

Pain Self-Management in People Living with HIV

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DISCLOSURES:

- **Scientific Advisory Board Member**
 - Neuropathix Inc
 - Immgenuity Inc
- **Consultant**
 - Eli-Lilly
 - Lexicon
 - Tris
 - Vertex
- **UpToDate (Royalties)**

Outline

- Pain definition/conceptualization
- Types of pain experienced by people living with HIV
- Pain evaluation and treatment
- Focus on key features of self-management

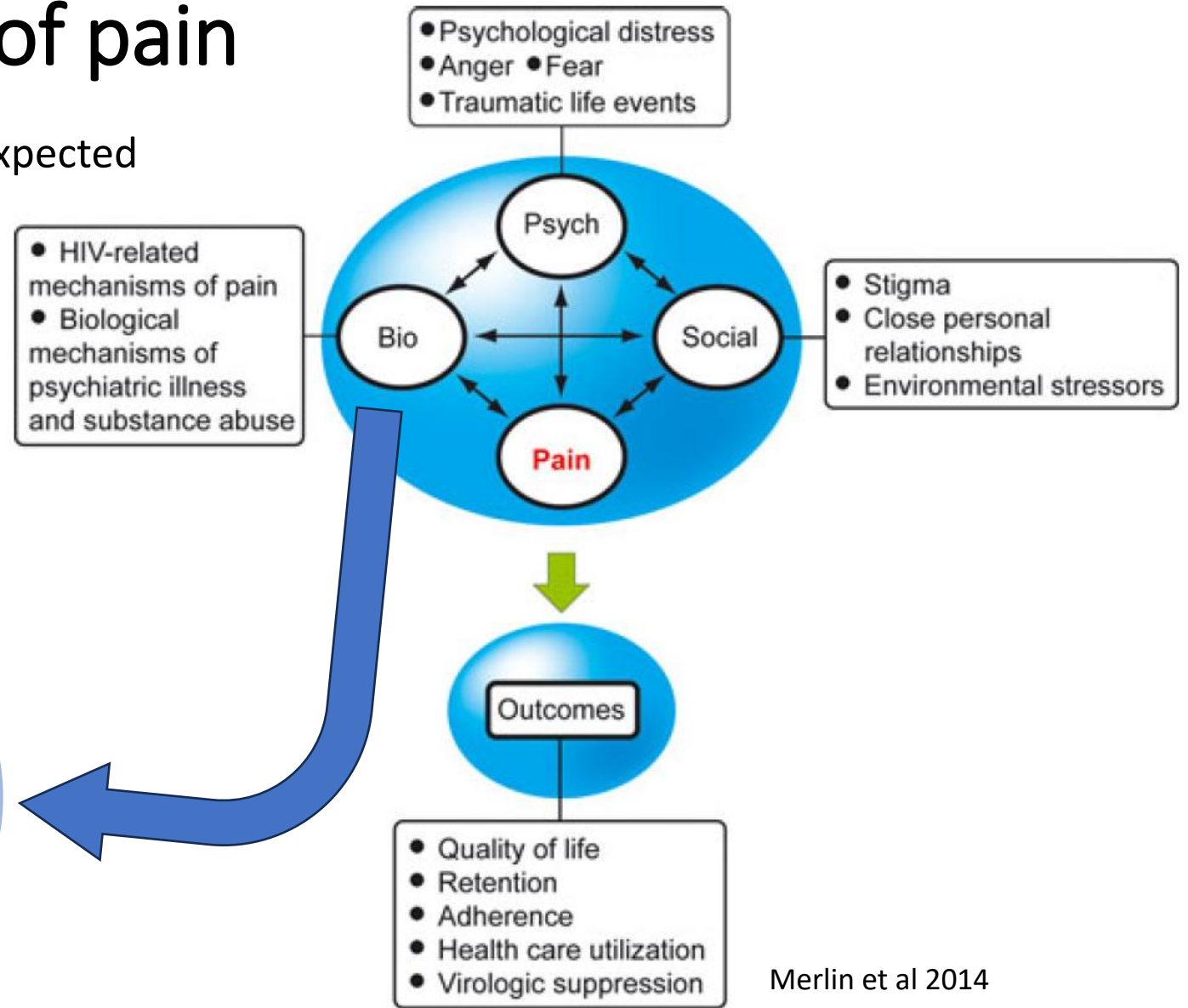
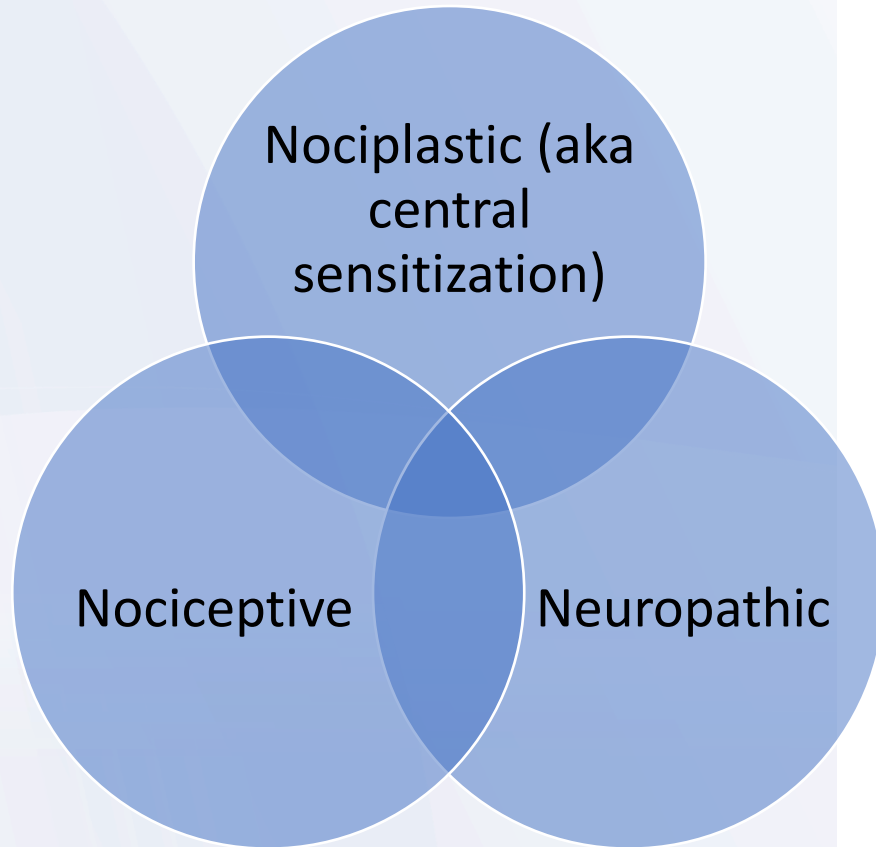
What is pain?

