It's giving...

PAIN RELIEF FOR FOR THE HOT HOSPITALIST SUMMER

Society of Hospital Medicine
Heartland Hospital Medicine Conference
Aug 22 2025

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University of Louisville

not just a season, it’s a state of mind

Disclosures

no 

financial disclosures

all ✨

I believe in empowerment - including evidence-based, equitable healthcare for all

Educational Need / Practice Gap

We have many patient groups that have their pain inadequately managed within the hospital.

The gap occurs from bias, system/structural issues, lack of knowledge and research

what are we serving today? ✨

Objectives

upon completion of this educational activity, you will be able to:

1. Evaluate the effectiveness and limitations of pharmacologic and procedural pain management modalities - including ketamine, lidocaine infusions, regional nerve blocks and emerging agents such as suzetrigine.

2. Analyze population-specific pain management needs in complex hospitalized patients, including those with chronic pancreatitis, sickle cell disease and opioid use disorder.

3. Integrate emerging technologies such as AI-driven risk prediction models and virtual reality into individualized, multimodal inpatient pain management plans.

Expected Outcomes

1

We will feel more capable in using adjuvant therapy in difficult cases.

2

We will consider newer medications, procedures and technology to improve the pain of our patients.

for the grownups...

Lost in the slay?

— Gen Z to Attending Translator

vibe check ✔

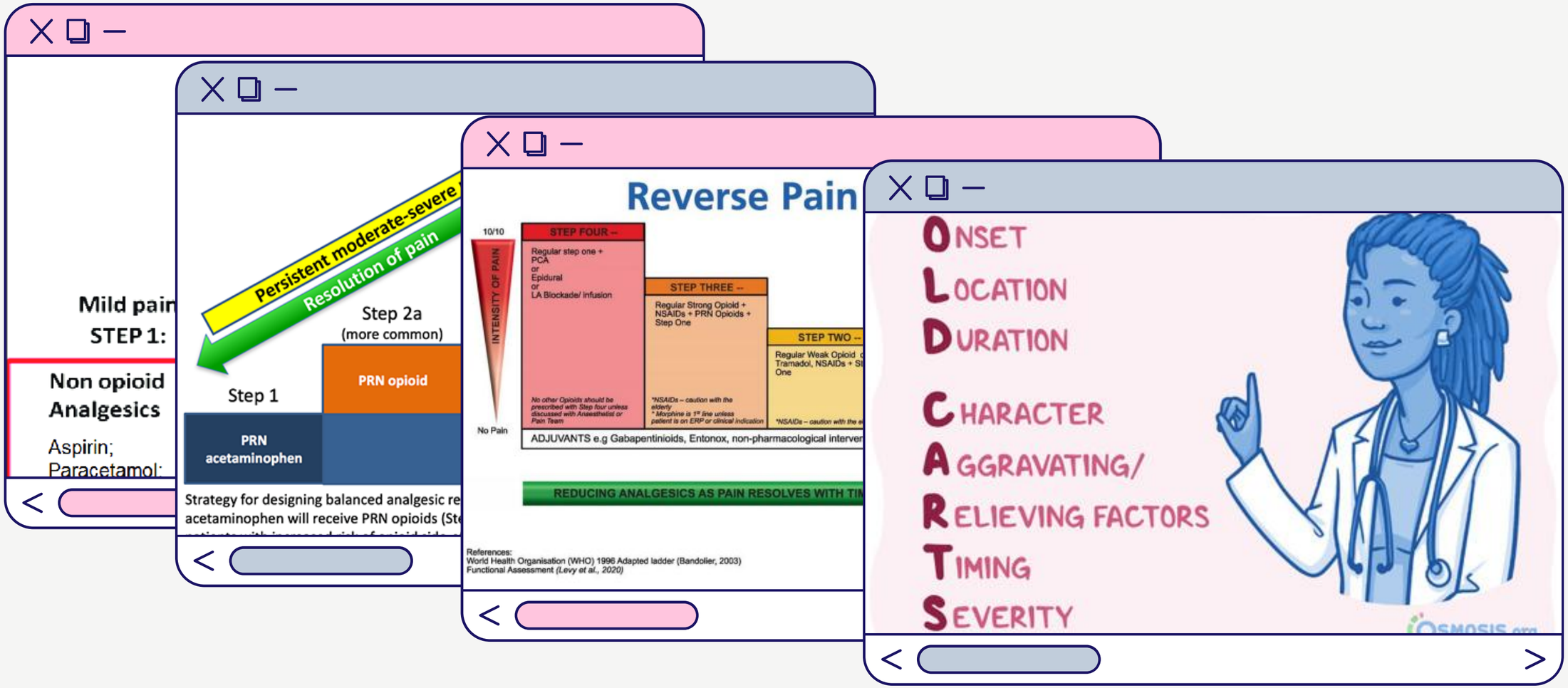
What's your pain management style?

It's getting a little hot in here - a patient in the ED with acute abdominal pain was given IV morphine and toradol for pain in the ED and now is admitted to your service in uncontrollable pain...

it's giving... 💎

...crystal clear strategy

be a basics boss and wield that multimodal pain plan



Dowell D et al. CDC Clinical Practice Guideline for Prescribing Opioids for Pain, 2022. MMWR Recomm Rep. 2022 Nov 4;71(3)

CDC 2022

Excluded SCD, cancer-related, end-of-life pain

Excluded ED and hospitalized patients

To prescribe or not
What to prescribe
Duration and f/u
Risk/harm

Addressed non-pharm options and disparities

When poll is active respond at **PollEv.com/laurabishop749** Send **laurabishop749** and your message to **37607**

What are some populations in which you find managing pain challenging?

Loading...

Nobody has responded yet.

Hang tight! Responses are coming in.

clock it...

Patients with Challenging Pain

acute on chronic pain

- prior pain med history or dependency
- pychological comorbidities

complicated history with healthcare system

- structural / systemic issues
- minimal coping skills

Chronic Pancreatitis

57-year-old man with chronic pancreatitis is admitted with an acute flare. He has used intermittent oxycodone for years but says it "barely touches the pain" and constipation has been increasing. Received IV morphine in the ED.

Creatinine is normal, LFTs mildly elevated.

What is your pain plan?
Any non-opioid adjuvants?
Any disease specific options?

When poll is active respond at **PollEv.com/laurabishop749**

57yo w chronic pancreatitis and acute flare, intermittent outpt opioids "barely" touch the pain. IV Morphine in the ED, nl GFR, slightly increased LFTs. What's your next step?

Nobody has responded yet.

Hang tight! Responses are coming in.

It’s giving…opioid optional chic 💊

Chronic Pancreatitis

57-year-old man with chronic pancreatitis is admitted with an acute flare. He has used intermittent oxycodone for years but says it “barely touches the pain” and constipation has been increasing. Received IV morphine in the ED.

Creatinine is normal, LFTs mildly elevated.

Continue multimodal coverage with scheduled NSAIDs/Tylenol and prn opiates perhaps escalating to PCA

Adjuvants

Gabapentin / pregabalin / SNRI
NSAIDS / Acetaminophen (IV 😲)

Antioxidants

Evidence isn’t highly supportive

Interventions

Celiac plexus block / Neurolysis
Spinal cord stimulation - limited efficacy
ESWL /ERCP

