance use disorder, concurrent opioid use, high prescribed doses, and underlying mental health disorders. Older adults are also at increased risk due to altered drug metabolism and polypharmacy. Recognizing these factors is critical for personalized risk assessment and safer management strategies to reduce adverse outcomes.

Providers should carefully evaluate patient history and current medications before prescribing gabapentinoids and monitor for signs of misuse throughout treatment.

What am I doing?

- I am no longer writing very high doses of gabapentin
- Top doses of 600 mg three times per day, especially if risk factors
- For pregabalin, using the maximum dosing more often than the equivalent high dose of gabapentin

What am I doing?

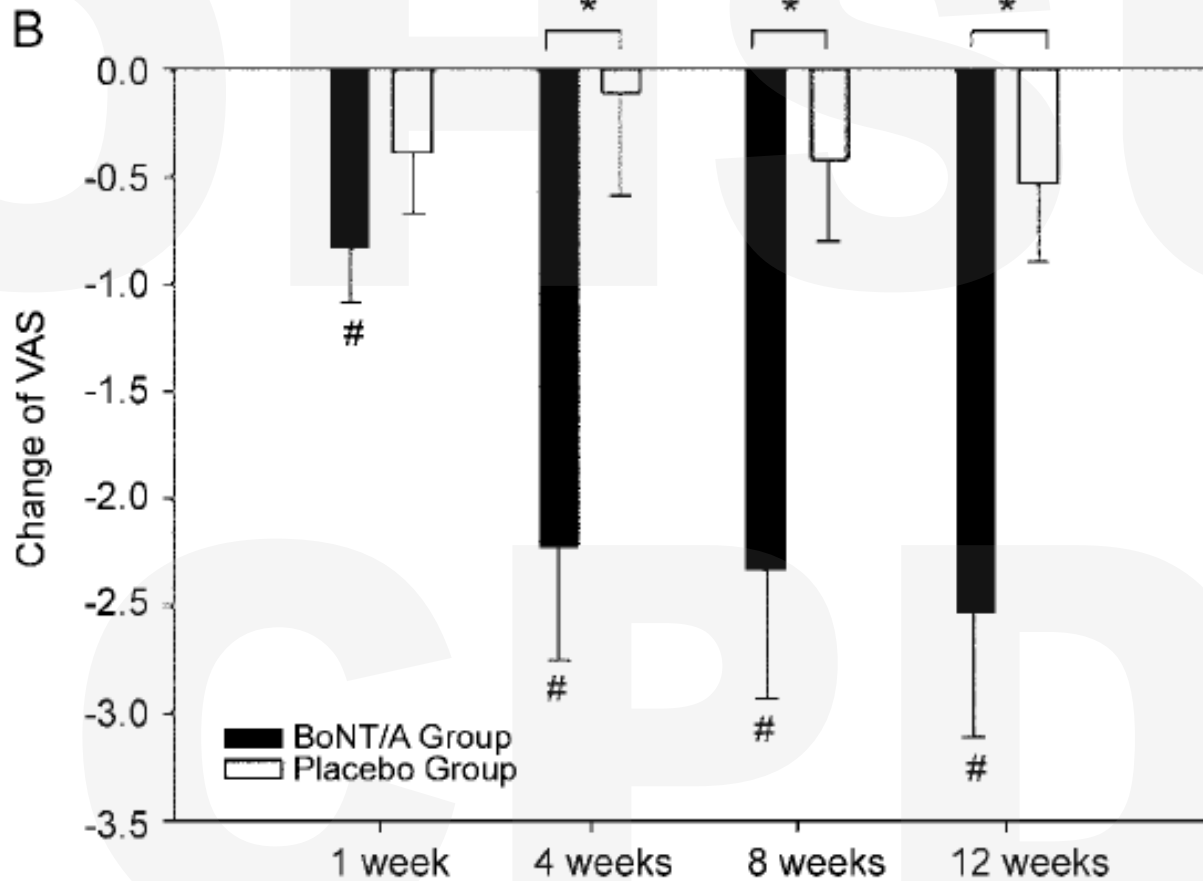
Adding in memantine

5 mg or 10 mg daily

Sometimes 5 mg twice daily

An oral NMDA antagonist

Botulinum toxin DPN



Yuan R-Y, et al. Botulinum toxin for diabetic neuropathic pain: A randomized double-blind crossover trial. *Neurology* 2009;72:1473–1478

Suzetrigine (Journavx)

- “Jur na vix”
- VX-548
- Targets Nav 1.9
- Indicated moderate to severe acute pain
- They are using the definition of acute pain as less than 3 months.

Suzetrigine (Journavx)



Oral medication for moderate to severe acute pain in adults



Administered every 12 hours



Inhibitor of Nav1.8 (see next slide)



FDA approved on January 30th, 2025 (“Journavx®”)

Voltage Gated Na Channels

We call
these Nav

There are 9
varieties

Nav 1.1 to
Nav 1.9

Nav 1.8 is
completely in
the periphery

Why do we
like that?