“An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage.”

- Pain is always a personal experience that is influenced to varying degrees by biological, psychological, and social factors.
- Pain and nociception are different phenomena. Pain cannot be inferred solely from activity in sensory neurons.
- Through their life experiences, individuals learn the concept of pain.
- A person’s report of an experience as pain should be respected.
- Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being.
- Verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain.

Biopsychosocial model of pain

Chronic pain: pain lasting >3m (i.e., beyond expected healing time for acute injuries)



Merlin et al 2014

Pain disorders in people with HIV

Research Paper

PAIN

Chronic pain disorders in HIV primary care: clinical characteristics and association with healthcare utilization

Jocelyn M. Jiao, Eric So, Jebakaran Jebakumar, Mary Catherine George, David M. Simpson, Jessica Robinson-Papp*

Most common types of pain:

- Spinal pain
- Joint pain
- Neuropathic pain
- Headache
- Muscle pain
- Pelvic pain

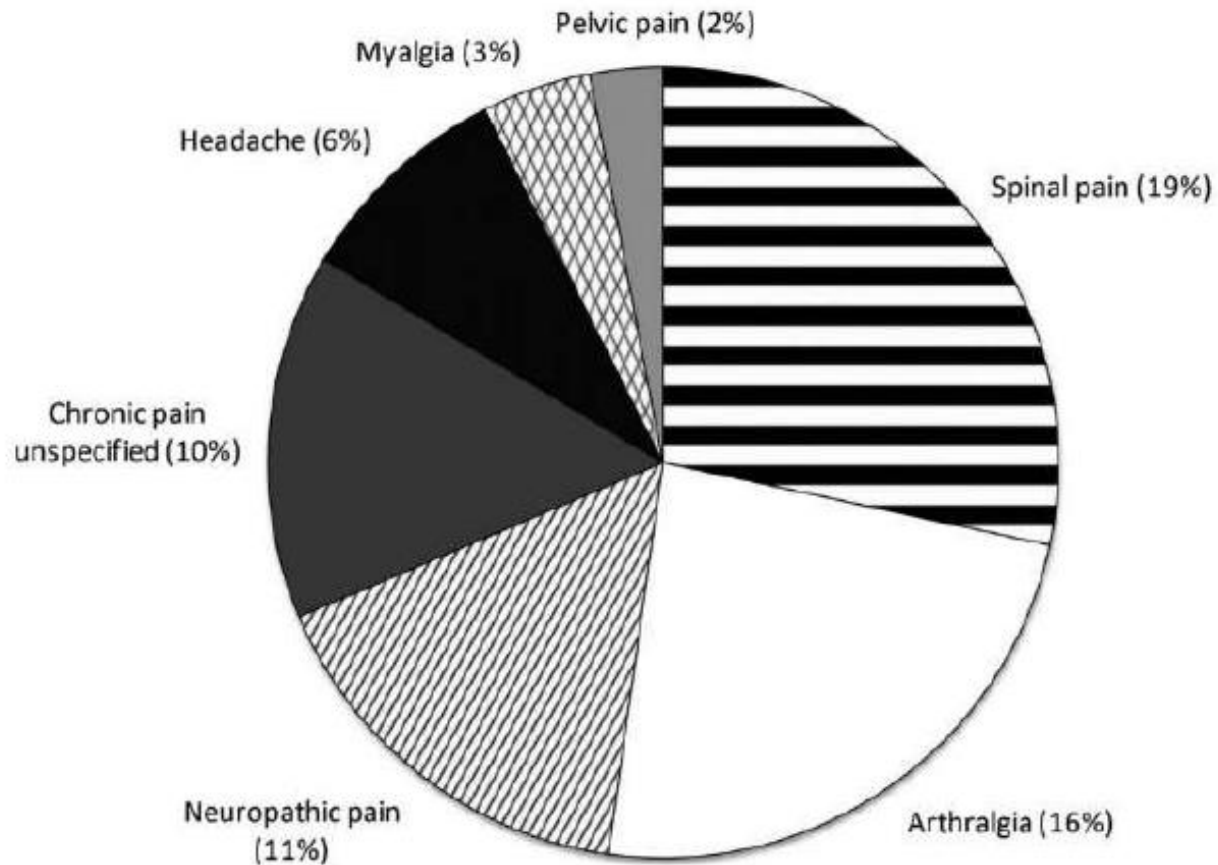


Figure 2. Common chronic painful diagnoses in treated HIV.

People living with HIV and chronic pain are complex

- Overlapping pain syndromes
- Multiple co-morbidities
- Higher healthcare utilization

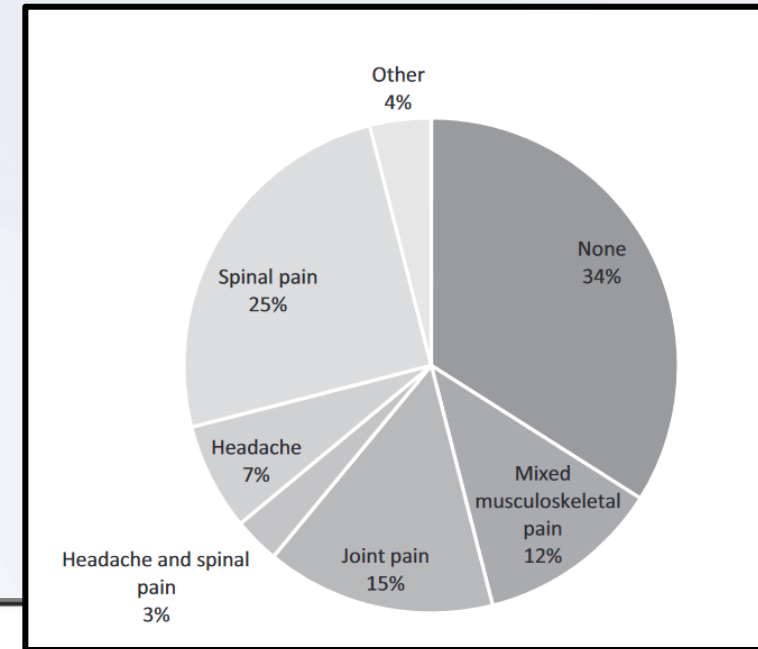


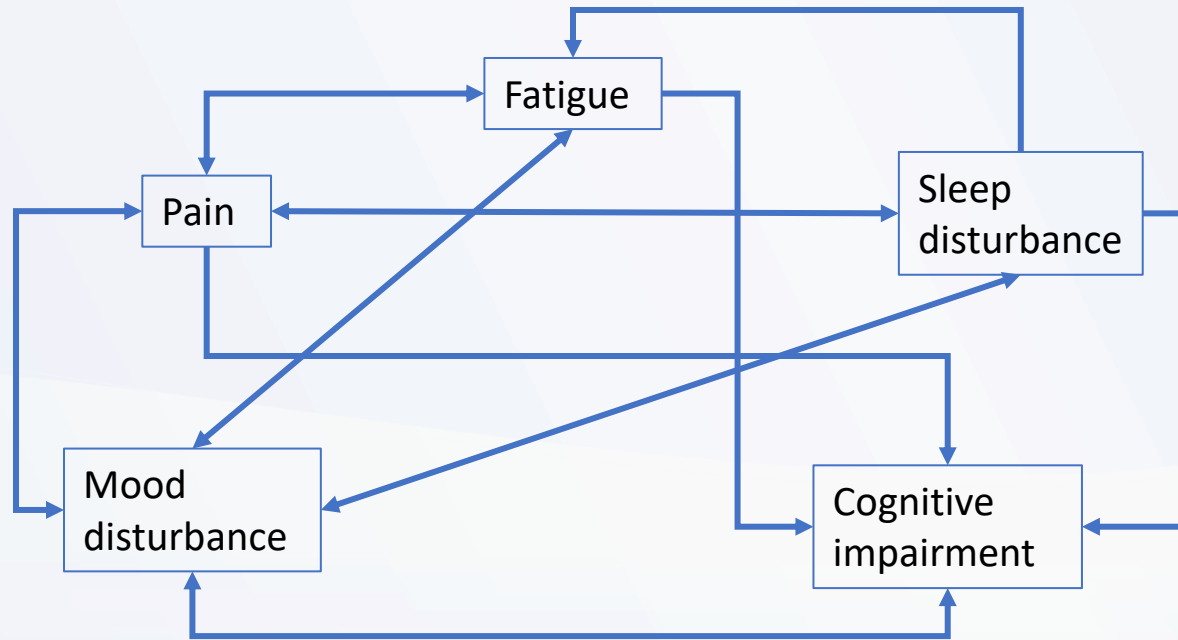
Table 1

Characteristics of HIV-infected patients with and without a chronic pain diagnosis*.

