Education, the Best Analgesic: New Concepts in Opioid Sparing Options for Pain

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Disclosure Information (Required)

- Alexis M. LaPietra, DO FACEP
  - No financial disclosures

Learning Objectives (Suggested)

- Review opioid sparing algorithms for acute pain management
- Discuss opioid sparing interventions for pain management in the ED and office
- Updates on best practice for opioid prescribing
- Practice tips for managing pain in patients on MOUD

Who is here?

- Tell me in the chat who you are and what is your specialty.

The Pain Management Dilemma

EDUCATION

Our Goal

- To treat, whenever possible, the underlying cause of pain
- Assess functioning as a marker of success (not pain score)
- Discuss time frames with the patient
- Opioids should serve as a rescue medication, very rarely a first line

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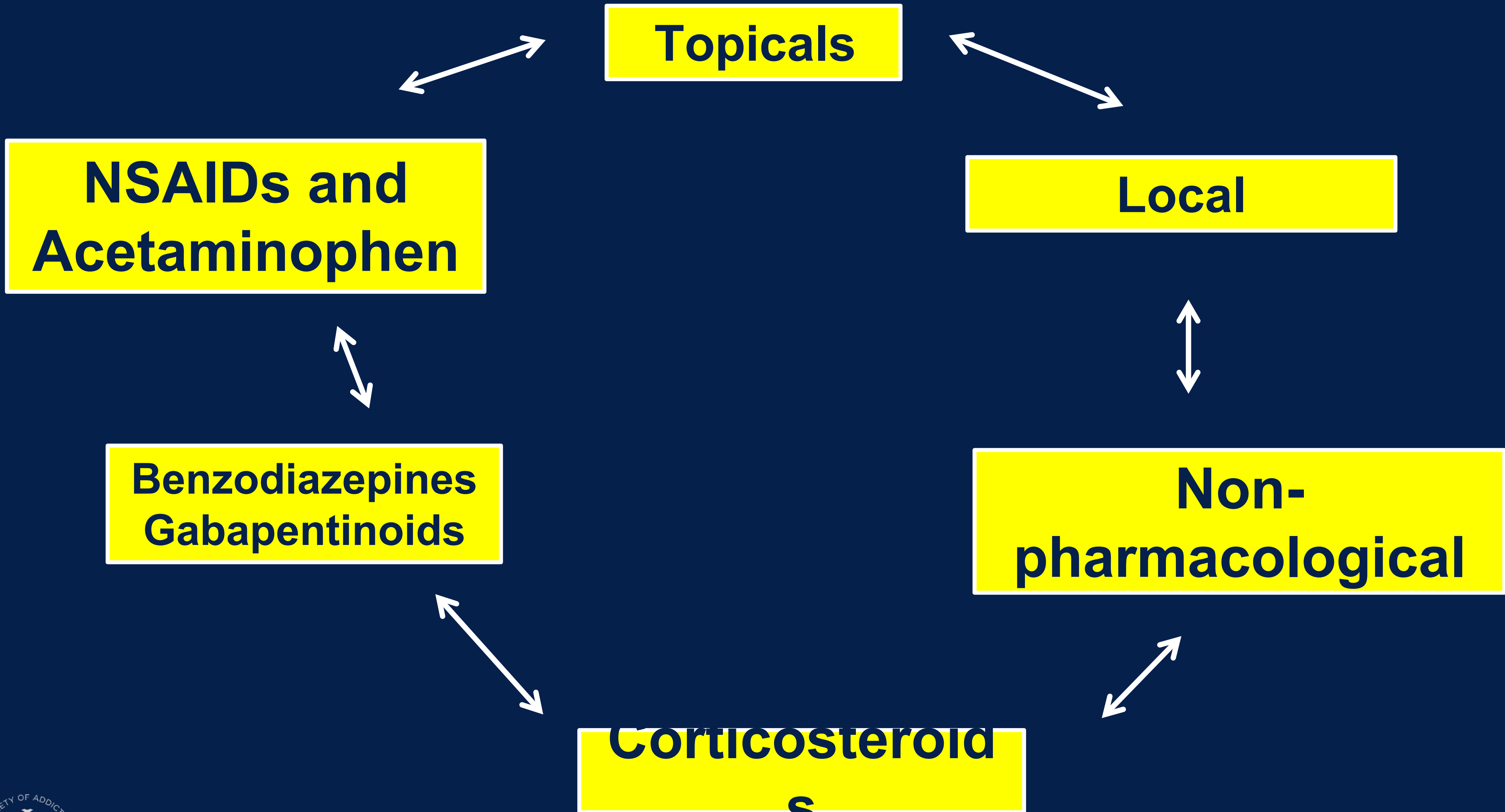