Suzetrigine (Journavx)

2 Phase III Clinical Trials

Trials included over 2000 adults.

Acute pain from tummy tuck or bunion removal.

The efficacy and safety of tested against a placebo and a combination of hydrocodone

Received either JOURNAVX, placebo, or hydrocodone/acetaminophen for 48 hours following surgery.

What are we seeing?

So far not much
benefit

Statistically
significant but
not that clinically
significant

Suzetrigine Harms from Phase III Trials

- Well tolerated •
- Side effects similar to placebo •
- Lower incidence of nausea and vomiting compared with hydrocodone/APAP

Cost Comparison

Costs	Value	Source
Suzetrigine, 7-day prescription (Journavx®)	\$232.50	Vertex, Authors' calculation
HB/APAP, 7-day prescription (Multiple Brand Names)	\$10.64	US Redbook

HB/APAP: hydrocodone bitartrate/acetaminophen, US: United States

New Therapies

Other emerging therapies include **LEVI-04** (a neurotrophin-3 inhibitor for osteoarthritis) and **AP-325** (a non-opioid for neuropathic pain).

Non-psychoactive Cannabinoids: New formulations are being developed for chronic pain that avoid psychoactive effects.

Guidelines Coming.....

Acute Low Back Pain Guideline on the Way

What to expect from the AAPM's new recommendations on self-management, imaging, opioids, and more.

Dec 4, 2025 | 5 Min Read | Jessica Oswald, MD, MPH; Angie Drakulich, MA, Executive Managing Editor



Created in collaboration with the American Academy of Pain Medicine.

A clinical practice guideline for the Assessment and Treatment of Acute Low Back Pain is being developed by a multidisciplinary guideline development group (GDG), including the American Academy of Pain Medicine ([AAPM](#)). The [draft guideline](#) features recommendations based on a systematic review (PROSPERO Registration 537276) of evidence and uses Grading of Recommendation Assessment, Development, and Evaluation (GRADE) working group methodology.

The guideline focuses on [low back pain](#) that is less than 6 weeks duration, with or without radiculopathy.

Acute Low Back Pain Guidelines Coming

- **3 Areas of Recommendations**
- Core recommendations focus on the management of low back pain in three areas: self-management, clinical management, and opioid management.

How is it defined compared to acute pain?

- **Acute (<4 weeks)**
 - **Subacute (4-12 weeks).**
 - **Chronic (>12 weeks)**
-
- **Look for them on the AAPM website**
 - **(American Academy of Pain Management)**

What acute low back pain guidelines have we had?

- American College of Physicians' 2017 for noninvasive treatments
- American Physical Therapy Association's 2021 revised guidelines on interventions
- VA/DOD 2022 guidelines on diagnosis and treatment

In Conclusion.....

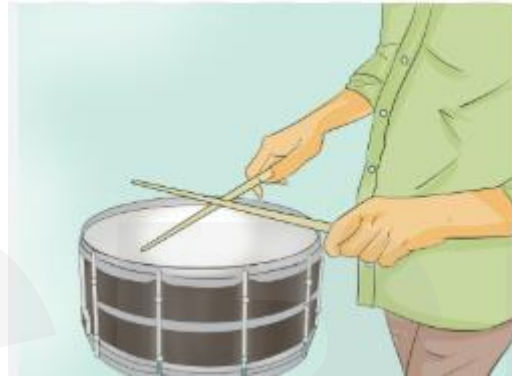


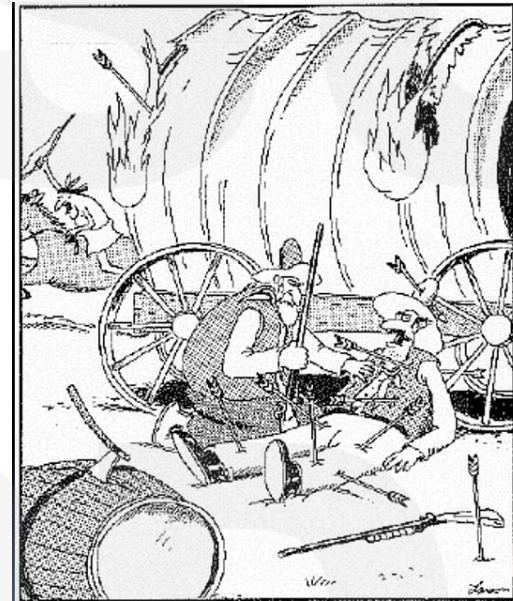
Photo compliments of WikiHow

What to be careful of ?

- Benzodiazepines and opioids-**MOST SYNERGISTIC COMBINATION**
- Buprenorphine mixed in with agonists
- Baclofen withdrawal
- Basal rate PCAs
- Too high of dosing pregabalin and gabapentin if risk factors
- Ketamine use (keep in moderation)
- Watch liver function with tizanidine and baclofen
- Too many serotonergic agents
- Move into wellness, diet, nutrition, overall health

Thank You!

mauer@ohsu.edu



"Yeah, Clem, I hurt. But y'know, it's a good kind of hurt."