Psychotherapy

CBT

Table 3. Interventions for Pain in Chronic Pancreatitis.*

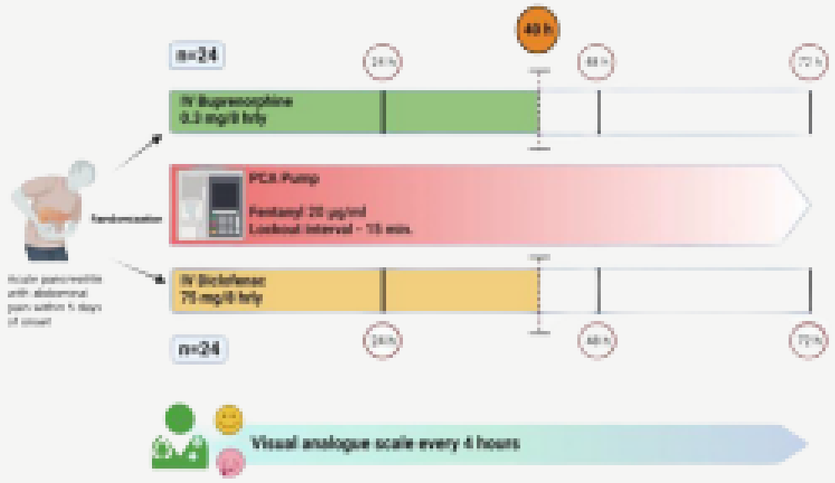
Intervention	Indications	Comments
Analgesics: NSAIDs, tramadol, and opioids	Initial treatment	Use WHO pain ladder (for mild pain, nonopioid analgesics; for moderate pain, weak opioids; and for severe pain, potent opioids with nonsteroidal agents, the adjuvants listed below, or both); consider alternate interventions if opioids are used continuously
Neuromodulators	Within months after narcotic use, neuropathic pain	Can be used along with structural therapies; pregabalin superior to placebo in randomized, controlled trial[31]; gabapentin and selective epinephrine or norepinephrine reuptake inhibitors also recommended by experts
Antioxidants: vitamins A, C, and E, selenium, and methionine	At any stage to reduce painful attacks as well as days with pain	Reduced pain in meta-analyses of randomized trials of supplements[33,34] (although trials were small, and one showed no benefit); randomized trial showed benefit in combination with neuromodulators[35]; can be combined with any intervention; generally given as fixed-dose combination; increased intake from dietary sources may be encouraged but has not been formally studied
Treatment with pancreatic-enzyme replacement	Reduce bloating, cramping, and borborygmi	Meta-analyses show no benefit for pain relief[36]
Pain procedures: celiac plexus block, spinal cord stimulation, and acupuncture	Neuropathic pain, usually after endoscopic and surgical interventions, if no relief	Evidence limited for acupuncture,[37] spinal cord stimulation,[38] and celiac plexus block[9]
Addiction treatment, counseling, and psychosocial interventions (cognitive behavioral therapy, stress management and resilience training, and pain rehabilitation)	Neuropathic pain, along with or after endoscopic or surgical interventions	Abstinence from alcohol may protect against recurrence of attacks, slow deterioration of pancreatic function, and reduce mortality[39]; randomized, controlled trial showed benefit of Internet-based cognitive behavioral therapy[40]; psychosocial or behavioral therapy effective for chronic pain[41] and useful for motivated patients, especially those with clinically significant disability from disease, addictions, or poor resilience

* NSAIDs denotes nonsteroidal antiinflammatory drugs, and WHO World Health Organization.

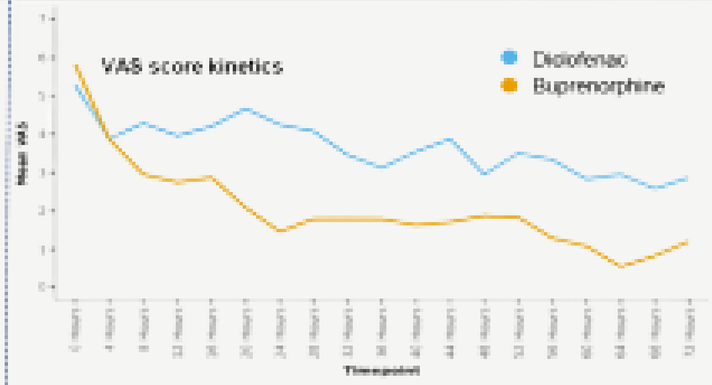
Buprenorphine Versus Diclofenac for Pain Relief in Acute Pancreatitis: A Double-Blinded Randomized Controlled Trial. Saini M et al. Clin Gastroenterol Hepatol. 2024 Mar;22(3):532-541.e8

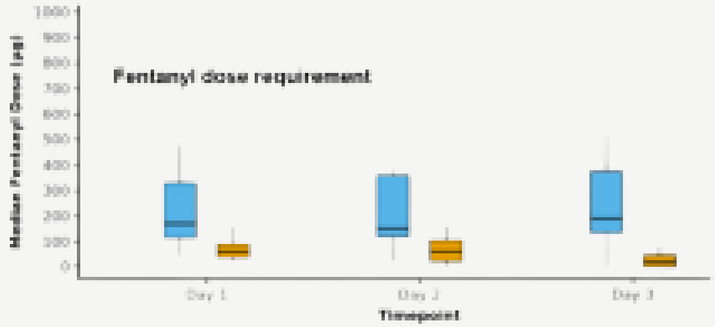
Buprenorphine versus diclofenac for pain relief in acute pancreatitis: A double-blinded randomized-controlled trial

Study Design

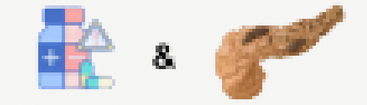


Outcomes





Total Demands for rescue analgesia	Diclofenac	Buprenorphine	p value
Day 1	11 (2.75 – 22.25)	3 (2 – 5.25)	<0.001
Day 2	9 (6-22.75)	3 (1-6)	<0.001
Day 3	12.5 (7-25.75)	1 (0-3)	<0.001



Buprenorphine ≈ Diclofenac

Conclusion: Buprenorphine was more effective and with similar safety profile compared to diclofenac for pain management in patients with acute pancreatitis

Clinical Gastroenterology and Hepatology

Pain in Chronic Pancreatitis. van Zeggeren L, et al. Pain Practice: Off J Wor Inst Pain 2025;25(4):e70030.

Interventions

celiac block

- AGA and ACG recommend against routine use
- can consider in severe, refractory pain that substantially impairs QOL
- Limited long-term efficacy (weeks to months)

spinal cord stimulation

- AAPM suggests very careful patient selection with exclusion of psych comorbidities, SUD or untreated infection
- Some QOL improvement ~2y
- Significant risks

pancreatectomy

- Up to 40% of patients continue long-term opiate use post op ⟶ centrally-mediated pain syndrome
- More common in those with preop opiate use and alcoholic/nonhereditary pancreatitis