Topicals
NSAIDs and Acetaminophen
Local
Benzodiazepines
Gabapentinoids
Non-pharmacological
Corticosteroid
s

Opioids IV

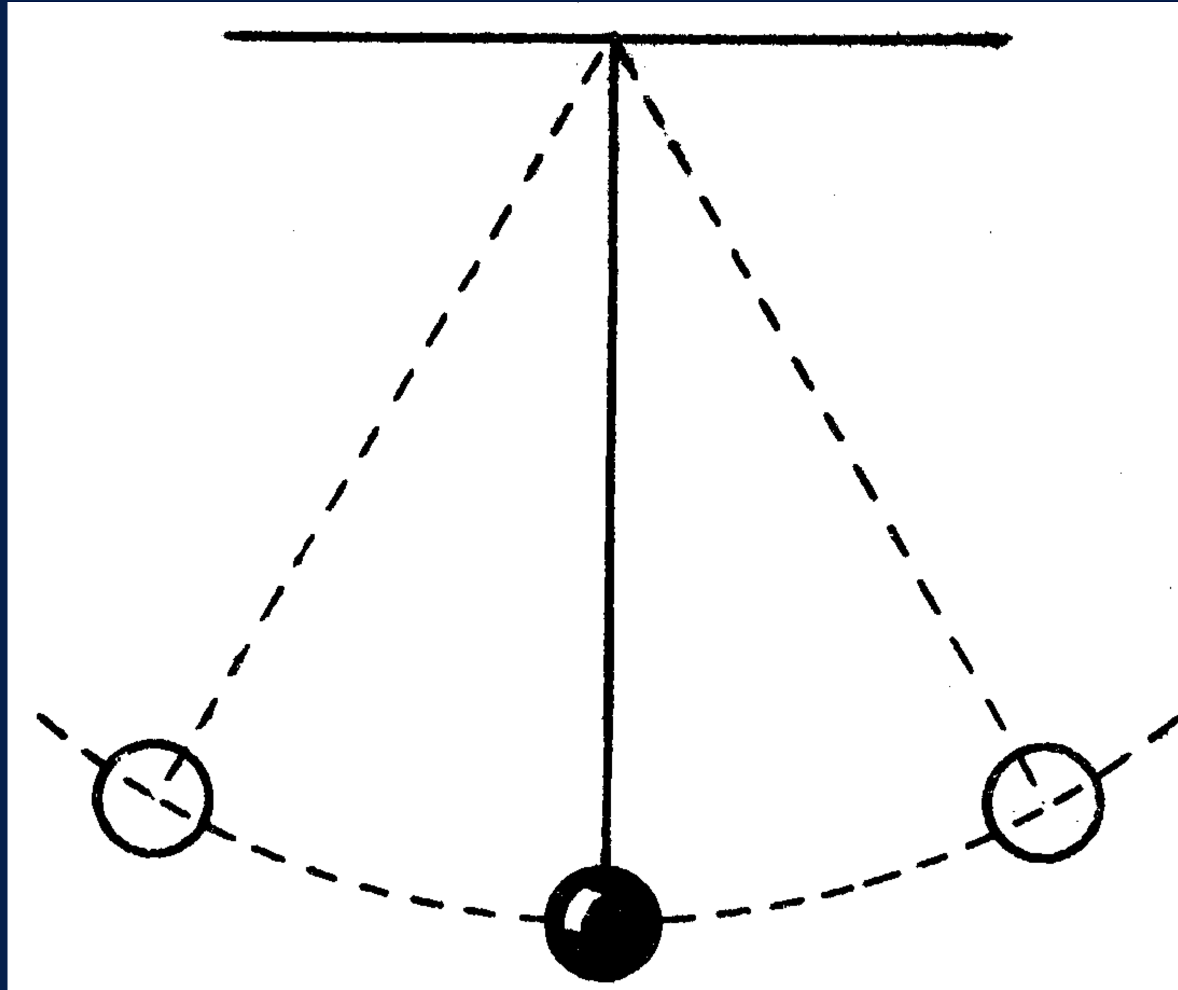
Opioids PO
(MSIR)

