Starting the Journey: Presentations in Emergency Departments

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Pain & Addiction: Common Threads:
Navigating pain and addiction challenges across transitions of care.
April 13, 2023, Washington, DC.

Disclosures

Andrew Herring, MD

Pain & Addiction: Common Threads

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- No Disclosures

Disclosures

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Pain & Addiction: Common Threads

April 13, 2023

Certifications

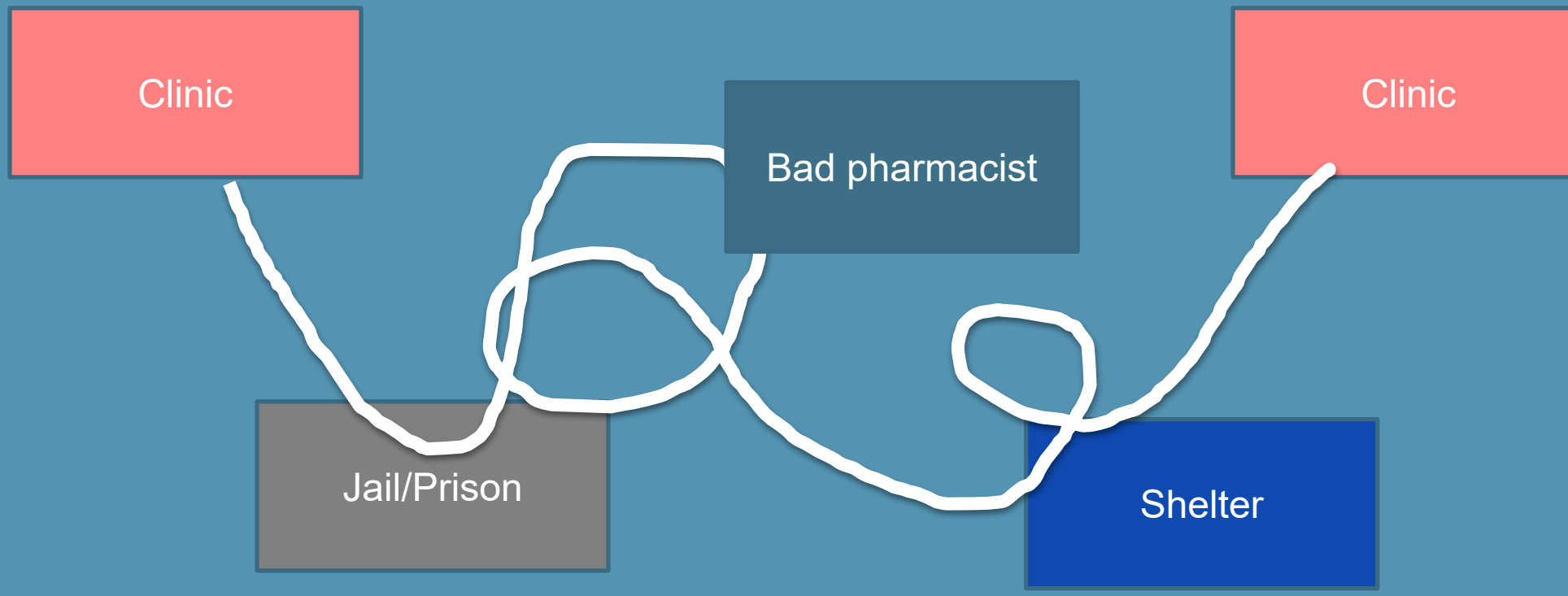
- American Board of Emergency Medicine
- American Board of Preventative Medicine-Addiction Medicine
- American Board of Pain Medicine

Don’t believe the hype

Emergency Departments are a beautiful triumph of democracy

- Crowding and costs are manufactured by non-clinical factors
- Free, 24-7
- Comprehensive—medicine, food, shelter
- Ketamine is cheap, easy, and every ER doc knows how to use it

Integrated systems of care should be standard



Emergency Department
24-7 partner to fill in treatment gaps and apply high-intensity treatments

First ER buprenorphine study

Randomised trial comparing buprenorphine and diamorphine for chest pain in suspected myocardial infarction

M J HAYES, A R FRASER, J R HAMPTON

British Medical Journal, 1979, **2**, 300-302

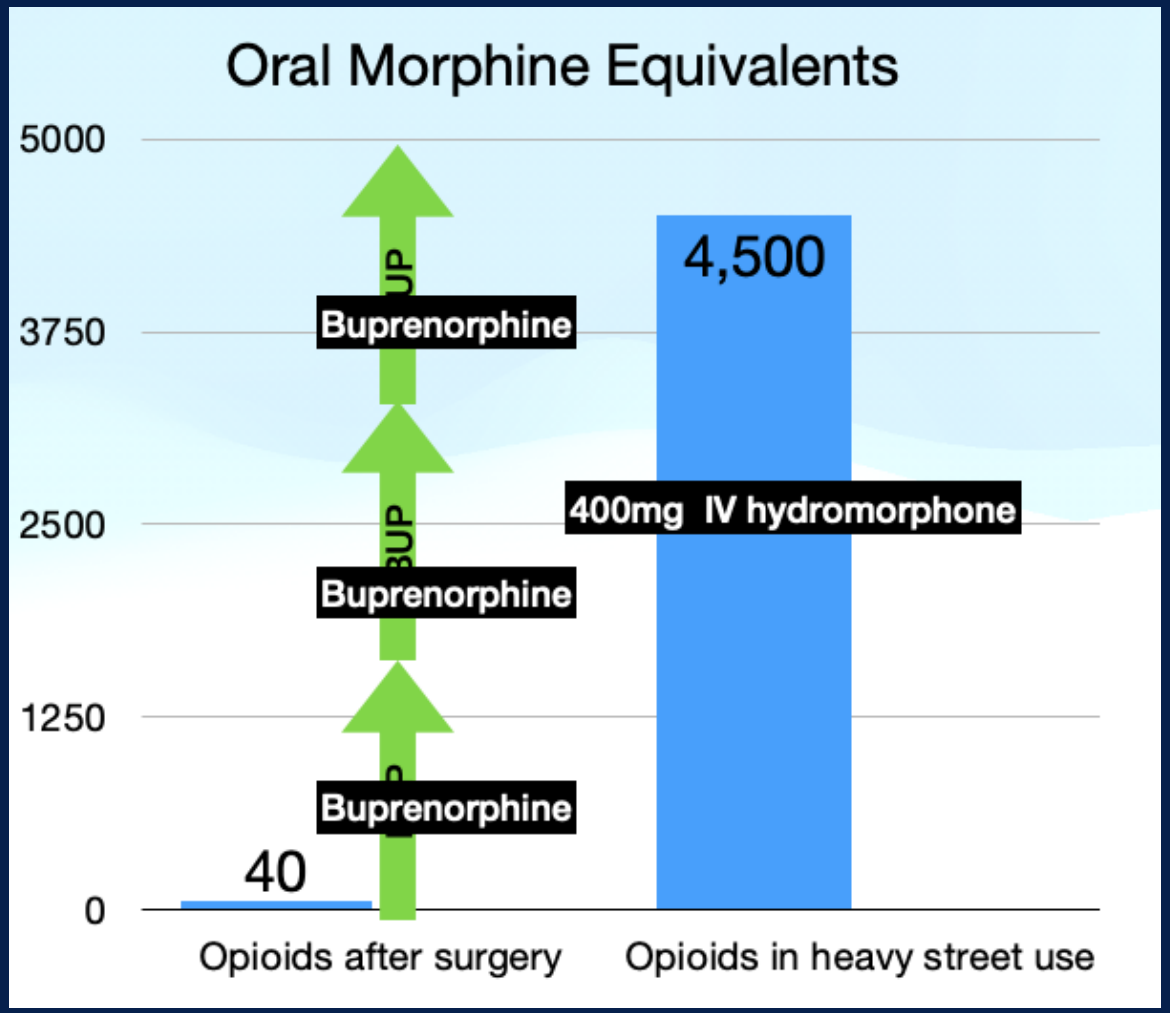
Buprenorphine (Temgesic, Reckitt & Colman) is a synthetic compound derived from thebaine, which has been found