Chronic Pancreatitis. Vege SS, Chari ST. NEJM. 2022;386(9):869-878

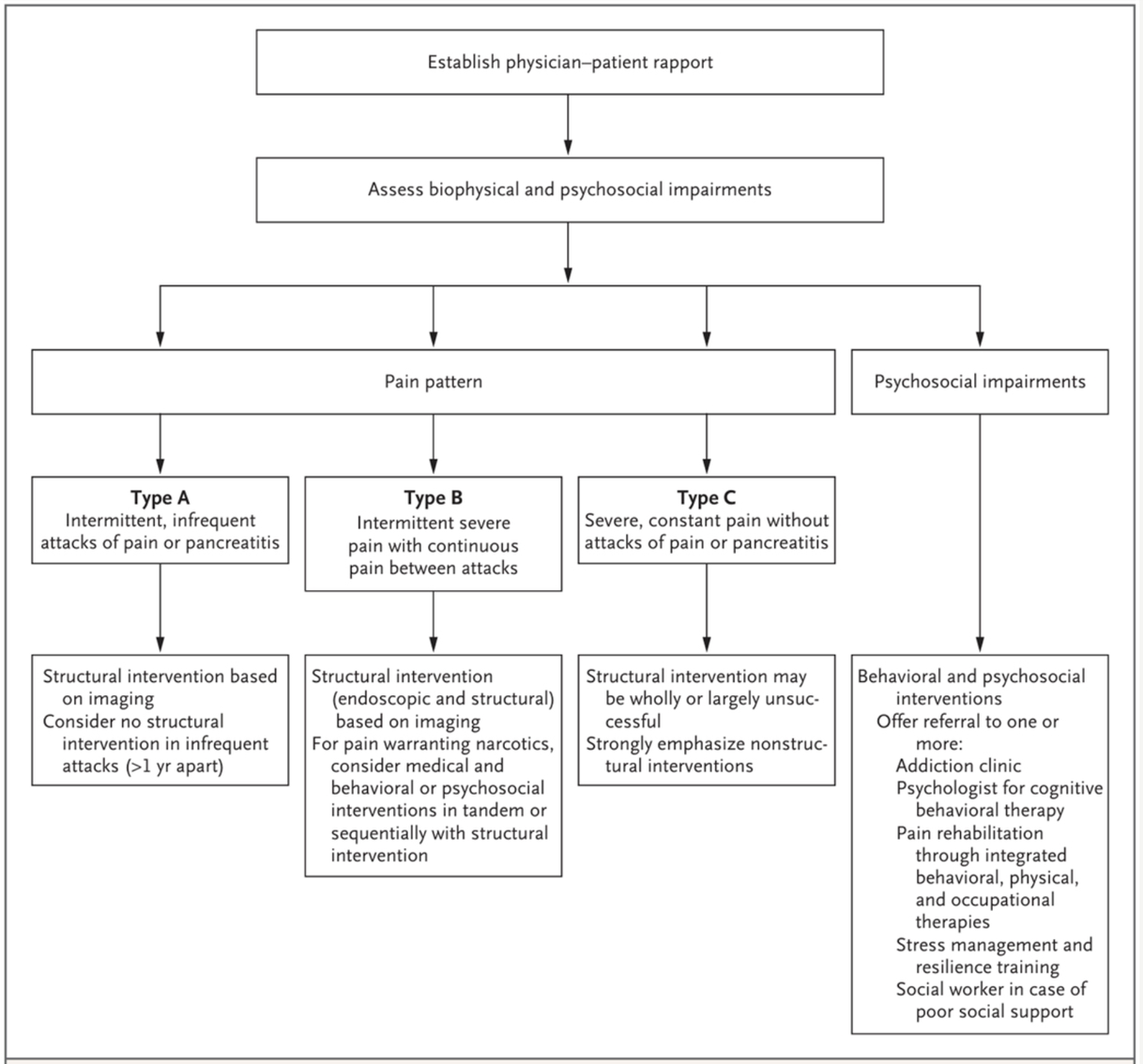
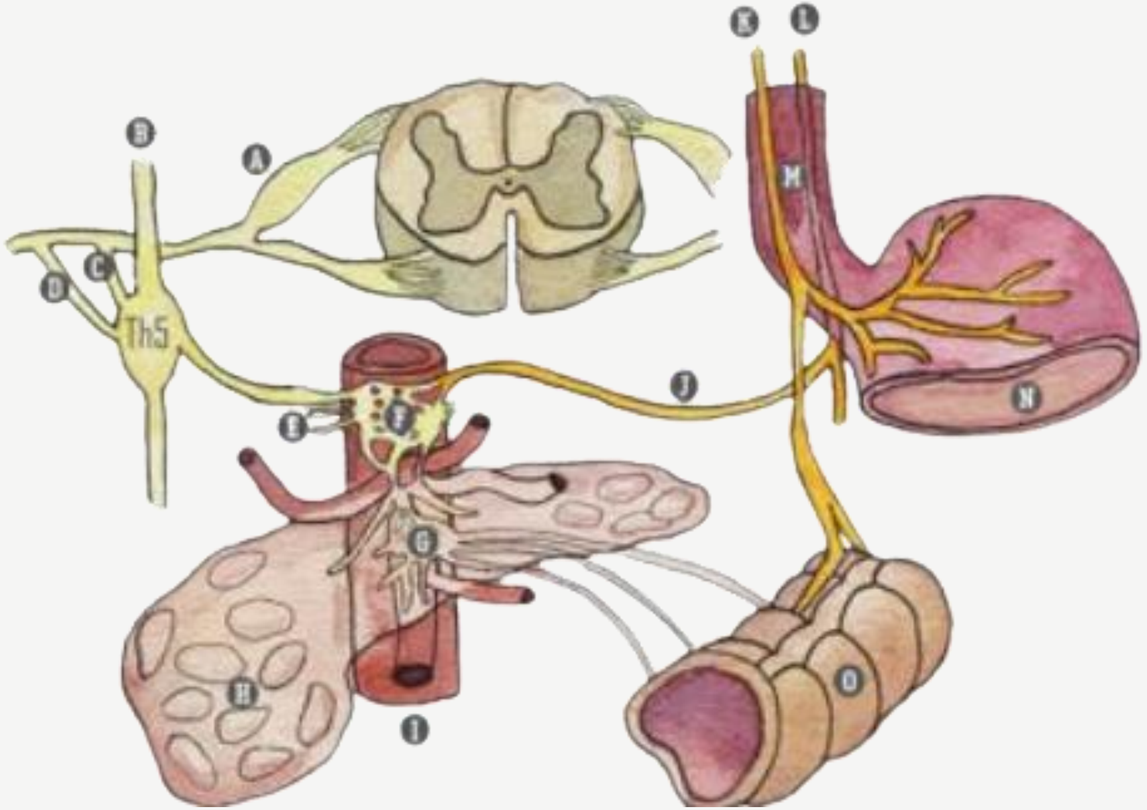


Figure 2. An Integrated Approach to Biophysical and Psychosocial Impairments.

Pain in Chronic Pancreatitis. van Zeggeren L, et al. Pain Practice: Off J Wor Inst Pain 2025;25(4):e70030.



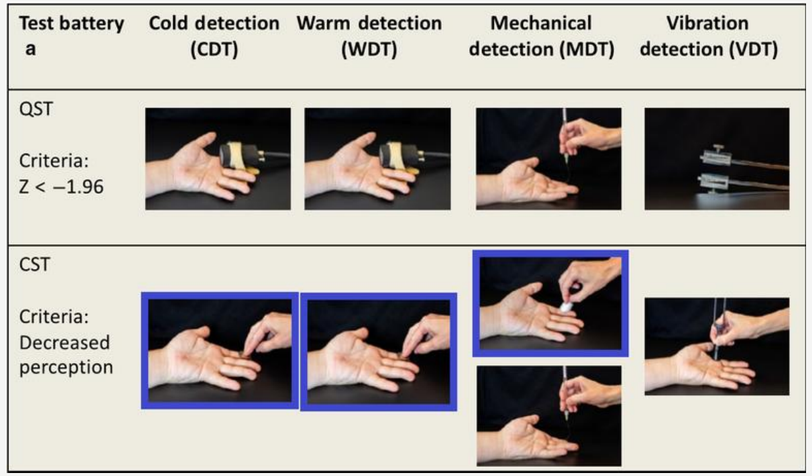
CBT

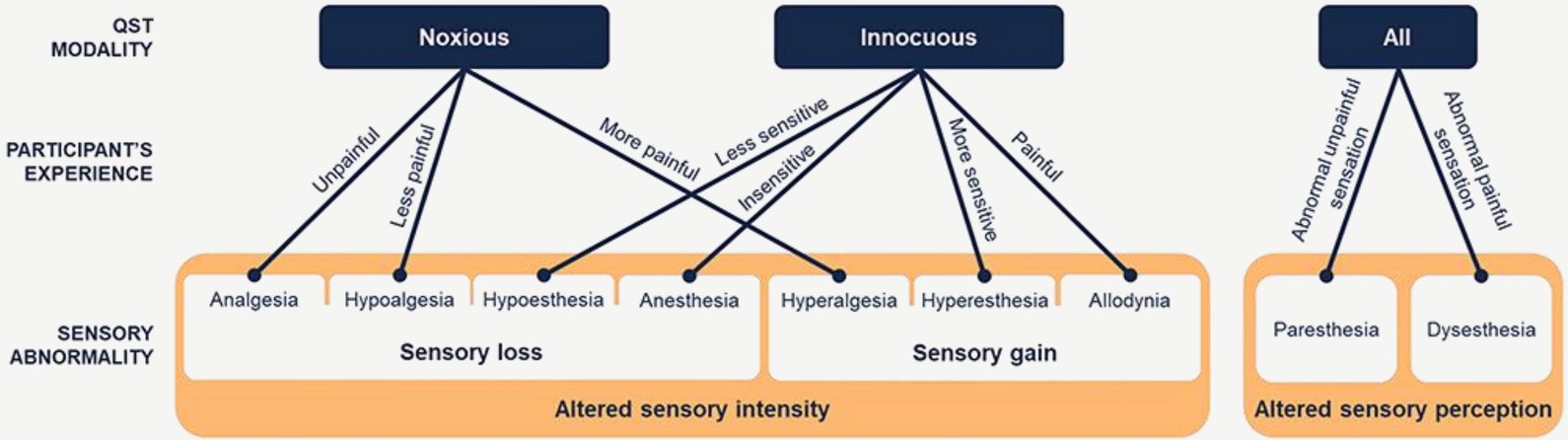
- Brain-gut psychotherapy can also focus on dual diagnoses
- Targeting maladaptive pain beliefs, catastrophizing/ hypervigilance, avoidance behaviors that amplify pain and disability
- cognitive reframing, exposure, relaxation training, flexible problem solving
- CCBT has strong evidence
  - painTRAINER
  - WebMAP
- Recommendations to start early and not use as a “last resort”

Concurrent validity of a low-cost and time-efficient clinical sensory test battery to evaluate somatosensory dysfunction. Zhu, GC et al. (2019). Eur J Pain, 23(10), 1826-1838.