N_2O, ketamine, gabapentin,
dexmedetomidine

Interventions
(TPI, ST injections, USRA, nonpharm)

NSAIDS + Acetaminophen TID
TOPICALS

OPIOIDS FOR EVERYTHING



OPIOIDS FOR NOTHING

KEEP CALM AND RESPECT OPIOIDS

Dopamine Spike

FOOD SEX OPIOIDS

7
6
5
4
3
2
1
0

1 hour 2 hours 3 hours 4 hours

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Likability of Opioids

Table 3
Drug effect scores based on Visual Analog Scale (0—100)*

Question	60 Minutes		
	MSIR	Percocet	*p*-value
Do you feel any drug effect?	49.5 (7–77)	59.8 (26.6–75)	0.444
Do you like the drug?	53.8 (25–79)	53.1 (31–79)	0.6376
How high are you?	3 (0–17.9)	6 (0–28)	0.2248
Does the drug have any good effects?	57.3 (23.9–77.2)	52.5 (42.9–80)	0.764
Does the drug have any bad effects?	2 (0–5)	2.2 (0–7)	0.6352
How much do you desire the medication?	29.9 (6–65)	49.3 (26–77)	0.0822
Does the drug make you have unpleasant thoughts?	0.5 (0–5.4)	0 (0–6.5)	0.8975
Does the drug make you have unpleasant bodily sensations?	1.3 (0–6)	2.8 (0–7.1)	0.4793
Does the drug make you feel irritated?	0.5 (0–4.9)	1.9 (0–8.5)	0.3448
Does the drug make it difficult to concentrate?	0 (0–5.4)	0 (0–5.4)	0.933

* All summaries are median (25th–75th) and compared with the Wilcoxon rank sum test.

5

Fassassi, 2020.

Abuse Potential

- Oxycodone
  - Most commonly abused (most commonly prescribed)
  - 1.5-2 x more potent than morphine at the MOR
  - Higher ability to cross the BBB (6 x higher in mouse models)
    - In mouse studies the concentration of oxycodone in the brain is 3x that of morphine
    - Deposits in the NA and VTA → euphoria → misuse → abuse
  - It is just more likable and the Rx opioid of choice for misuse/abuse

Connors, 2021

Abuse Potential

- Hydromorphone
  - 8x more potent that morphine
  - Higher lipophilicity- crosses the BBB quicker
  - IV hydromorphone is considered more desirable than IV morphine
  - PO hydromorphone has same likability as other PO opioids
  - When given to heroin users they cannot tell the difference between hydromorphone and diacetylmorphine

Connors, 2021
Oviedo-Joekes, 2016

Abuse Potential

- Morphine:
  - Classic opioid but not the favorite
  - Less likable compared to oxycodone due to dysphoria and histamine release (itching occurs in 24% of patients)
  - Renal excretion
  - Acidemic environments allow more morphine to cross the BBB
  - Not at all desirable in the opioid dependent community