	All patients (n = 638)	Patients with a chronic pain diagnosis (n = 252)	Patients without a chronic pain diagnosis (n = 386)	P
VACS index	28 ± 21	30 ± 20	25 ± 21	<0.001
Mean numeric pain score rating (on a scale of 0–10)	2.1 ± 2.1	3.2 ± 2.1	1.4 ± 1.8	<0.001
Healthcare utilization				
Inpatient admissions	0.3 ± 1.0	0.5 ± 1.3	0.2 ± 0.70	0.001
Total days hospitalized	1.9 ± 7.3	2.4 ± 8.7	1.5 ± 6.2	0.001
ED visits	0.9 ± 2.1	1.4 ± 3.0	0.6 ± 1.2	<0.001
Radiological procedures	2.6 ± 4.8	3.7 ± 5.4	1.9 ± 4.2	<0.001
Surgical procedures	0.1 ± 0.4	0.2 ± 0.5	0.1 ± 0.4	0.001
Comorbid substance use diagnosis	32%	43%	25%	<0.001
Comorbid psychiatric diagnosis	48%	63%	39%	<0.001
Total number of psychiatric and substance use diagnoses	1.3 ± 1.6	1.9 ± 1.9	1.0 ± 1.3	<0.001

Symptoms co-occurring with pain

- Multiple distinct symptoms common among PWH with ability to overlap and exacerbate one another



<https://doi.org/10.1016/j.jpainsymman.2009.05.013>

Pain evaluation and treatment

Principles of chronic pain evaluation

- Diagnostic evaluation for new pain conditions is warranted
- Once pain is chronic, additional diagnostic evaluation should be limited
- Expectation should be set that finding a specific “cause” of the pain in the painful area of the body may not be possible
- The idea of pain as a neurologic disorder can be introduced (this is tricky to explain well): central sensitization like the volume being turned up
- Sometimes the diagnosis “fibromyalgia” can be helpful

Treating pain in PWH

- No FDA approved treatments specific for pain in PLWH
- There are some HIV-specific guidelines (HIVMA/IDSA)
- Can also follow guidelines for general population and/or similar conditions (e.g., diabetic neuropathy for patients with HIV-associated neuropathic pain)
- Important to set reasonable goals. Pain freedom is unlikely.
- Two general categories:
 - Non-pharmacologic
 - Pharmacologic

2017 HIVMA of IDSA Clinical Practice Guideline for the Management of Chronic Pain in Patients Living With HIV

R. Douglas Bruce,¹ Jessica Merlin,² Paula J. Lum,³ Ebtessam Ahmed,⁴ Carla Alexander,⁵ Amanda H. Corbett,⁶ Kathleen Foley,⁷ Kate Leonard,⁸ Glenn Jordan Treisman,⁹ and Peter Selwyn¹⁰

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Pain has always been an important part of human immunodeficiency virus (HIV) disease and its experience for patients. In this guideline, we review the types of chronic pain commonly seen among persons living with HIV (PLWH) and review the limited evidence base for treatment of chronic noncancer pain in this population. We also review the management of chronic pain in special populations of PLWH, including persons with substance use and mental health disorders. Finally, a general review of possible pharmacokinetic interactions is included to assist the HIV clinician in the treatment of chronic pain in this population.

It is important to realize that guidelines cannot always account for individual variation among patients. They are not intended to supplant physician judgment with respect to particular patients or special clinical situations. The Infectious Diseases Society of America considers adherence to these guidelines to be voluntary, with the ultimate determination regarding their application to be made by the physician in the light of each patient's individual circumstances.

- Total of 51 recommendations on: screening for pain and comorbid psychiatric disorders, pharmacologic and non-pharmacologic treatments.
- Most had low to moderate evidence