Quantitative sensory testing

- Earlier identification of central sensitization
- patient-specific plan to build resilience, motivation, social support to overcome disability from disease
- Initially mainly a lab-based test





Say less...🔕

acute on chronic pain

Keep Doing

- Lean into gabapentin/pregabalin/ venlafaxine
- Keep going with NSAIDs / Tylenol
- Consider psychosocial factors and type of pain pattern
- Move away from a 0-10 pain score
- Set expectations of limited duration of relief with interventions
- Reach for CBT early and often

Stay Tuned

- IV Bup vs. other modalities
- Ketamine infusions
- IV lidocaine
- Online CBT
- QST may help tailor a regimen

POV you're the hospitalist

Sickle Cell VOC

A 34-year-old woman with sickle cell disease is admitted with a vaso-occlusive crisis and worsening back pain. Her night didn't go well, with some nursing issues. She is anxious, tearful, and says "I'm in a lot of pain and I know you don't believe me" when you enter. Has been on home dose of oral oxy and has prn IV dilaudid. What are your next steps?

What is your pain plan?
Non-opioid adjuvants?
Any disease specific options?
Non-pharm assists?

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Bias Radar. What's one implicit or system-level bias you've seen (or caught yourself having) when caring for a patient with sickle cell pain?

Nobody has responded yet.

Hang tight! Responses are coming in.

It’s giving..sickle cell siren

ASH 2020 Guideline

Opiates

Avoid in chronic pain
Rapid, individualized titration in acute pain

NSAIDS

5-7d course in addition to opioids

Subanesthetic Ketamine

Adjunct for refractory pain

Regional Blocks

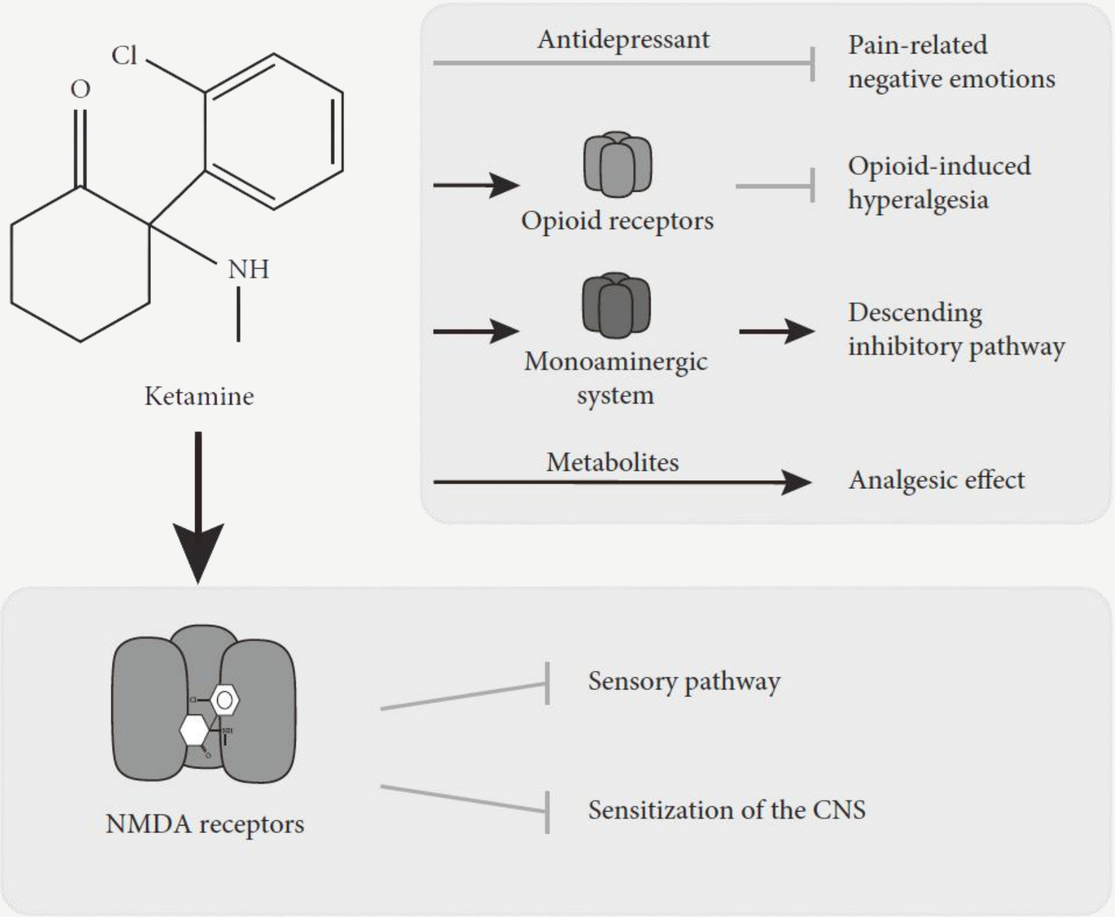
Epidural or peripheral nerve block for hip/leg/back pain

ASH 2020 Guidelines for Sickle Cell Disease- Management of Acute and Chronic Pain. Brandow et al Blood Advances. 2020;4(12)-2656-2701

Application of Ketamine in Pain Management and the Underlying Mechanism.
Ma X. Pain Research & Management. 2023

ketamine

special K, but make it evidence-based 💉



Consensus Guidelines on the Use of Intravenous Ketamine Infusions for Acute Pain Management From the American Society of Regional Anesthesia and Pain Medicine, the American Academy of Pain Medicine, and the American Society of Anesthesiologists. Schwenk ES, Viscusi ER, Buvanendran A, et al. Regional Anesthesia and Pain Medicine. 2018;43(5):456-466

Ketamine: when the PCA is not giving

WHO

- Surgical patients:
  - expected severe postop pain
  - OD patients
  - Severe OSA
- SCD

WHY

- Reduction in pain scores
- Moderate decrease in opioids
- Decreased postop nausea/vomiting

HOW MUCH

- Bolus <0.35mg/kg
- Infusion starting 0.1-0.3 mg/kg/h
- Infusion < 1mg/kg/h out of the ICU