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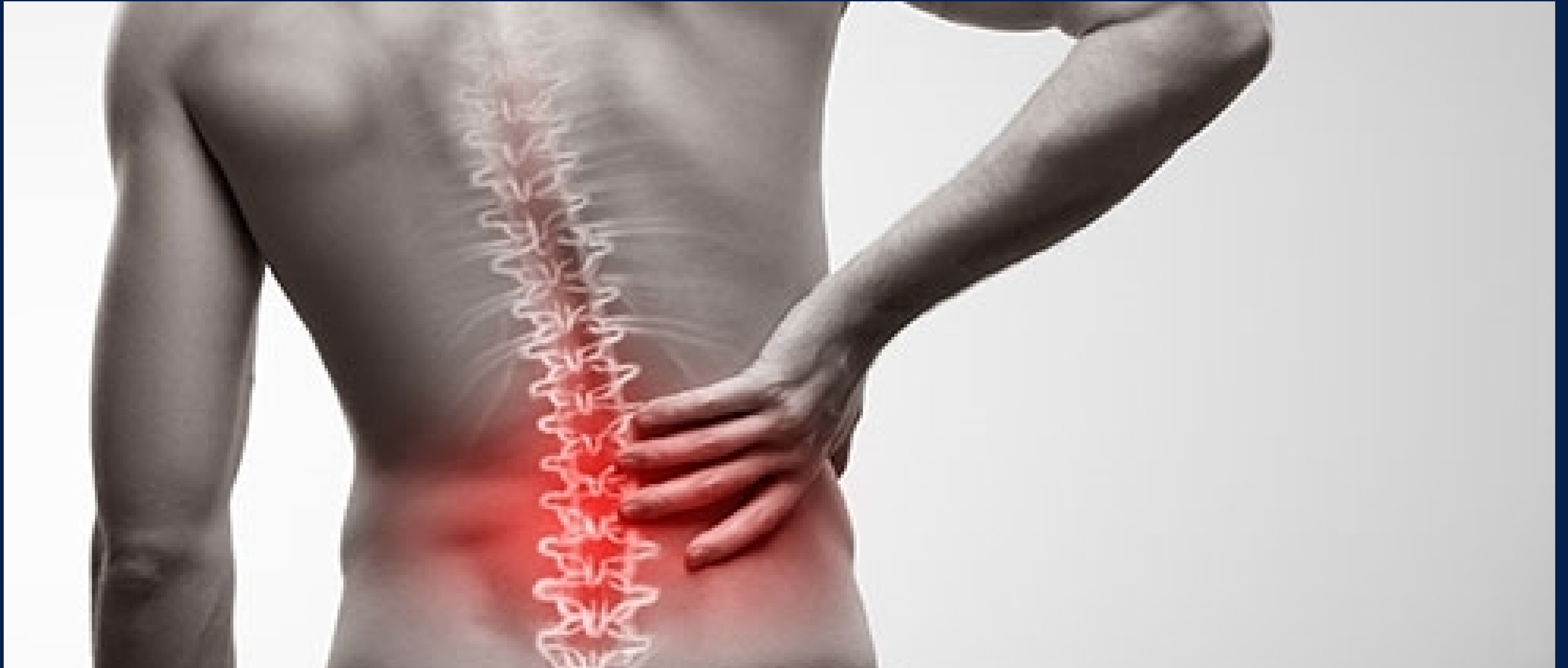
Connors, 2021

Best Practice

- Lowest effective dose
- Shortest course
- Close follow up
- USE analgesic dosing of acetaminophen and an NSAID to the opioid. DO NOT USE combo products

- MSIR *may* be a better opioid (as it is less likable)
  - Issues: stocking at the pharmacy (let your local pharmacies know)