“Smokes 2 grams fentanyl daily”

- Restrained driver in high speed rollover motor vehicle crash
- 3 broken ribs and a pulmonary contusion
- Last use of fentanyl 8 hours ago
- Last use of methamphetamine 4 hours ago

Caulfield, Mackenzie Duncan Gregory, et al. "Transitioning a patient from injectable opioid agonist therapy to sublingual buprenorphine/naloxone for the treatment of opioid use disorder using a microdosing approach." *BMJ Case Reports CP* 13.3 (2020): e233715.

Step 1: Dose opioids appropriately



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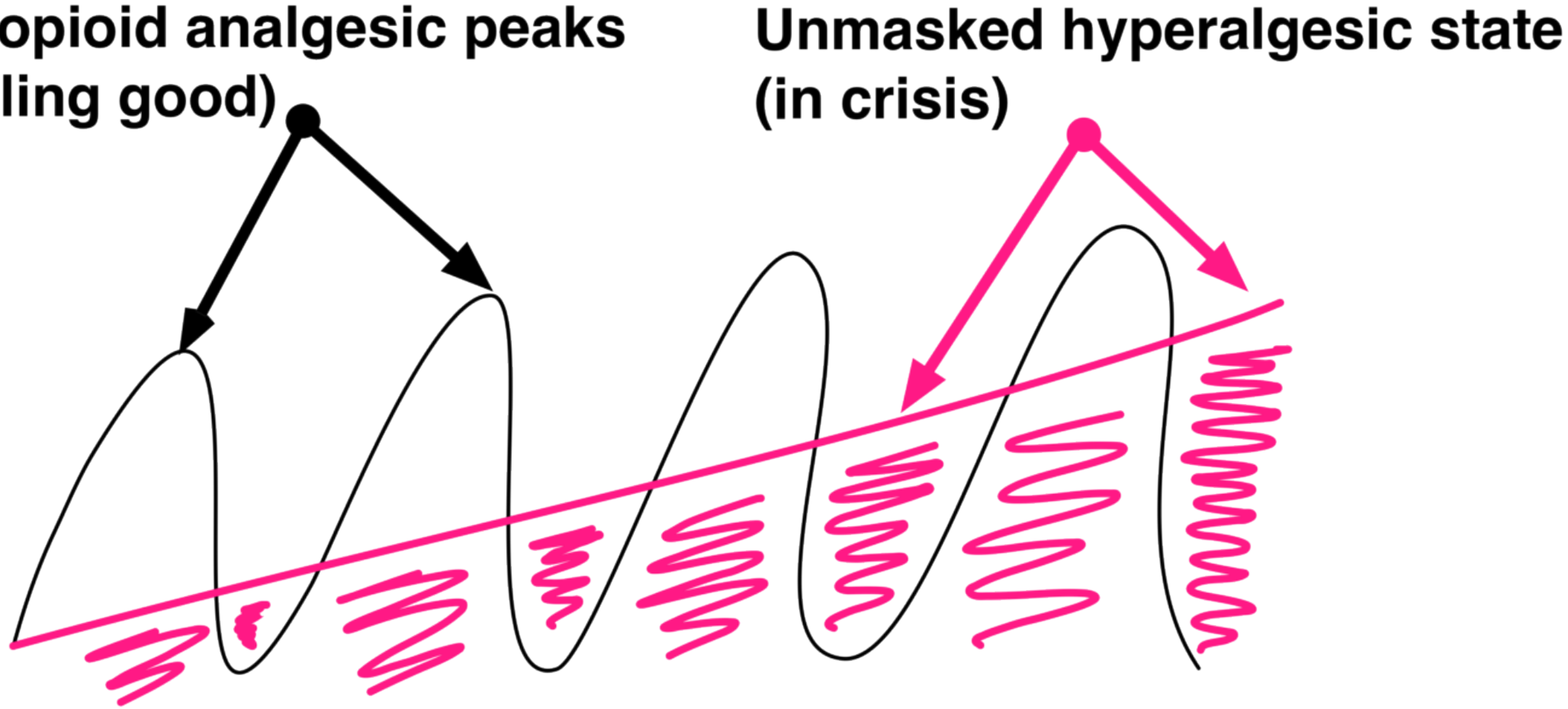
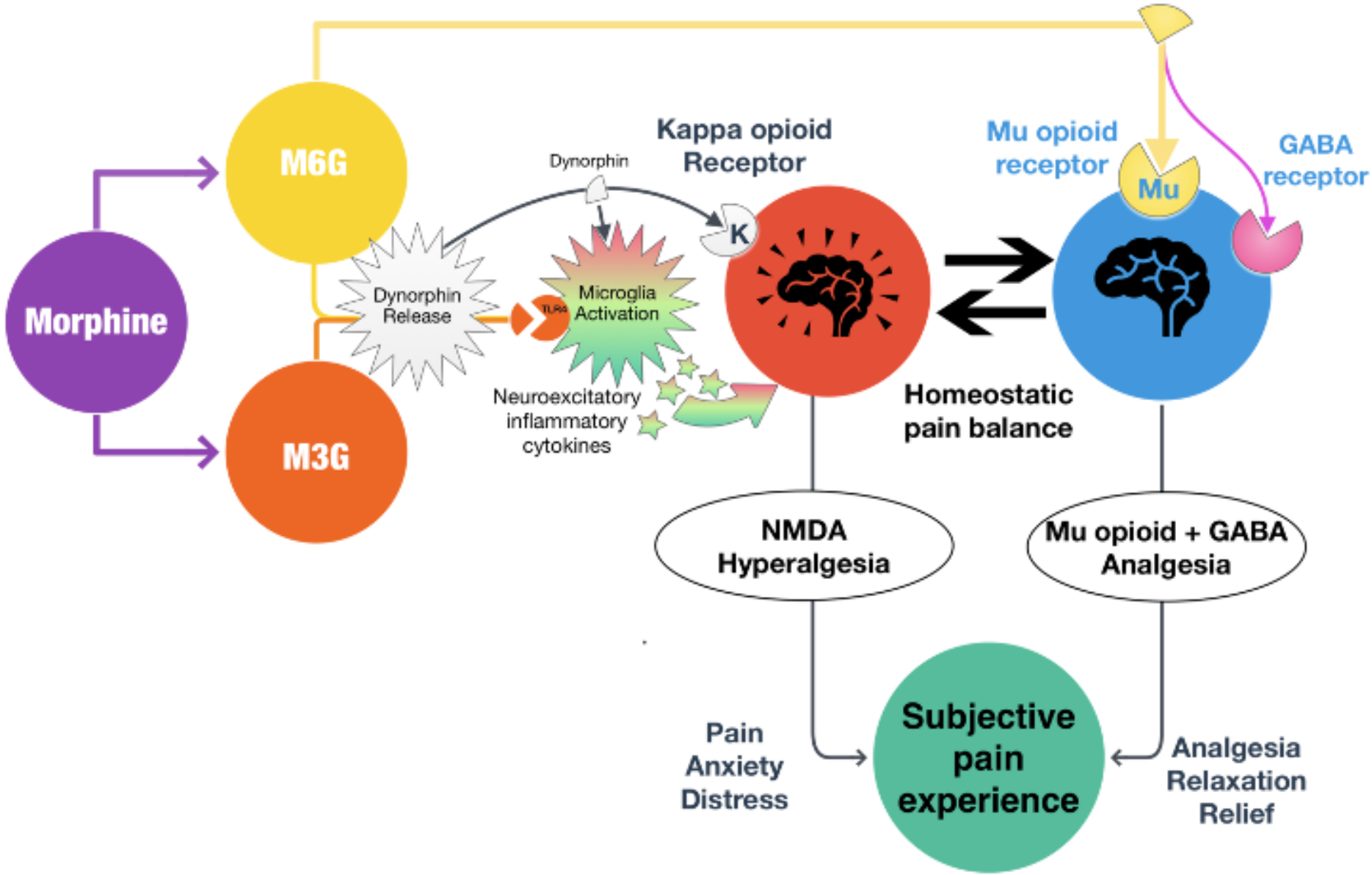