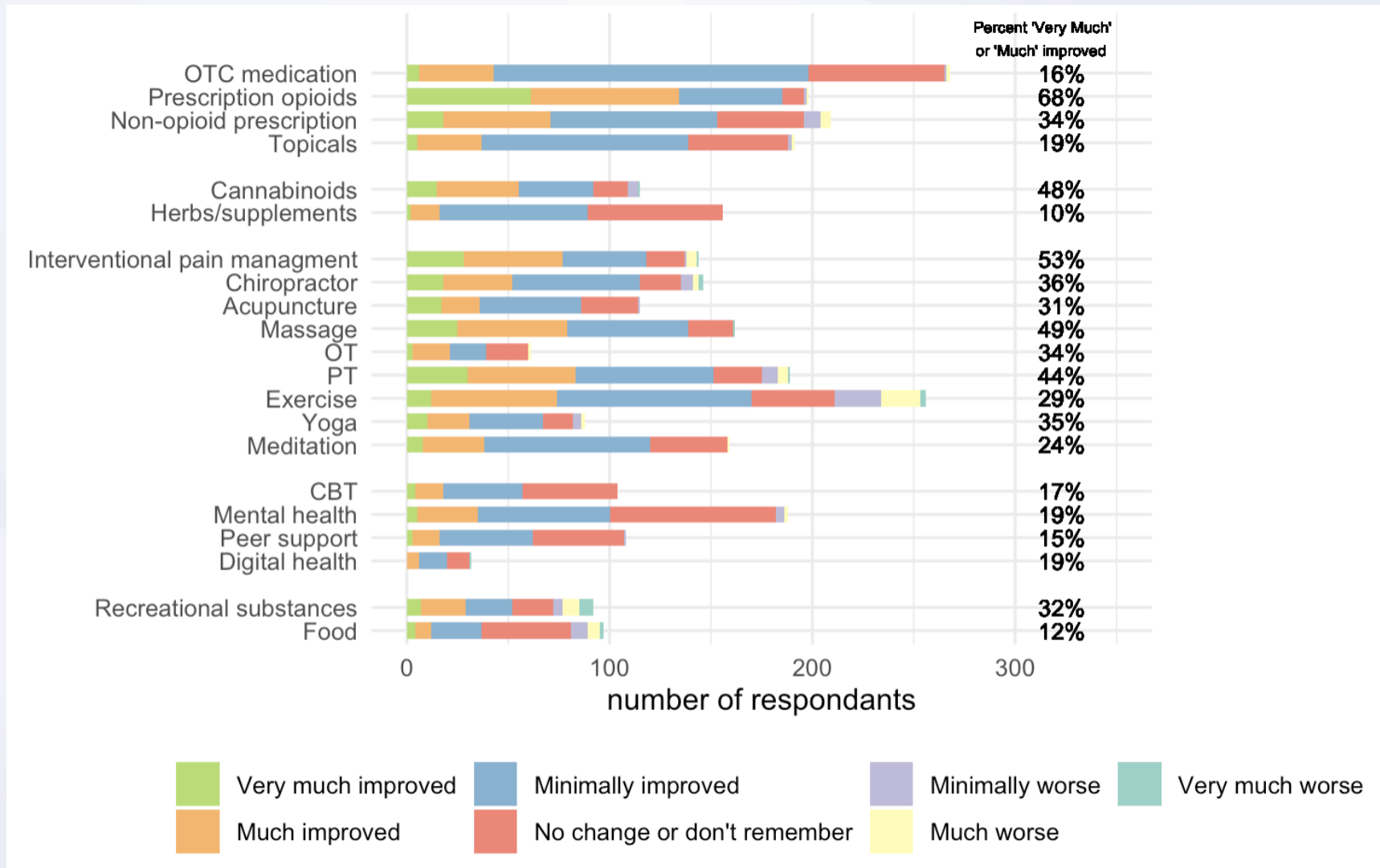
Recommended non-pharmacologic treatments

- CBT, yoga for MSK pain, PT/OT, hypnosis for neuropathy pain, acupuncture

Recommended pharmacologic treatments

- For neuropathy: gabapentin, capsaicin patch, cannabis, alpha-lipoic acid

Treatments tried by PWH for Pain



Common threads among active non-pharmacologic treatments (mainstream and CAM)

- Often combine psychological and physical components
- Psychological:
 - Re-framing
 - Self-efficacy
 - Coping
- Physical:
 - Strength
 - Flexibility
 - Cardiovascular fitness
- Body awareness
- How to use these skills preventatively and for management of acute exacerbations

Example: STOMP

- Introduction to Your Chronic Pain
- Physical Activity and Your Pain
- Losing Weight to Improve Your Pain
- Stress, Relaxation, and Your Pain
- Sleeping Better to Help Your Pain
- Thinking Differently about Your Pain
- Talking with our Family and Friends about Pain ..
- Taking Opioid Pain Medications

POPULATION

**146 Male, 126 Female,
6 Transgender Female**

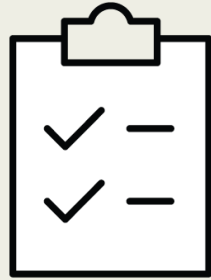


Adults living with HIV and chronic pain

Mean age, 53.5 y

INTERVENTION

202 Participants analyzed



104 Enhanced usual care (EUC)

Participants provided with the STOMP manual



98 Skills to Manage Pain (STOMP)

12-wk pain self-management intervention, including staff-led 1-on-1 skill-building sessions and group sessions co-led by peers