Case 1



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Friedman 2015
Lee 2016

Friedman 2015, 2017
Lovell 2004
Derry 2013
McQuay 2007
Seymour 1996

Acetaminophen

NSAIDs

Topical

Diclofena
c topical

Physical
Therapy

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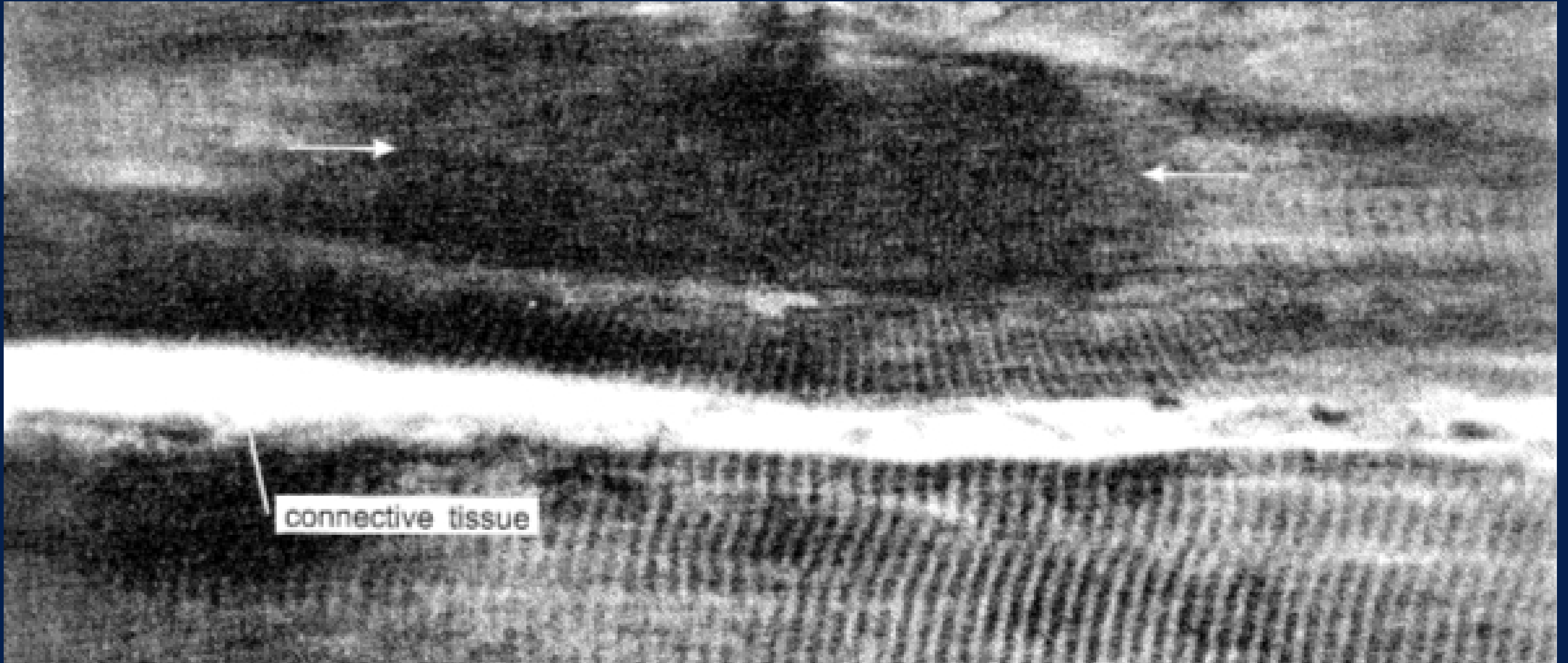
Trigger Point Injections



21-25 gauge

1-2 mL

Simons, 1999

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TAKE HOME MESSAGE

Layer alternatives/nonpharm techniques FIRST to TREAT the underlying pain

OPIOIDS CAN ALWAYS BE ADDED LATER

Trigger points are PAINFUL and doing TPIs at bedside is a highly EFFECTIVE and billable procedure