Mu opioid analgesic peaks
(feeling good)
Unmasked hyperalgesic state
(in crisis)

Opioid induced pain=withdrawal



Azar et al. Addiction Science & Clinical Practice (2022) 17:22
https://doi.org/10.1186/s13722-022-00305-6

Addiction Science & Clinical Practice

CASE STUDY Open Access

Case report: acute care management of severe opioid withdrawal with IV fentanyl

Pouya Azar[1,2*], Jean N. Westenberg[1,2], Martha J. Ignaszewski[1,2,3], James S. H. Wong[1,2], George Isac[4], Nickie Mathew[1,2,5] and R. Michael Krausz[2]

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Vancouver CoastalHealth
VA: VGH / UBCH / GFS
VC: BP / Purdy / GPC

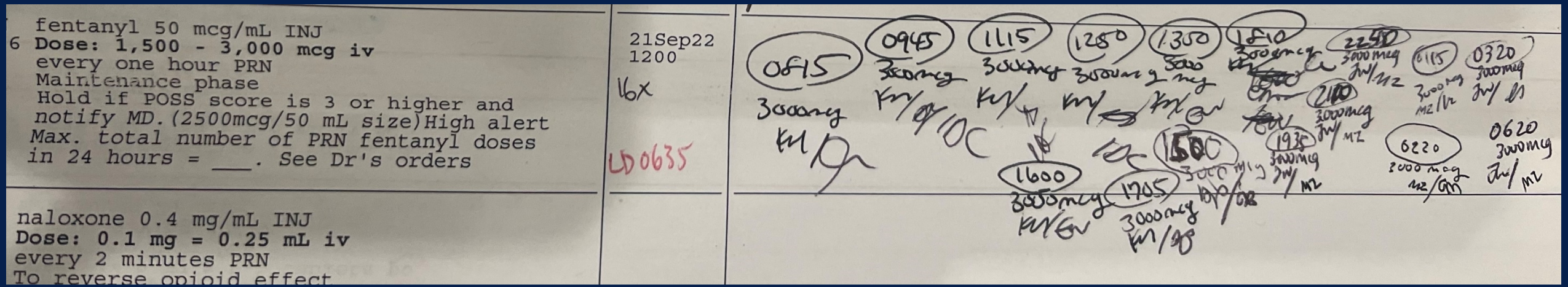
ADDRESSOGRAPH

COMPLETE OR REVIEW ALLERGY STATUS PRIOR TO WRITING ORDERS

High-dose fentanyl Orders
For Withdrawal Management of Patients with Opioid Use Disorder – VGH

(items with check boxes must be selected to be ordered) (Page 1 of 2)