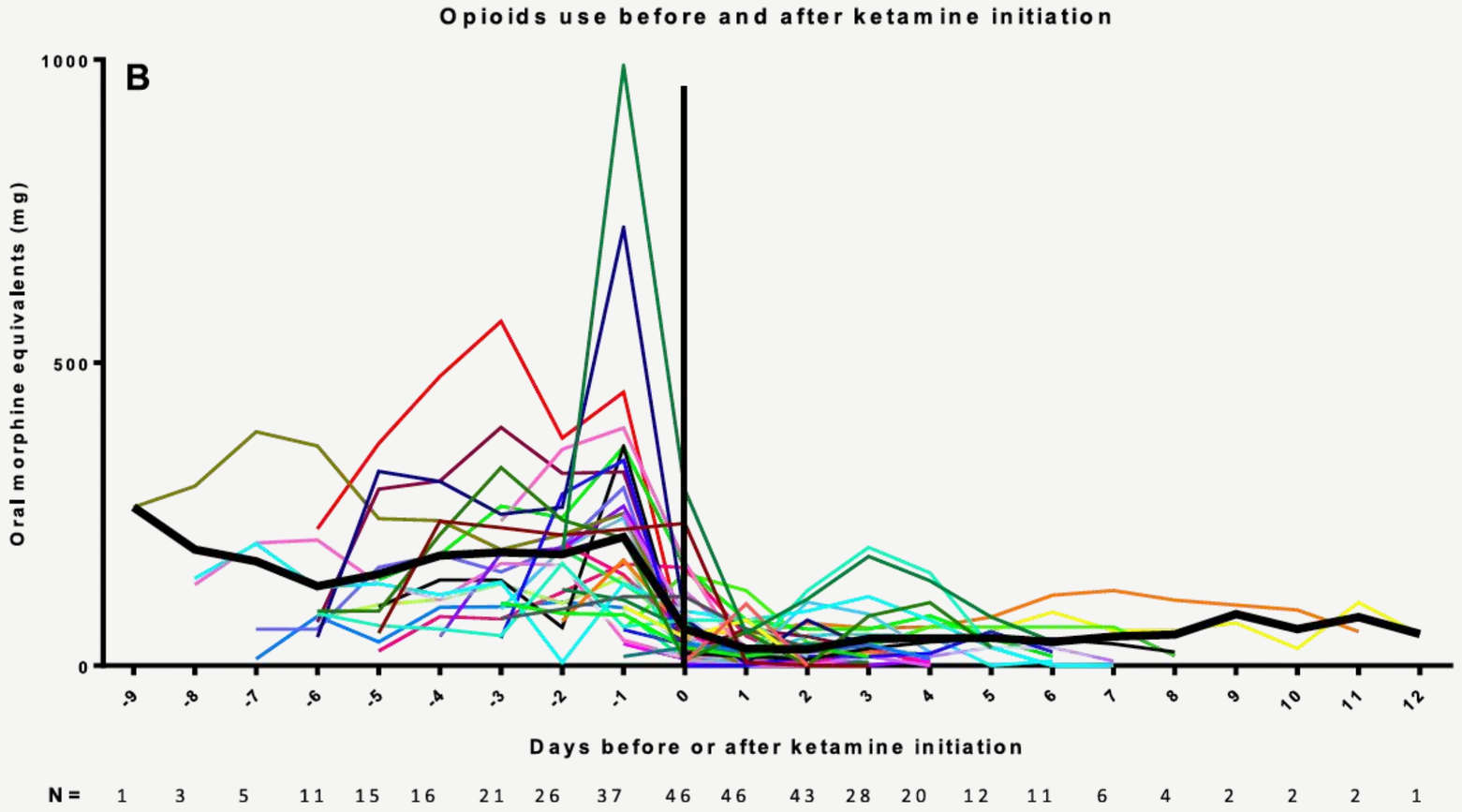
WHEN NOT TO

- No sig adverse events at subtherapeutic doses but smaller studies with lots of exclusions
- Nausea, vomiting
- Vivid dreams, dissociation

Ketamine for Pain in Sickle Cell Disease Reduces Opioid Usage.

Onyebuchi et al. J Pain and Symptom Management. 2024;67(3):e169-e175.

- Retrospective review of pediatric patients with SCD at Texas Children's 2018-2019
- N = 46
- Decrease in pain scores within 24h
- Decrease in opioid usage
- Main adverse effect hallucinations



it’s giving...

Mind-Body Main Character Energy

Massage, yoga, TENS, VR, guided AV relaxation, cognitive/behavioral management

Reducing Bias

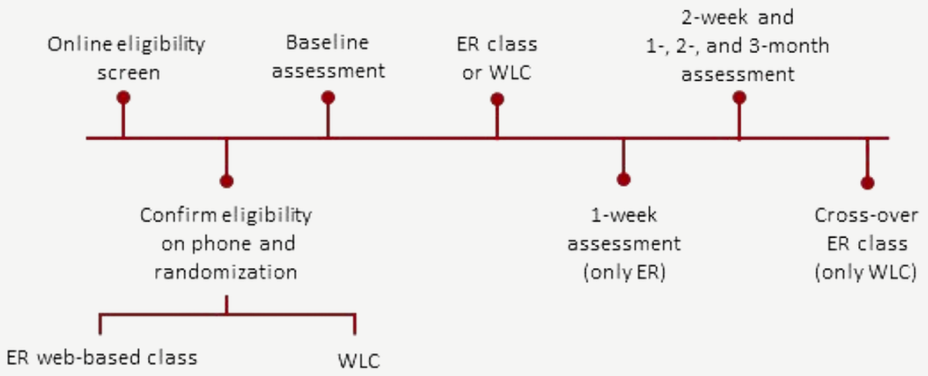
- Patient-centered communication, validation to improve trust and adherence

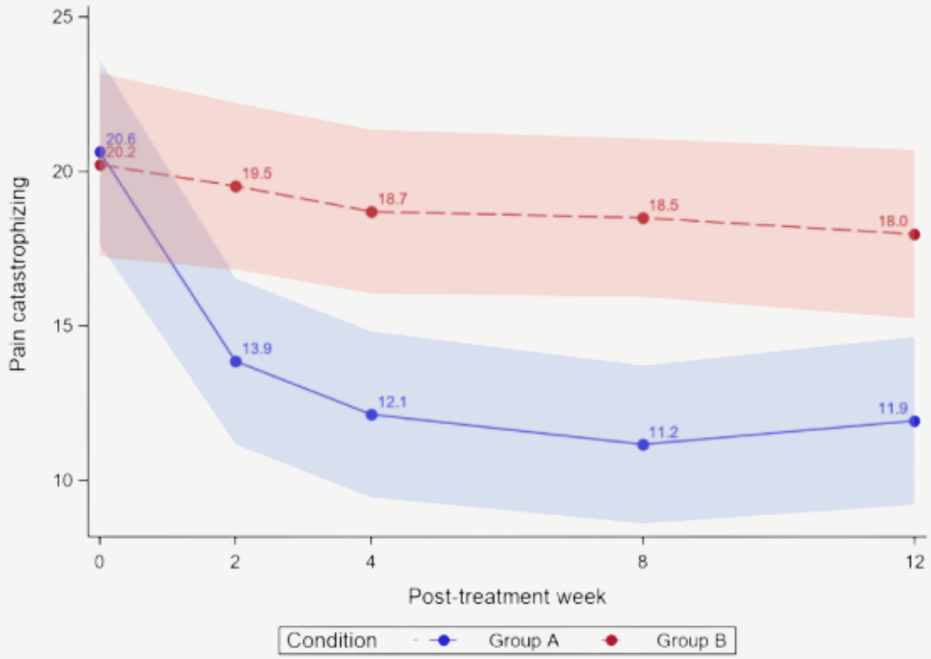
Mind-Body Integration

- Guided imagery, music therapy, mindfulness based stress reduction (MBSR)

Team-Approach

- Psychology, social work, integrative medicine and outpatient team





Empowered Relief

Hospital = Wellness Space? Hot Take

One and Done

- Single zoom session for empowered relief
- ~100 patients with chronic pain

No Crumbs

High patient satisfaction and engagement

Lasting Power

- Sustained improvement up to 3 months for pain catastrophizing
- Short-term improvements pain bothersomeness, sleep disruption, anxiety

Efficacy of a Single-Session "Empowered Relief" Zoom-Delivered Group Intervention for Chronic Pain: Randomized Controlled Trial Conducted During the COVID-19 Pandemic. Ziadni et al Journ of Med Int Res. 2021;23(9

virtual reality, real slay

VR based behavioral interventions

- Immersive, skills-based programs (EaseVRx)
- Typically chronic programs

- Reduction in pain intensity, pain-related interference in life
- Improvements in sleep disturbance and physical function

Virtual Reality for Pain Management in Hospitalized Patients With Cancer: A Randomized Controlled Trial. Groninger H, et al Cancer. 2024;130(14):2552-2560.

Setup

140 patients randomized
Hospitalist, ortho, psych, GI
In-room wellness channel vs. VR
Samsung Occulus
10 min TID + prn x 48h

Results

Baseline daily pain scores dropped by 3 points with VR vs. about 0.93 in the TV watchers

- Maintained after 48 and 72h

Title	Content Description	Screenshot
Guided Relaxation	Look around a scenic mountain and ocean environment while being guided through meditations.	
Bear Blast	Take a journey through animated worlds to blast as many bears and targets as possible.	
Crossing Worlds	A visual tone poem showcasing a transcendent spectrum of austere landscapes from the American desert.	
Feeding Frenzy	Launch different types of food to hungry animals before time runs out.	
Wright Flyer	This VR experience allows the viewer to fly a 1905 Wright Flyer over Huffman Prairie	

Fig 3. Titles, descriptions, and screenshots of VR experiences available to patients in the experimental group. Complete list of content provided in supplemental materials (S1 Fig). Republished under a CC BY license, with permission from AppliedVR, original copyright 2016.

https://doi.org/10.1371/journal.pone.0219115.g003

Say less...🔕

sickle cell pain

Keep Doing

- Continue rapidly treating pain and reassessing
- Ensure NSAIDs are on board
- PCA with patient-demand doses
- Use ancillary psychology and therapy services

Stay Tuned

- Standardized approaches to Ketamine
- Intranasal ketamine?
- Single-session pain retraining / empowerment
- VR programs

Opiate Use Disorder

32yo man with hx OUD on bup-naloxone 16mg daily presented with fever and progressive leg weakness and is admitted with spinal epidural abscess. He is anxious about postop pain, “Last time I was in the hospital, they didn’t give me enough pain meds bc of my suboxone.”