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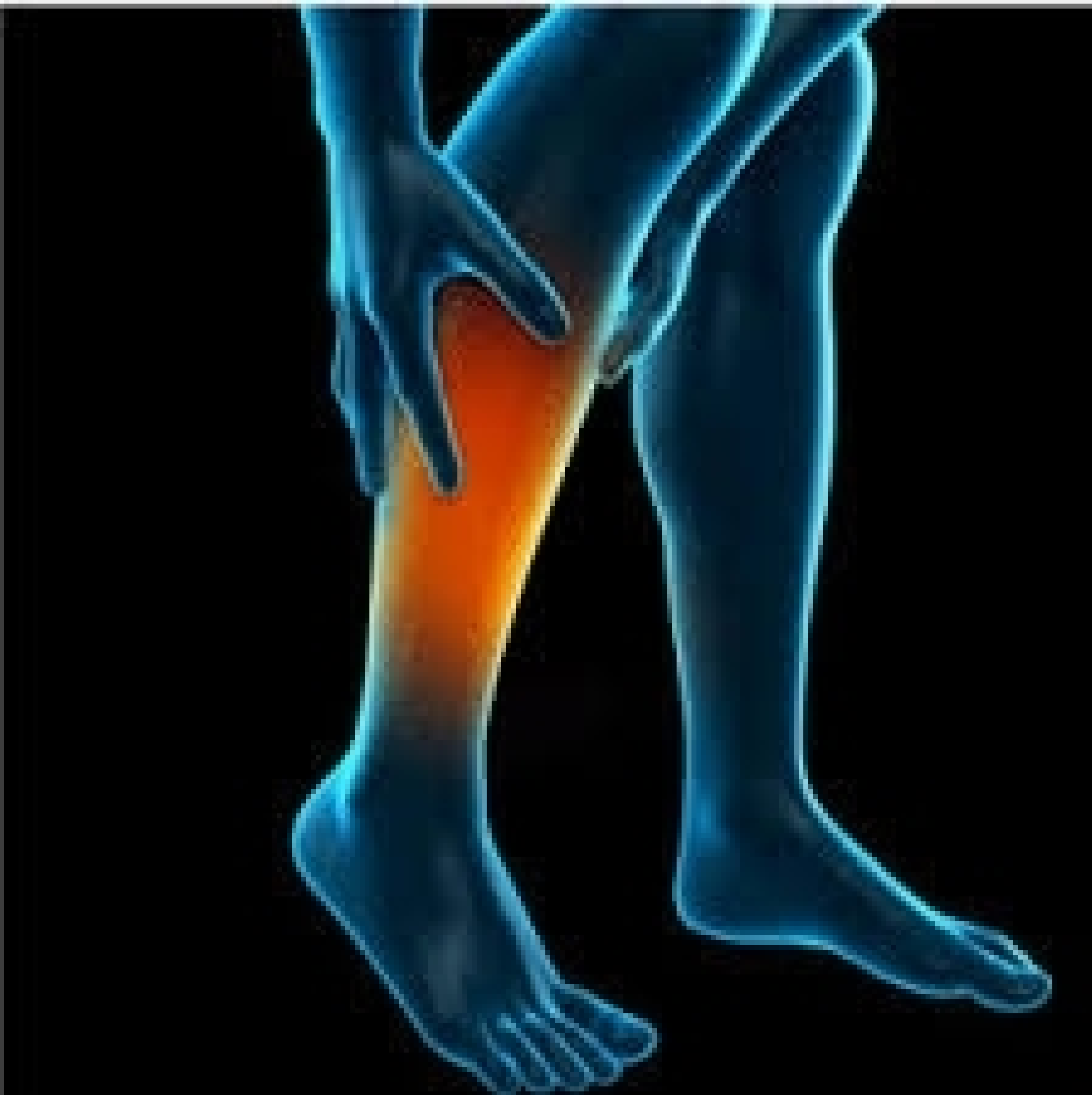
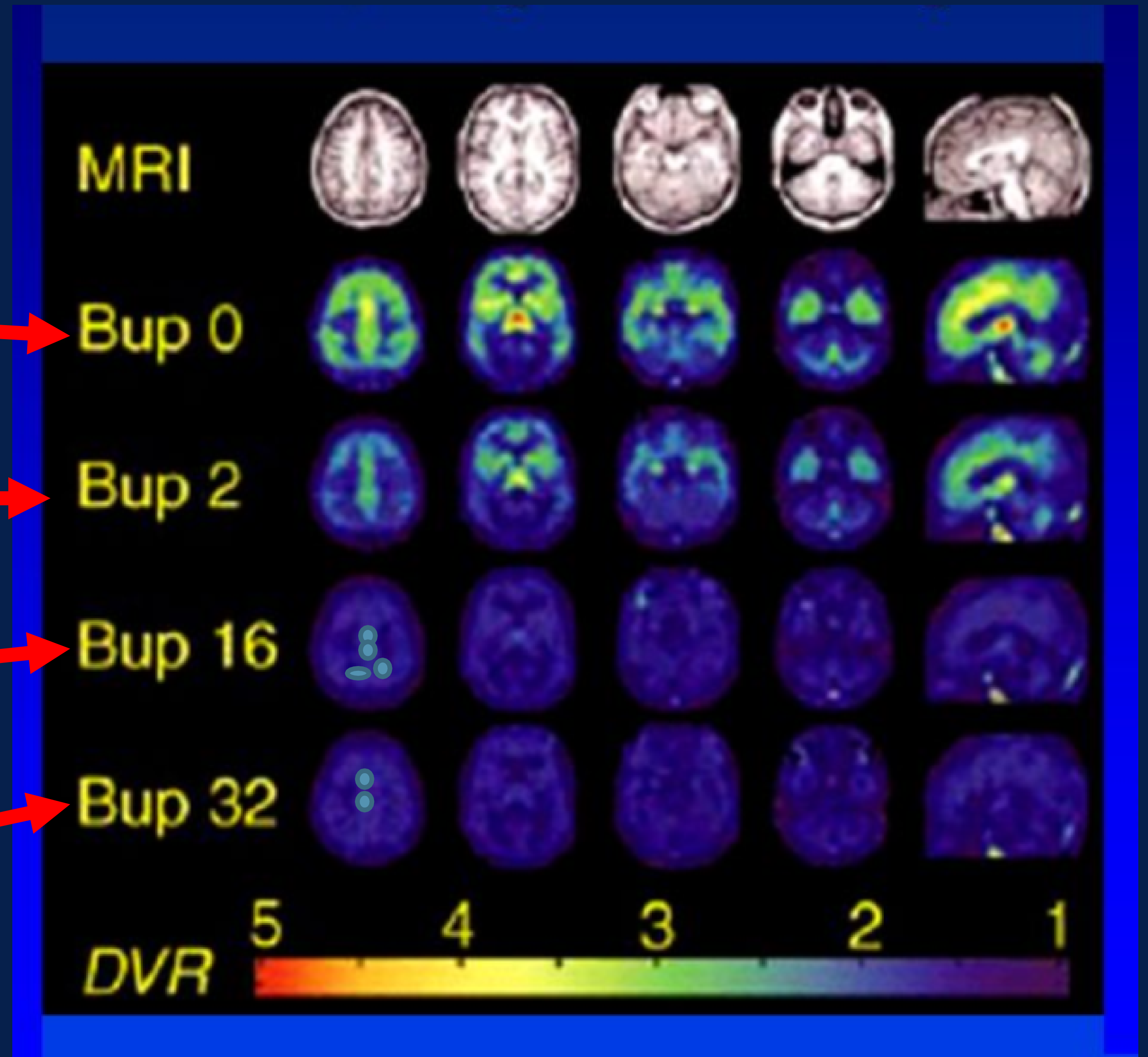