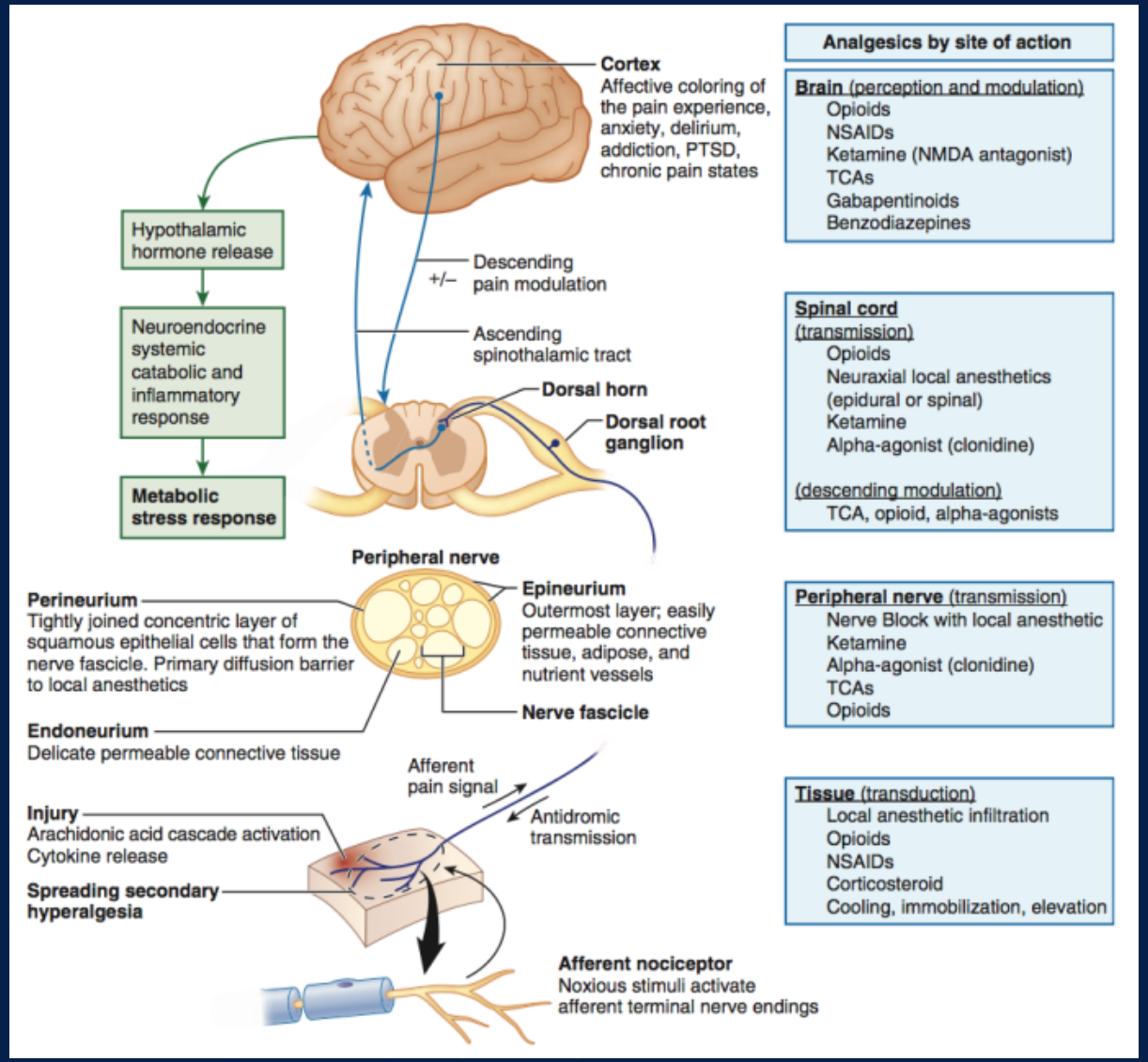
200mcg IV fentanyl every 10 minutes till comfortable



Lots of receptors lots of interventions

- Experience of pain is complex
- Expression of pain is complex
- Using multiple medication classes and non-pharmacologic interventions is standard

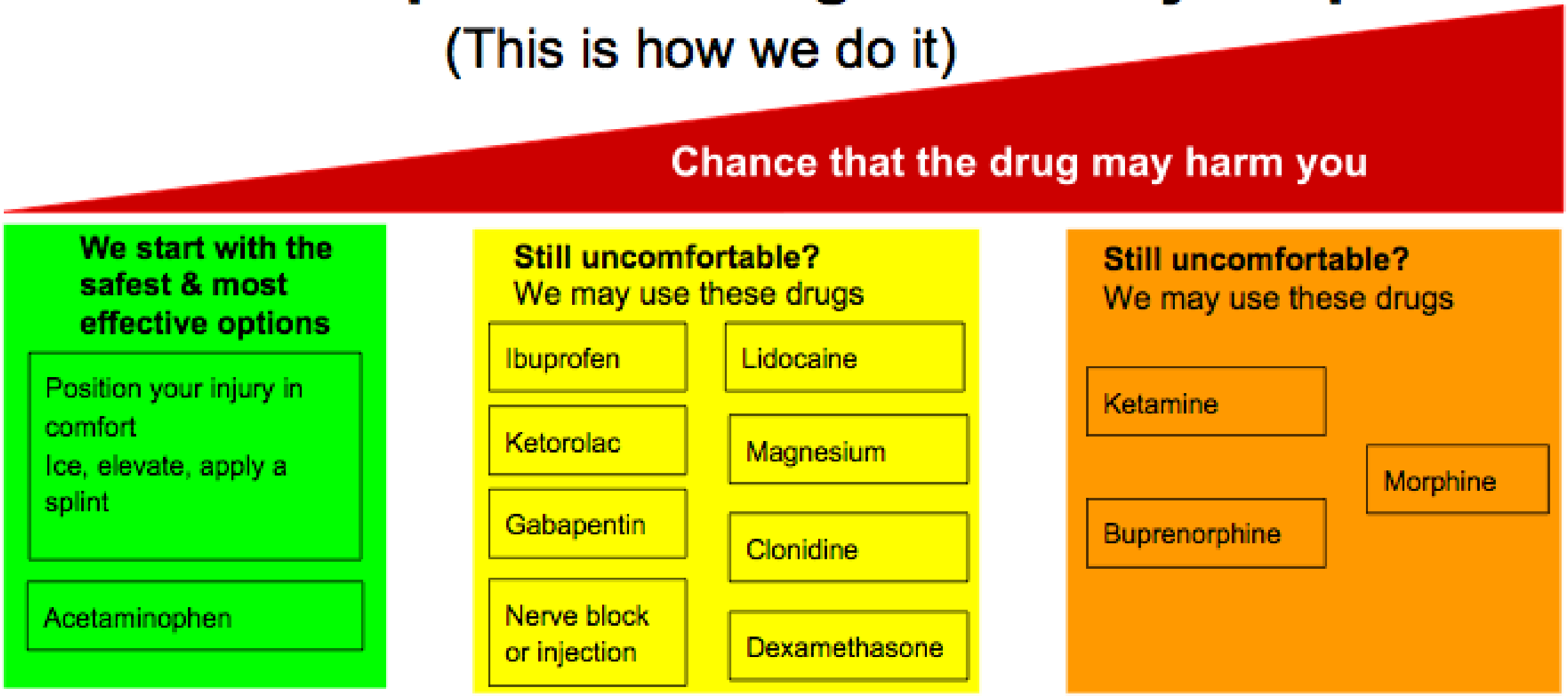
- **<u>Treatment of pain and opioid withdrawal is the same</u>**



Andrew Herring in Auerbach, Paul S., Tracy A. Cushing, and N. Stuart Harris. *Auerbach's wilderness medicine e-book*. Elsevier Health Sciences, 2016.