What is your pain plan?
Any non-opioid adjuvants?
Any disease specific options?
Non-pharm assists?

From PACU to power moves 🔪

OUD perioperative plan

continue buprenorphine
- consider split dosing
- addiction/pain medicine if available

chat with anesthesia about ERAS
- nerve blocks
- intraop ketamine, lidocaine, magnesium infusions
- cryoneurolysis or RF neurolysis

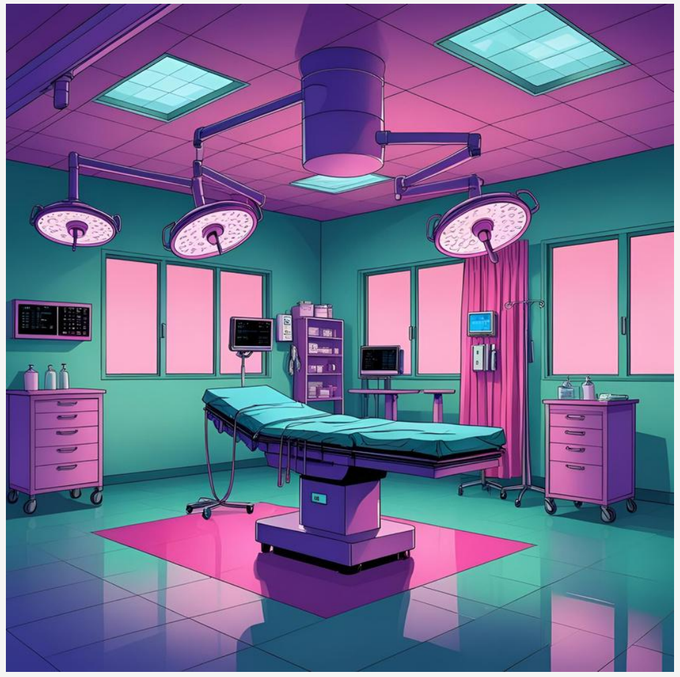
keep up the multimodal plan
- acetaminophen, NSAIDs, ketamine, gabapentin
- prn opioids are safe but may require higher doses

patient-specific goals
- preop expectations, options
- safe discharge planning with naloxone and a clear taper if needed

Am Soc for Enhan Rec and Periop Quality Initiative Joint Consensus Statement on Perioperative Management of Patients on Preoperative Opioid Therapy. Edwards DA, Hedrick TL, Jayaram J, et al. Anesthesia and Analgesia. 2019;129(2):553-566

eras

periop panic button



1. Stabilize

If stable while taking medication for OUD, continue (including perioperatively)

Assess for and treat acute withdrawal early
- Address cravings and patient-identified high-priority symptoms
- Rely on patient history and objective signs and symptoms to characterize withdrawal syndromes
- Recognize that appropriate medication doses vary based on patient use patterns, tolerance, and potency of the local drug supply
- Recognize high prevalence of multiple substance use (intentional and/or contaminant)

Treat acute pain
- Recognize that patients with OUD have high opioid tolerance and need higher opioid doses, especially if using fentanyl
- Utilize multimodal pain management

Have respectful, direct, clear conversations about hospital policies and expectations, including in-hospital substance use
- Emphasize shared goal of effective withdrawal and pain management
- Ensure patients know where and how to discard sharps
- Outline hospital policies and expectations for patient and staff safety
- Explore strategies to manage anxiety, stress, and boredom associated with hospitalization

Recognize that stigmatizing experiences and trauma within health care settings are common
- Communicate respectfully and directly
- Use nonstigmatizing language, avoiding terms like *dirty* or *junkie*
- Ask permission before touching patients or their belongings
- Respect and value patients' lived experience and expertise
- Engage in shared decision-making

2. Continue OUD care

Diagnose OUD: assess the 4 C's of craving, compulsion, consequences, and loss of control; rely on *DSM-5* criteria for formal diagnosis

Discuss patient goals, priorities, and needs
- Seek to build trust with patients to promote a proactive and collaborative approach to care

Offer MOUD to all patients with OUD
- Recognize that patients may not be able or interested in discussing MOUD until after withdrawal and pain are effectively managed
- Recognize that MOUD choices are highly personal; patient preference and postdischarge feasibility and access should guide choice
- Discuss discharge considerations early, including barriers to methadone and buprenorphine

Offer psychosocial interventions, such as peer support, when available

In the event of in-hospital substance possession or use
- Avoid automatic administrative discharge
- Ask patients about triggers for use (eg, undertreated pain, withdrawal); address when possible
- Avoid automatically calling security
- Document objective findings in medical record in clear, nonjudgmental way
- Avoid passing on suspicions which may be stigmatizing

Offer all patients harm reduction interventions, such as
- Overdose prevention education (eg, avoiding mixing substances, carrying naloxone, using with others nearby)
- Safer use education (eg, smoking vs injecting, especially if indwelling catheter or high risk for bloodstream, skin/soft tissue infection)

Distribute naloxone to all patients with OUD

3. Anticipate and support care transitions

Consider unique postacute care needs associated with MOUD
- Contact methadone clinic to assure continuity; OTP should continue hospital dose, further titrating if necessary
- Arrange next-day intake with OTP and address barriers to daily OTP visits, such as transportation, other medical follow-up
- Provide discharge buprenorphine prescription or medication in-hand
- Provide buprenorphine follow-up appointment
- Coordinate MOUD with skilled nursing facility, involving OTP if methadone

Recognize that patients with OUD and serious medical illness face many barriers to community care
- Engage patients in shared decision-making
- Tailor care plans to minimize work and burden on patients
- Advocate that health systems (eg OTP, skilled nursing, ambulatory clinics) accommodate OUD and other medical needs

Manage pain
- Treat acute pain with clinically appropriate doses at discharge; do not withhold opioids solely because of a history of OUD