SETTINGS / LOCATIONS



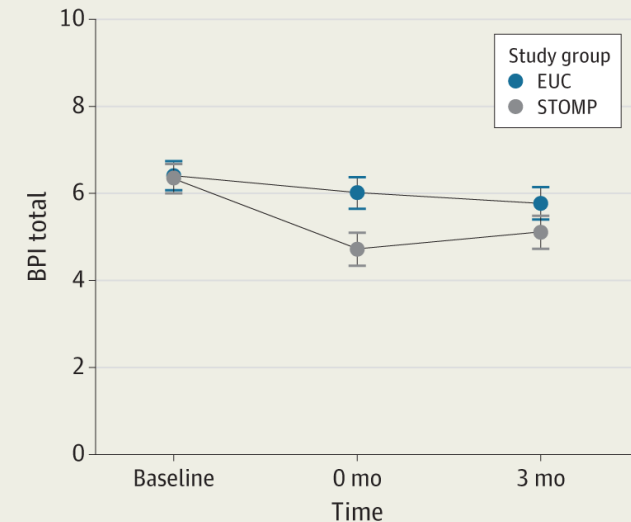
Two large medical centers in the southern US

PRIMARY OUTCOME

Pain immediately after the intervention was measured using the Brief Pain Inventory total score (range, 0-10 points; higher scores indicate greater severity and interference); minimal clinically important difference was considered to be 1 point

FINDINGS

Pain was significantly better in the STOMP group compared with the EUC group immediately after the intervention



Between-group mean difference in pain immediately after the intervention, -1.25 (95% CI, -1.71 to -0.78) $P < .001$

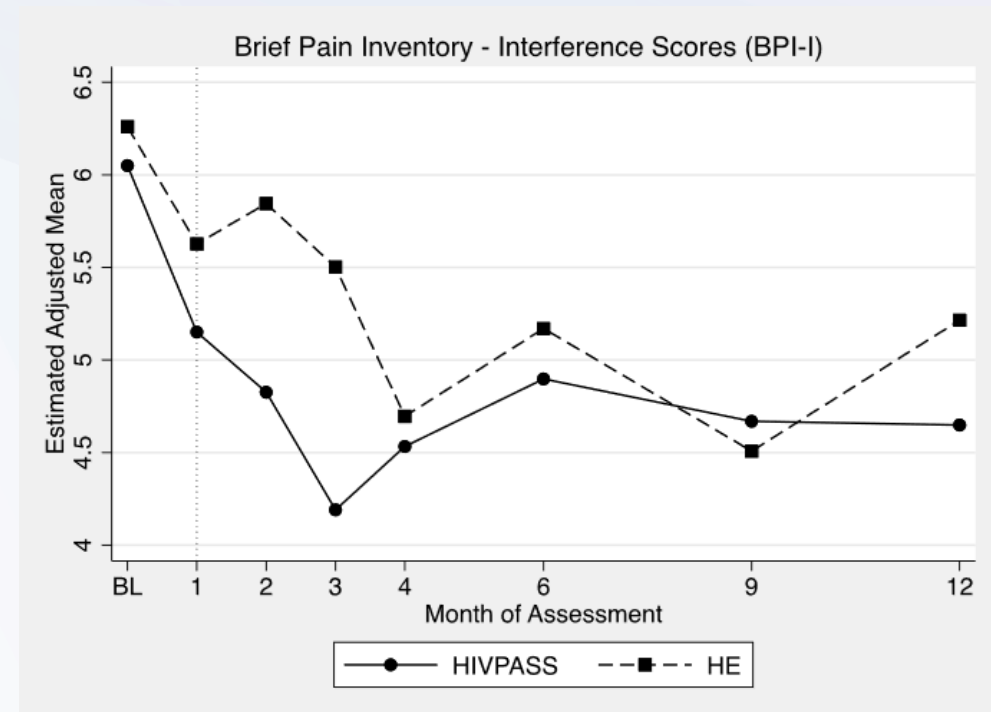
Jones KF, Long DM, Blair MJ, et al. Efficacy of a pain self-management intervention tailored to people with HIV: a randomized clinical trial. *JAMA Intern Med.* Published online July 15, 2024. doi:10.1001/jamainternmed.2024.3071

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HIV-PASS

- Intervention designed to target both pain and depression
- Seven-session intervention: first in person and then over the phone
- Intervention involved behavioral health specialist providing: a) psychoeducation about pain and depression; b) supportive coaching; c) education on pacing; and d) behavioral activation to increase engagement in pleasant and meaningful activities