We are committed to using the most effective and safest possible drugs to treat your pain

(This is how we do it)

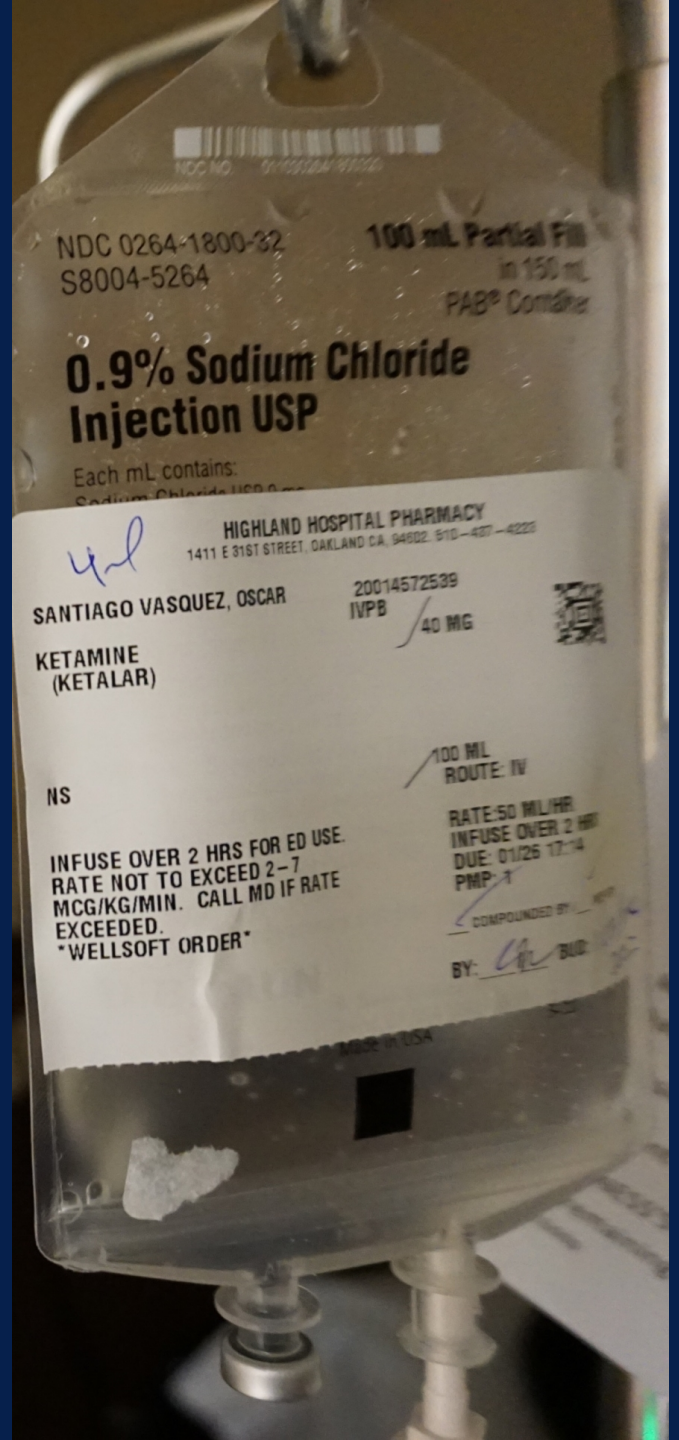


How to use ketamine

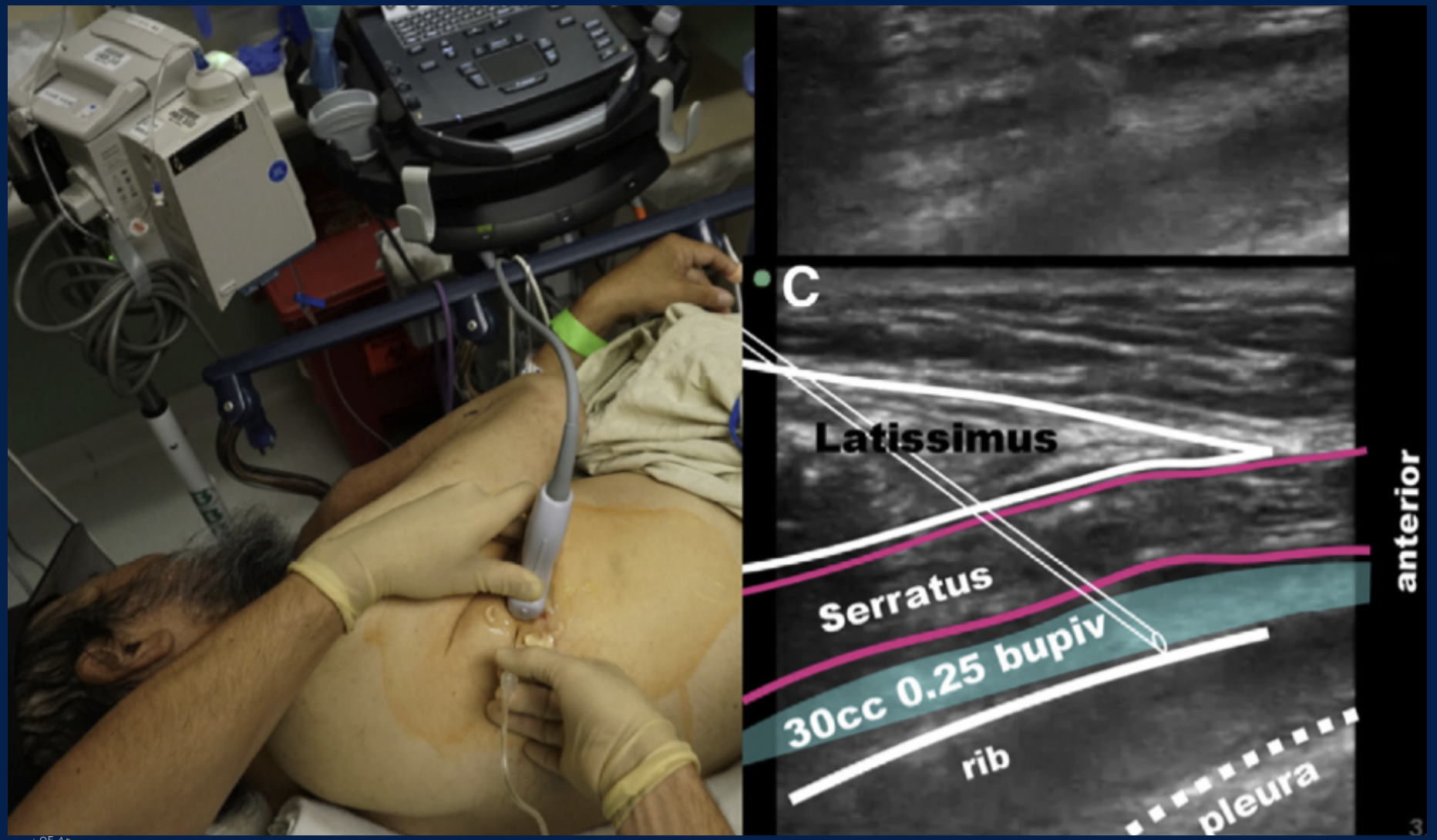
- Total of 0.5 mg / kg is a good target for lasting effects
- 40mg IV over an hour
- 20mg IV over 15-20 x 2