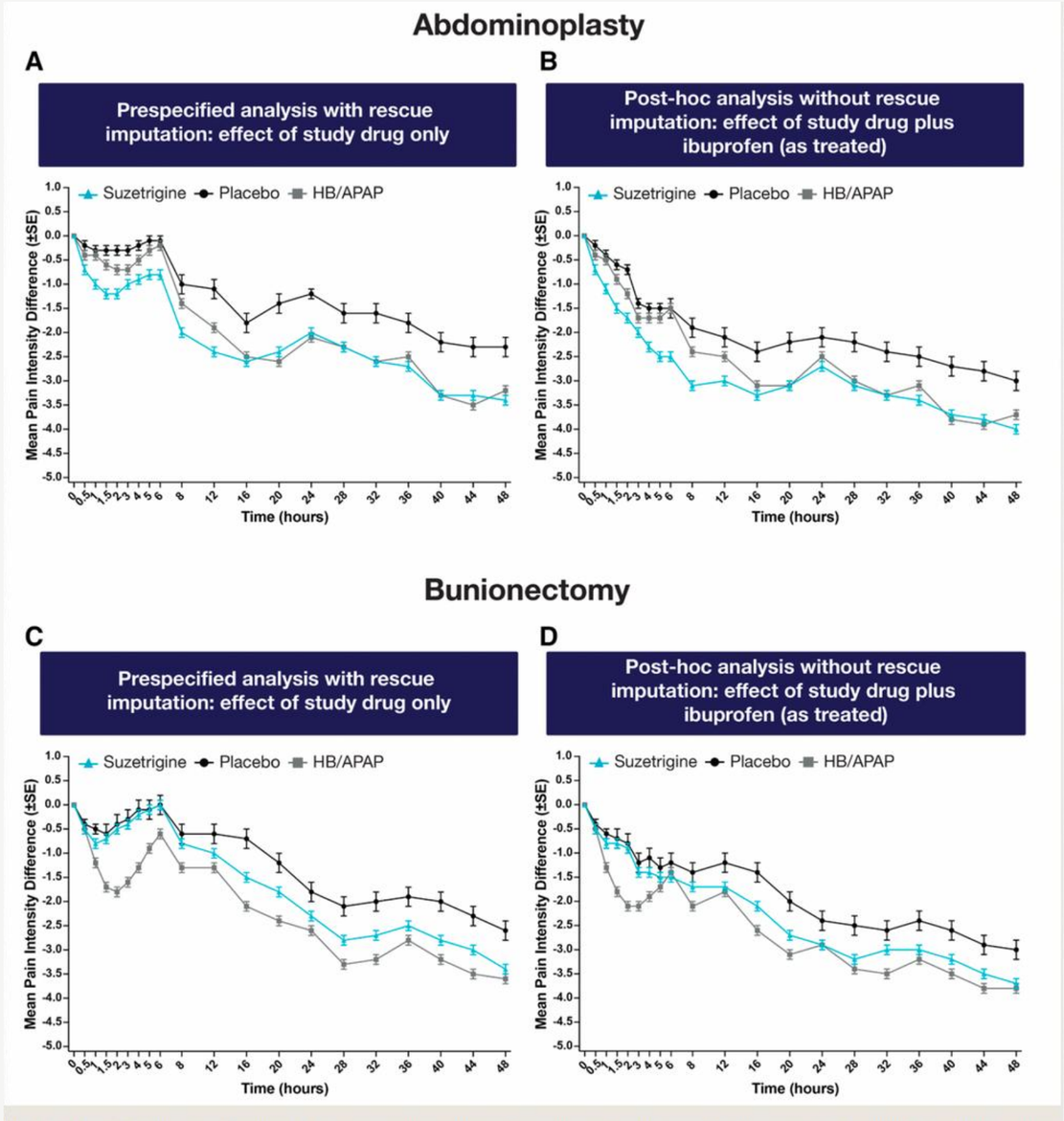
Service linkage and ongoing engagement
- Support linkage to appropriate level of community OUD care based on patient preferences, needs, and service availability
- Refer to community harm reduction services
- Offer care navigation, transportation assistance, housing, technology assistance (eg, mobile phones) when needed and possible

suzetrigine

JOURNAVX

- Selectively inhibits NaV1.8 voltage-gated sodium channel
- Expressed in peripheral pain-sensing neurons but not centrally so likely decreased addiction potential
- 100mg loading dose then 50mgQ12h
- Currently labeled for acute pain use: shortest duration necessary and not studied beyond 14d
- Most common adverse effects are headache and constipation
- $15.50/ pill or $420/week but GoodRx $30

is suzetrigine sus? 😳



suzetrigine

JOURNAVX

- ~1000 patients post-op elective surgeries
- statistically sig and clinically meaningful reduction in acute pain compaired to placebo
- Not superior to hydro/apap but more rapid relief
- Need more head to head trials in more diverse populations

Suzetrigine, a Nonopioid Na v 1.8 Inhibitor for Treatment of Moderate-to-Severe Acute Pain: Two Phase 3 Randomized Clinical Trials. Bertoch , et al. Anes. 2025;142(6):1085-1099.

Say less...🔕

OUD and pain

Keep Doing

- Continue existing MOUD or work with SUD services to start
- May need higher doses of fentanyl or hydromorphone
- Talk to anesthesia / pain early for ERAS including non-opioid interventions
- Solid aftercare - narcan + plan

Stay Tuned

- Discuss suzetrigine with your pharmacist
- VR and online CBT programs to reduce opioid use
- AI prediction to better establish pain and predict opioid use

When poll is active respond at **PollEv.com/laurabishop749**

What would you trust AI to help you with today?

Predicting risk for opioid misuse/addiction

Optimizing med selection for pain

Predicting inpatient pain trajectories

Creating personalized discharge pain plans

LOL, not anything

SEE MORE

the future is here 🔮

Pain sensing

Pain Modeling

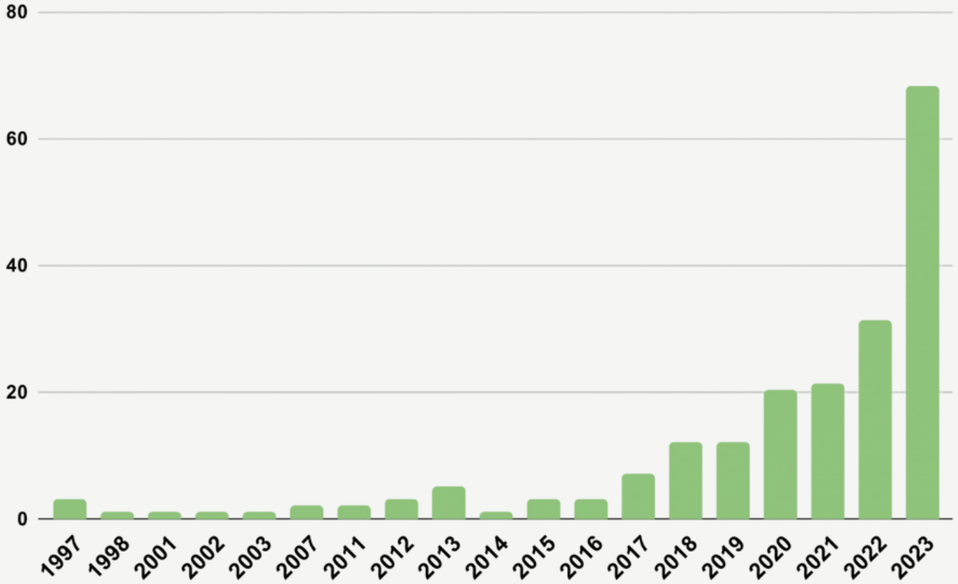
Risk Stratification

Personalized pain dashboards

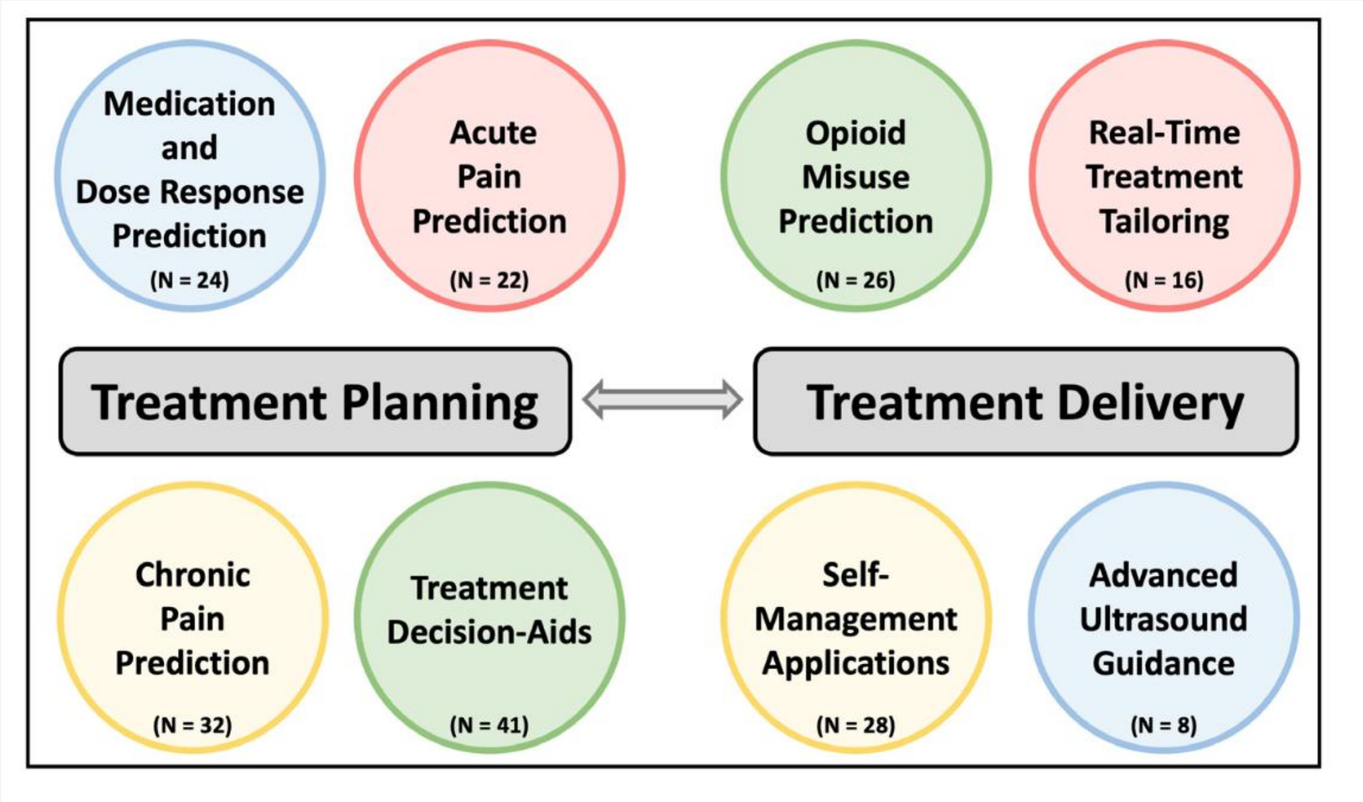
Moving Towards the Use of Artificial Intelligence in Pain Management.
Antel, et al . Eur J Pain (London, England). 2025;29(3):e4748.