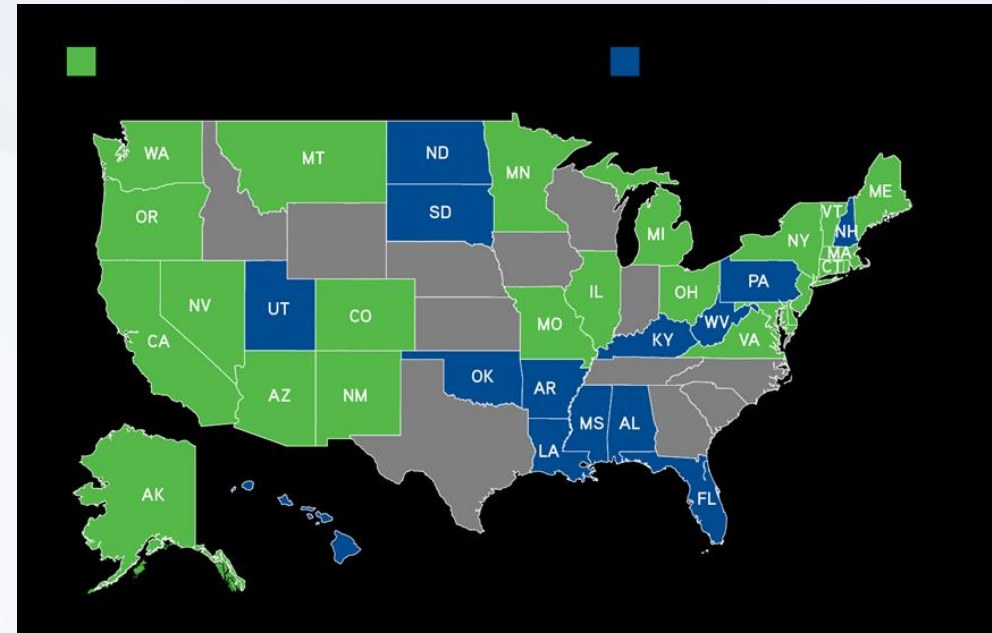
Pain treatments: Pharmacological

Pharmacologic treatment options

- Try to keep regimens simple when possible but may require agents from different classes
- NSAIDs/acetaminophen
- Gabapentinoids
- SNRIs
- Tricyclics
- Muscle relaxants
- Topicals
- CGRP-based therapies (migraine specific)
- Cannabinoids
- Opioids

Cannabis

- Classified as “hemp” or “marijuana” based on THC concentration (THC is the main psychoactive component)
- Hemp is legal federally (since 2018) and was intended to make CBD products (non-psychoactive)
- Marijuana is still illegal federally, although states have legalized and federal government typically does not interfere
- Some states have no legalization, some have medical only, some have medical and recreational
- Products and level of regulation and quality control vary state by state, making general recommendations difficult



The National Academies of Sciences, Engineering and Medicine (NASEM), 2017 and 2024

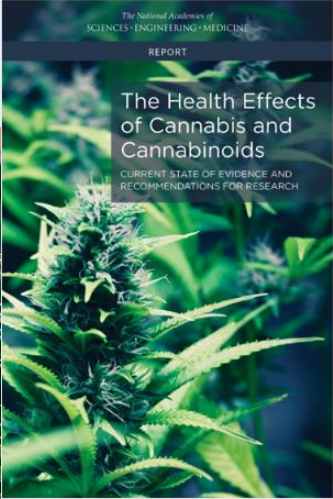
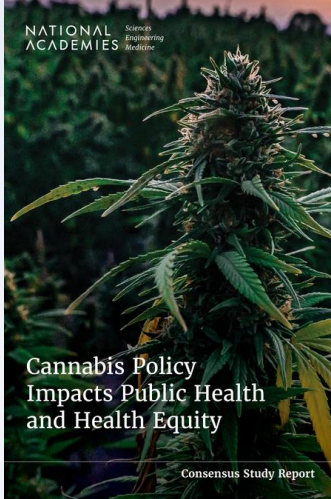
Chapter Highlights

- In adults with chemotherapy induced nausea and vomiting, oral cannabinoids are effective antiemetics.
- In adults with chronic pain, patients who were treated with cannabis or cannabinoids are more likely to experience a clinically significant reduction in pain symptoms
- In adults with multiple sclerosis (MS) related spasticity, short-term use of oral cannabinoids improves patient-reported spasticity symptoms.
- For these conditions the effects of cannabinoids are modest; for all other conditions evaluated there is inadequate information to assess their effects.

<https://www.nationalacademies.org/news/2024/09/to-protect-public-health-federal-government-should-provide-guidance-to-states-that-have-legalized-marijuana-close-hemp-regulatory-loopholes-create-public-health-campaign>

2022 systematic review

that depends on the type of cannabinoid. CBD has a significant therapeutic effect for epilepsy (SMD - 0.5[CI - 0.62, - 0.38] high grade) and Parkinsonism (- 0.41[CI - 0.75, - 0.08] moderate grade). There is moderate evidence for dronabinol for chronic pain (- 0.31[CI - 0.46, - 0.15]), appetite (- 0.51[CI - 0.87, - 0.15]) and Tourette (- 1.01[CI - 1.58, - 0.44]) and moderate evidence for nabiximols on chronic pain (- 0.25[- 0.37, - 0.14]), spasticity (- 0.36[CI - 0.54, - 0.19]), sleep (- 0.24[CI - 0.35, - 0.14]) and SUDs (- 0.48[CI - 0.92, -



2024 Update voicing concerns...

- Use rates and THC concentrations rose considerably raising concerns for adverse effects
- Semisynthetic hemp derived delta-9 and delta-8 THC have become widely available and largely unregulated

Consumers should look for products with certificates of analysis from certified labs.