The slower the infusion the lower the risk of fear and confusion.

Motivational interviewing promotes placebo and enjoyment



Nerve Block for Rib Fracture



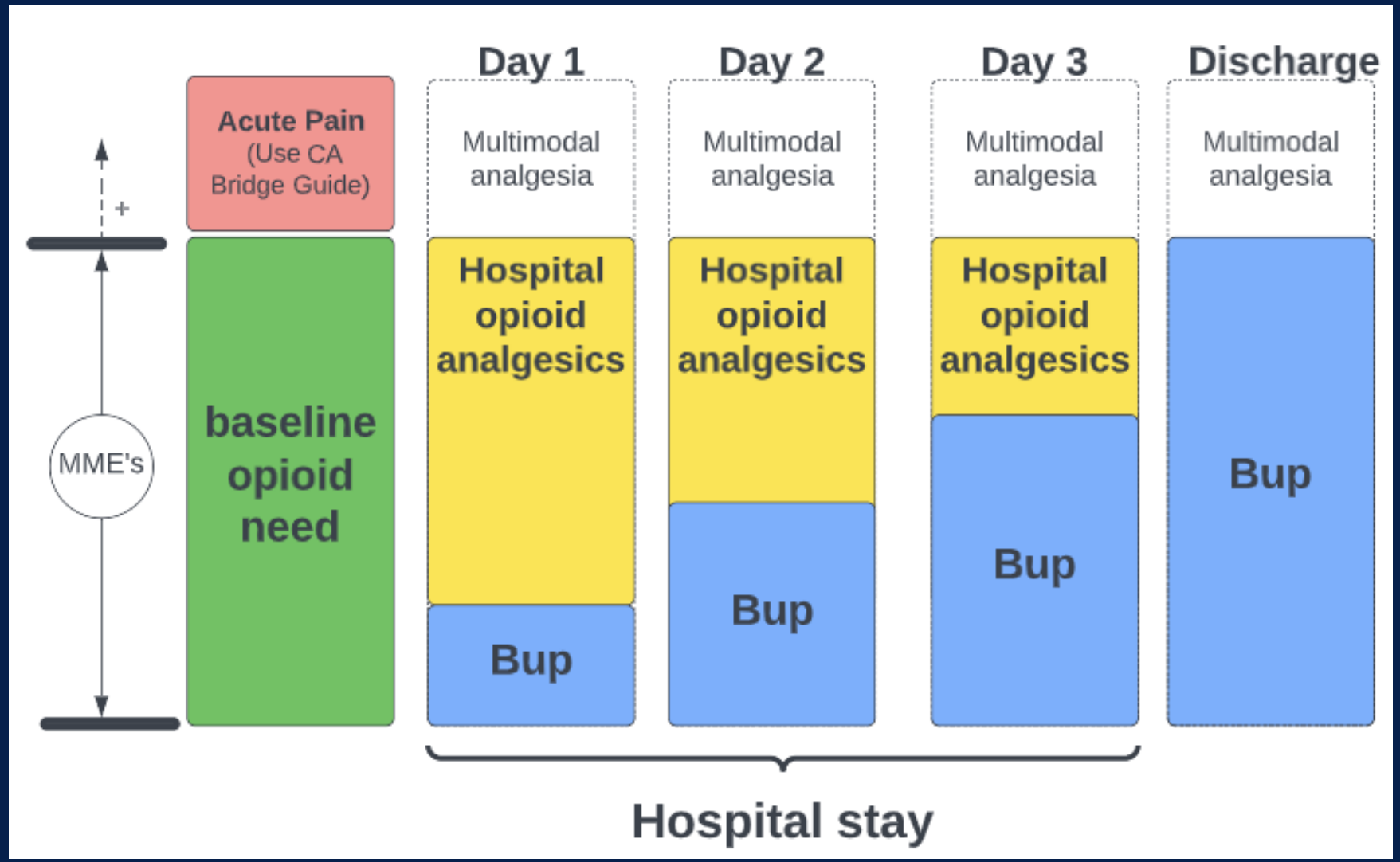
Regional Anesthesia

- Hip and Femoral fractures
- Rib Fractures
- Shoulder dislocation
- Many others

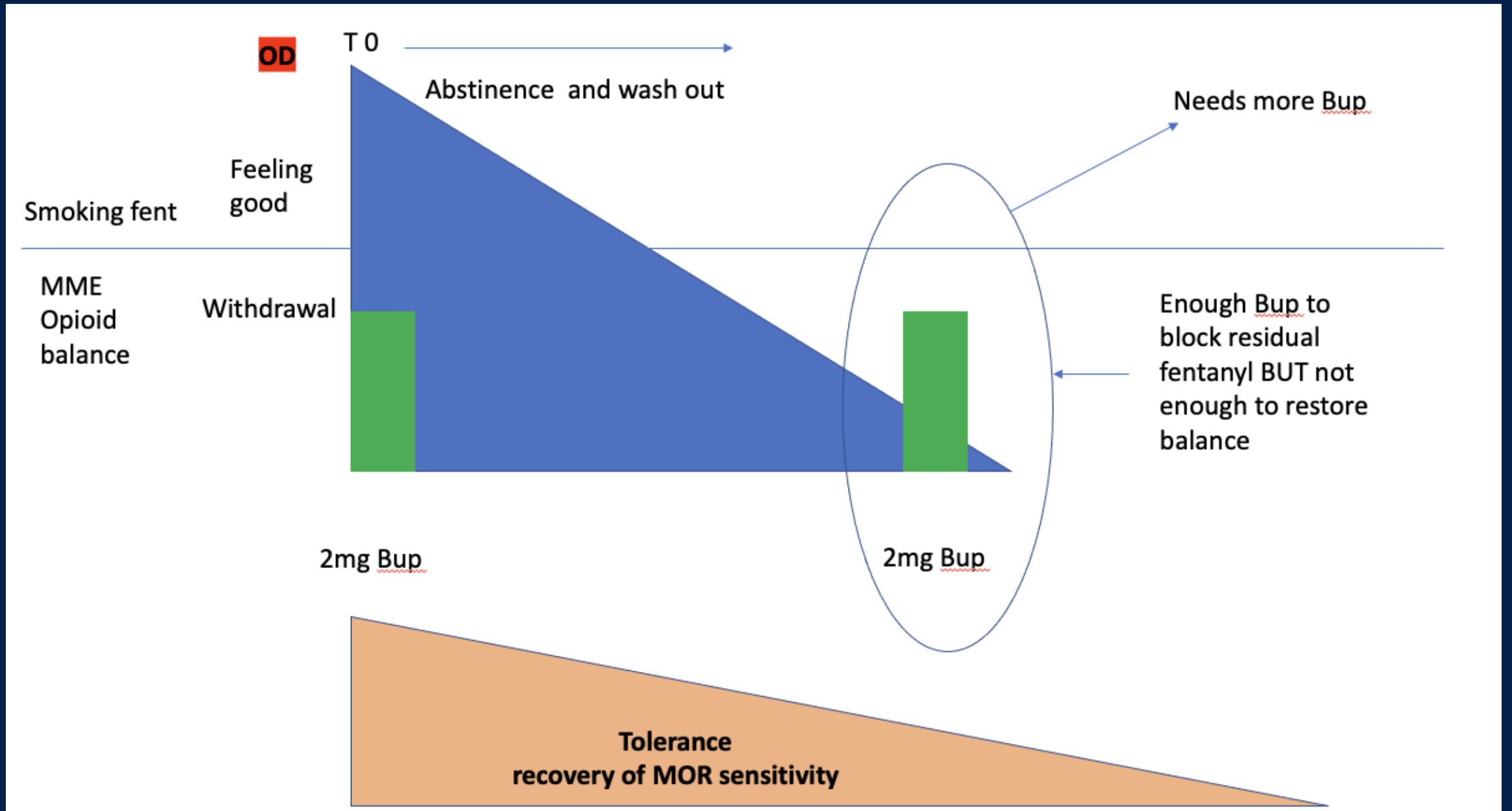
Opioid Assisted Bup Induction

- Opioids continued and even increased
- Bup ramp over 2-5 days
- Begin at ≤ 1mg SL

How about starting BUP?



AGONIST: morphine ER 60mg Q 6 ATC; Hydromorphone 8mg PO PRN
BUP: Day 1 0.5mg SL Q 3H Day 2 1mg Q 3H Day 3 Sublocade


OD
T 0
Abstinence and wash out
Needs more Bup
Feeling good
Smoking fent
MME Opioid balance
Withdrawal
Enough Bup to block residual fentanyl BUT not enough to restore balance
2mg Bup
2mg Bup
Tolerance
recovery of MOR sensitivity

Case 2

Sickle Cell Crisis on Bup

- SSD
- Heroin use
- On Bup 24mg/day x 6 months
- Presents with typical back and leg pain

Sickle Cell Crisis on Bup

Acute Pain Management in Patients on Buprenorphine (Bup) Treatment for Opioid Use Disorder

Emergency Department / Critical Care

Continue Maintenance Bup
Divide dose q4-8hrs
(e.g 4mg Bup SL QID)

↓

Non-opioid analgesia

- Promote calm and comfort
- Regional Anesthesia
- Acetaminophen and NSAIDs
- Gabapentinoids
- Alpha-2 Agonists
- Ketamine & Magnesium
- IV Lidocaine

↓

Additional opioids

Option 1 High affinity full agonist opioids
- Fentanyl
- Hydromorphone

Option 2 Additional Bup
- Increase SL Bup
- Start IV Bup

↓

Taper down to maintenance dose Bup

Promote calm and comfort

Anxiety, fear, depression are common: Instill sense of control, provide education on self-management techniques such as mindfulness meditation. Reduce noise, uncertainty, confusion.
Positioning, splinting, and physical comfort should be maximized. Minimize unnecessary NPO status.