Case 2

Mu- receptor Availability

- Bup 0 mg = 100% free
- Bup 2 mg = 59% free
- Bup 16 mg = 20% free
- Bup 32 mg = 16% free



Greenwald 2003

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Peri-Op management

- To Stop or Not?
- MYTH: It will be difficult to control pain if patient is on bup
  - CSAT 2004 despite known lack of evidence put out misconception that bup should be stopped
- FACT: Opioid tolerant patients at baseline will have difficult peri-op course whether they are on bup or long acting daily opioids
  - Expectations must be different, opioid burden is heavy
  - Opioid Induced Hyperalgesia = complex pain needs

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Anderson, 2017

Cravings and Relapse

- Abrupt discontinuation of buprenorphine during an acutely painful situation (ie: peri-op) can be stressful and lead to relapse
- Starting full agonist opioids may cause euphoria, cravings, and relapse
- Be supportive in the post-op period
  - Mental Health
  - Family involvement
  - Peer support

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Briand, 2010

Benefits of staying on bup

- Liberate enough mu receptors to use full agonists
- Maintain bup in the system to prevent cravings and relapse
- Bup has kappa antagonism
  - Reduced opioid induced hyperalgesia
  - May decrease depression

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Lembke, 2019
Warner, 2020

Pre-Op

Pts on bup > 12 mg *taper down* to 12 mg 48-72 hour before surgery

Pts on bup ≤ 12 mg stay on this dose

Day of Surgery

Continue bup ~12 mg

Multi-modal analgesia

Full opioid agonists *

*Bup pts will have a high tolerance

Post-Op

In 2-4 days taper full agonists and increase back to full dose bup

If discharge opioids are needed f/u in 5 days to reassess

Resume daily bup dose as soon as possible

Sritapan, 2020
Anderson, 2017
Lembke, 2019

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Another option

- Bring the buprenorphine dose up to 24-32 mg and divide it into q6 hour standing doses
- Benefits of bup respiratory and sedation ceiling
- Effective analgesic
- Less worry about monitoring with bup + full agonists

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TAKE HOME

Peri-Op Pain control in MOUD patients

- DO NOT STOP THE BUP, there are HARMS
- Titrate down to ~12 mg and use high affinity full agonists for a short time
  - USE ALTERNATIVES
- Use only bup by bringing dose up to 24-32 mg and diving into q6 standing doses
  - USE ALTERNATIVES

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TAKE HOME

Opioids and ALTO

- Realize the potency and neuropharmacology of opioids, choose ALTO first
- Use PO opioids whenever you can
- Hydromorphone and oxycodone are VERY LIKEABLE
- Consider using MSIR

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Thank you!

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