Bilbao, A., Spanagel, R. Medical cannabinoids: a pharmacology-based systematic review and meta-analysis for all relevant medical indications. *BMC Med* 20, 259 (2022). <https://doi.org/10.1186/s12916-022-02459-1>



Cannabis: general guidance

Route	Onset	Duration	Notes
Vapor/Inhaled	30s-2m	1-2h	Requires vaporization device
Transmucosal	2-15m	4-6h	Patients must be counseled not to swallow the liquid, or onset will be much slower (up to 2 hours)
Oral	1-2h	8-10h	First pass hepatic metabolism

- First pass hepatic metabolism means that non-oral routes of administration require much lower doses
- Transmucosal (based on nabiximols): 1 spray contains 2.7mg THC and 2.5mg CBD; starting dose 1 spray daily with titration up to a maximum of 12 over 2 weeks.
- Bioavailability of inhaled even higher than transmucosal although exact ratios not known.

<https://pp.jazzpharma.com/pi/sativex.au.PI.pdf>

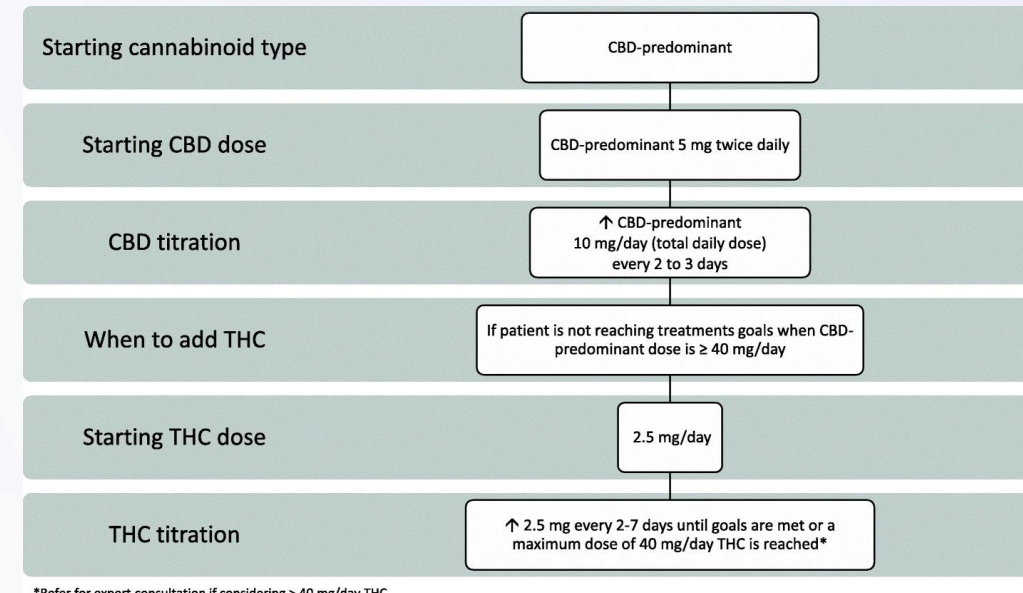
<https://j cannabisresearch.biomedcentral.com/articles/10.1186/s42238-021-00073-1>

Original research | [Open access](#) | Published: 02 July 2021

Consensus recommendations on dosing and administration of medical cannabis to treat chronic pain: results of a modified Delphi process

[Arun Bhaskar](#), [Alan Bell](#), [Michael Boivin](#), [Wellington Briques](#), [Matthew Brown](#), [Hance Clarke](#), [Claude Cyr](#), [Elon Eisenberg](#), [Ricardo Ferreira de Oliveira Silva](#), [Eva Frohlich](#), [Peter Georgius](#), [Malcolm Hogg](#), [Tina Ingrid Horsted](#), [Caroline A. MacCallum](#), [Kirsten R. Müller-Vahl](#), [Colleen O'Connell](#), [Robert Sealey](#), [Marc Seibolt](#), [Aaron Sihota](#), [Brennan K. Smith](#), [Dustin Sulak](#), [Antonio Vigano](#) & [Dwight E. Moulin](#) 

Journal of Cannabis Research 3, Article number: 22 (2021) | [Cite this article](#)



“Routine” recommendations for oral dosing, also have “Conservative” and “Rapid” protocols.

Conclusions

- Pain is a complex biopsychosocial experience
- Three main forms: nociceptive, neuropathic, nociplastic commonly overlap
- Pain is very common in people with HIV, neuropathy is one common form but musculoskeletal pain also very common.
- Often co-occurring pain syndromes, and other overlapping symptoms (e.g., fatigue)
- PWH with pain often try many different treatment approaches.
- Self-management techniques share in common the core features of CBT
 - Re-framing
 - Self-efficacy
 - Coping
 - Improving physical fitness
 - Body awareness
- Cannabis is commonly used by PWH for pain but should be approached with caution.

Thank you!

- PAIRED Project Team
- Mentors, Collaborators and Participants with Lived Experience
- Past and Present Funding:
 - R01DK143962
 - R01DK122853
 - R21 DK105917
 - U24 NS113849
 - R18 HS025641
 - K23 NS066789



SCAN ME