TREAT UNPLEASANT SYMPTOMS:
Diphenhydramine 25-50mg PO q8h prn insomnia/anxiety
Tizanidine 2-4mg q6h prn muscle spasms
Ondansetron 4mg PO q6h prn nausea
Trazadone 50mg PO qhs prn insomnia
Melatonin 3mg PO qhs prn insomnia
Lorazepam 0.5-1mg PO prn anxiety
Antipsychotics prn psychotic disorder symptom control
Nicotine replacement prn tobacco dependence

Regional Anesthesia

Peripheral nerve blocks: superficial cervical plexus, brachial plexus, radial/median/ulnar, PECS, erratus plane, TAP, femoral, sciatic, posterior tibial.
Spinal and Epidural anesthesia

Acetaminophen and NSAIDs

Acetaminophen and **NSAIDs,** when not contraindicated, should are the foundation of a multimodal analgesic strategy.

Gabapentinoids

In opioid depenent patients, the calcium channel inhibitors, gabapentin and pregabalin reduce postoperative pain and reduce opioid consumption.
Gabapentin 300-600mg PO TID.

Alpha-2 agonists

Clonidine and Dexmedetomidine are anxiolytic and analgesic with significant opioid sparing affects. e.g. **Clonidine** 0.1-0.3mg PO q6-8h prn pain or anxiety (NTE 1.2mg/day, hold if BP <100/70).

Ketamine & Magnesium (NMDAR antagonists)

Ketamine is the most potent non-opioid analgesic for opioid tolerant patients. A brief infusion of 0.3mg/kg IV over 15min is followed by 0.3-1mg/kg/hr as needed.
Magnesium is also an NMDAR with analgesic and opioid sparing effect. eg. 30-50mg/kg bolus followed by 10-mg/kg/hr.

IV Lidocaine (Na channel antagonist)

Opioid sparing analgesic. A bolus of 1-1.5mg/kg is followed by 1.5-3 mg/kg/h. Contraindications include cardiac dysrthymias. Must monitor serum levels after 24hrs.

High Affinity Full agonist Opioids

Hydromorphone, fentnayl, and sufentanil can be added to maintenance Bup to provide synergistic analgesia. Titrate to analgesia and side effects. This will NOT cause withdrawal.