AI + Pain

it's lit...erature



Dates of publication of included articles

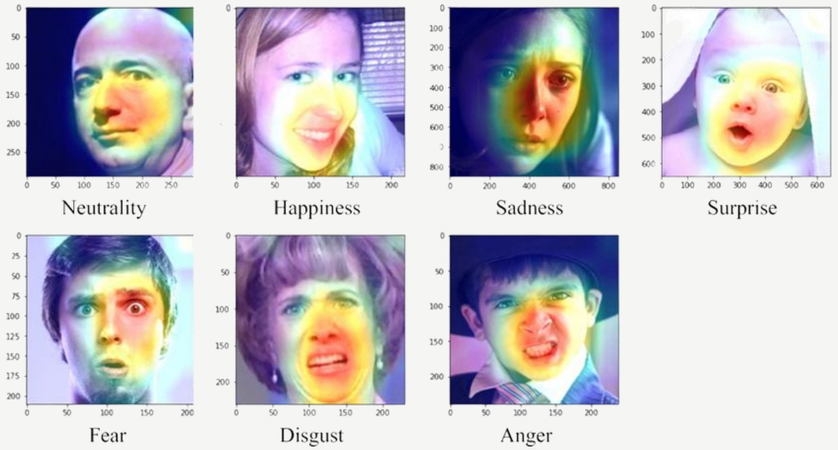


medicine but make it fashion

Pain sensing

Affectiva Q Sensor

- wearable sensor with machine learning algorithms
- detects opioid use with 99% accuracy



Facial expression analysis

- Model-based Computer Vision System
- EMG

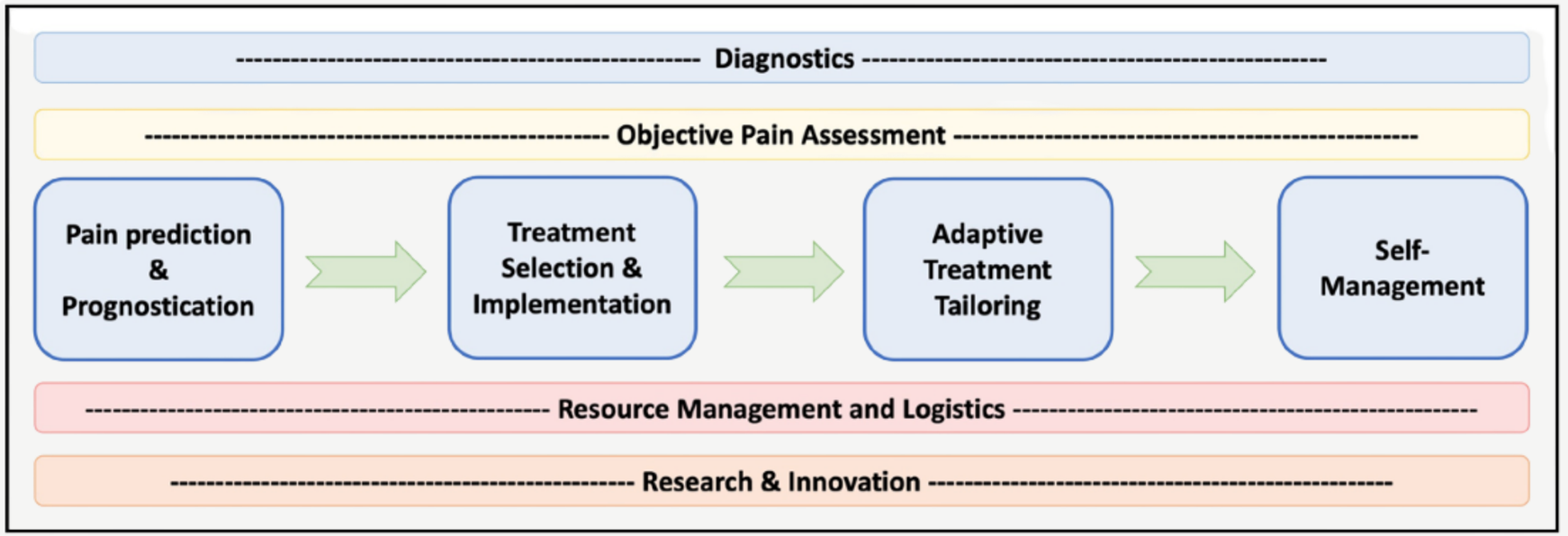
Additional Inputs

- ECG
- Skin conductance
- Oxygen Sat
- EEG
- Self-reported pain

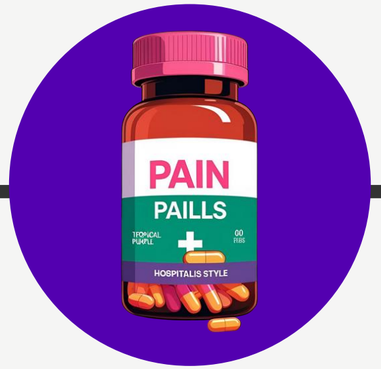
Moving Towards the Use of Artificial Intelligence in Pain Management.
Antel, et al . Eur J Pain (London, England). 2025;29(3):e4748.

AI + Pain

Predictive Pain Princess 👸

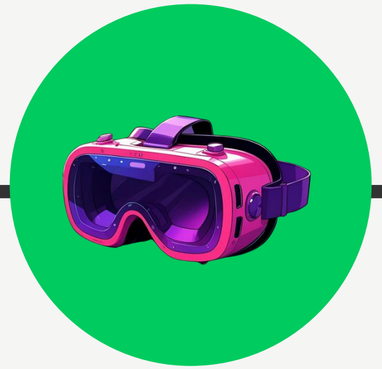


final pain plan fit check



- Multimodal therapy
- Gaba/SNRI adjuvants
- Ketamine can help
- interventions in chronic pancreatitis aren’t durable

- Continue MOUD but may need to increase affinity/strength of opiates
- Engage anesthesia/ addiction/pain teams early
- suzetrigine may help reduce opiates



- CBT/empowerment training for centralization of pain
- VR may help perceived pain
- Watch for AI wearables to help detect/predict pain and help build plans

Receipts / Resources

Thank you

you’re dismissed

if medically appropriate

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#HotHospitalistSummer

🎵 Title	🎤 Artist	🩹 Why It Works
Hot Girl Summer	Megan Thee Stallion ft. Nicki Minaj	The namesake, obviously. Peak confidence.
Good as Hell	Lizzo	Post-ketamine vibes. For that patient who finally gets pain control.
Espresso	Sabrina Carpenter	Fast-acting, just like your go-to analgesics. Also, cheeky perfection.
I’m That Girl	Beyoncé	Channel this energy when advocating for pain protocols.
Anti-Hero	Taylor Swift	For when you're the one ordering methadone on discharge.
Kill Bill	SZA	Cathartic energy. Pairs well with case studies on pain and trauma.
Confident	Demi Lovato	For your post-block strut down the hallway.
Savage Remix	Megan Thee Stallion & Beyoncé	Hospitalist by day, baddie by night.
Painkiller	Ruel	It’s literally called Painkiller.
About Damn Time	Lizzo	When your patient finally gets that PCA ordered.
Flowers	Miley Cyrus	Empowerment vibes post-op or post-breakup.