Additional Bup

There is no clinical ceiling on Bup analgesia. SL Bup can be given as frequently as q2h. IV Bup is a potent analgesic start at 0.3mg IV and titrate as needed. At higher doses respiratory depression does occur.

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Journal of Pain Research

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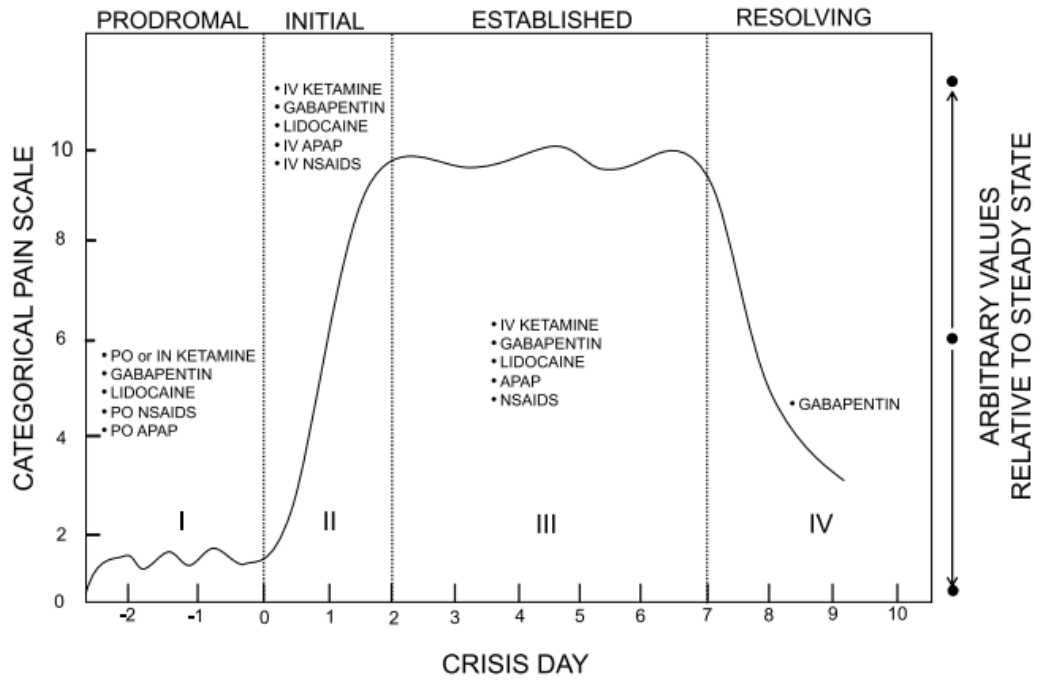
REVIEW

Moving Toward a Multimodal Analgesic Regimen for Acute Sickle Cell Pain with Non-Opioid Analgesic Adjuncts: A Narrative Review

Martha O Kenney[1], Wally R Smith[2]



Acetaminophen
NSAIDs
IV Lidocaine
Gabapentin
KETAMINE

Sickle Cell Crisis on Bup

ANESTHESIOLOGY

Analgesic Effects of Hydromorphone *versus* Buprenorphine in Buprenorphine-maintained Individuals

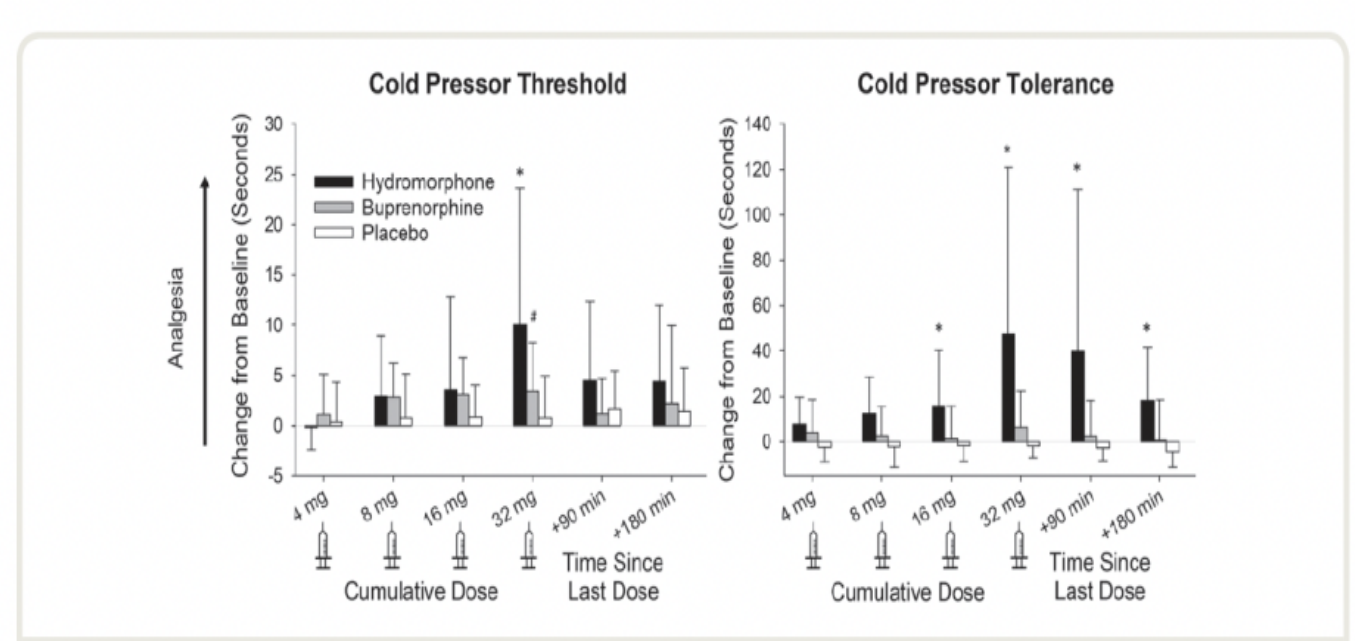
Andrew S. Huhn, Ph.D., Eric C. Strain, M.D., George E. Bigelow, Ph.D., Michael T. Smith, Ph.D., Robert R. Edwards, Ph.D., D. Andrew Tompkins, M.D., M.H.S.

ANESTHESIOLOGY 2019; 130:131–41

Maintained on 16mg / day Bup

At trough (17hrs) since last dose

16-32 IV Bup or hydromorphone needed for strong analgesic response



Final Takeaways/Summary

- Emergency Department treatment of pain and oud is a fantastic opportunity to help patients with OUD
- Buprenorphine can be initiated or continued in nearly all cases
- Exotic treatments like IV ketamine are common and easily administered in the ED
- ER clinicians love supportive partners!

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