Pain Management for Persons with Opioid Use Disorder

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Objectives

- Understand the complexities of treating acute and chronic pain in patients with opioid use disorder (OUD).
- Understand various approaches to treating pain in a person with OUD who is on an agonist-full or partial- for OUD
- Understand how acute and chronic pain can be treated when the OUD patient is on an antagonist medication.

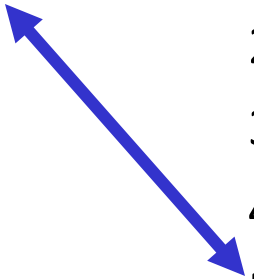
The capacity for *hope* is the most significant fact of life. It provides human beings with a sense of destination and the energy to get started.

Norman Cousins

Anatomy of an Illness

Treatment Goals

Person in Pain	Provider
1. Reduce Pain Intensity (48%)	1. Improve Function (41%)
2. Diagnosis (22%)	2. Minimize side-effects(26%)
3. Improve Function	3. Find Diagnosis
4. Minimize side-effects	4. Improve Enjoyment
5. Improve enjoyment	5. Reduce pain intensity



Clinical Journal of Pain

Pain and Addiction

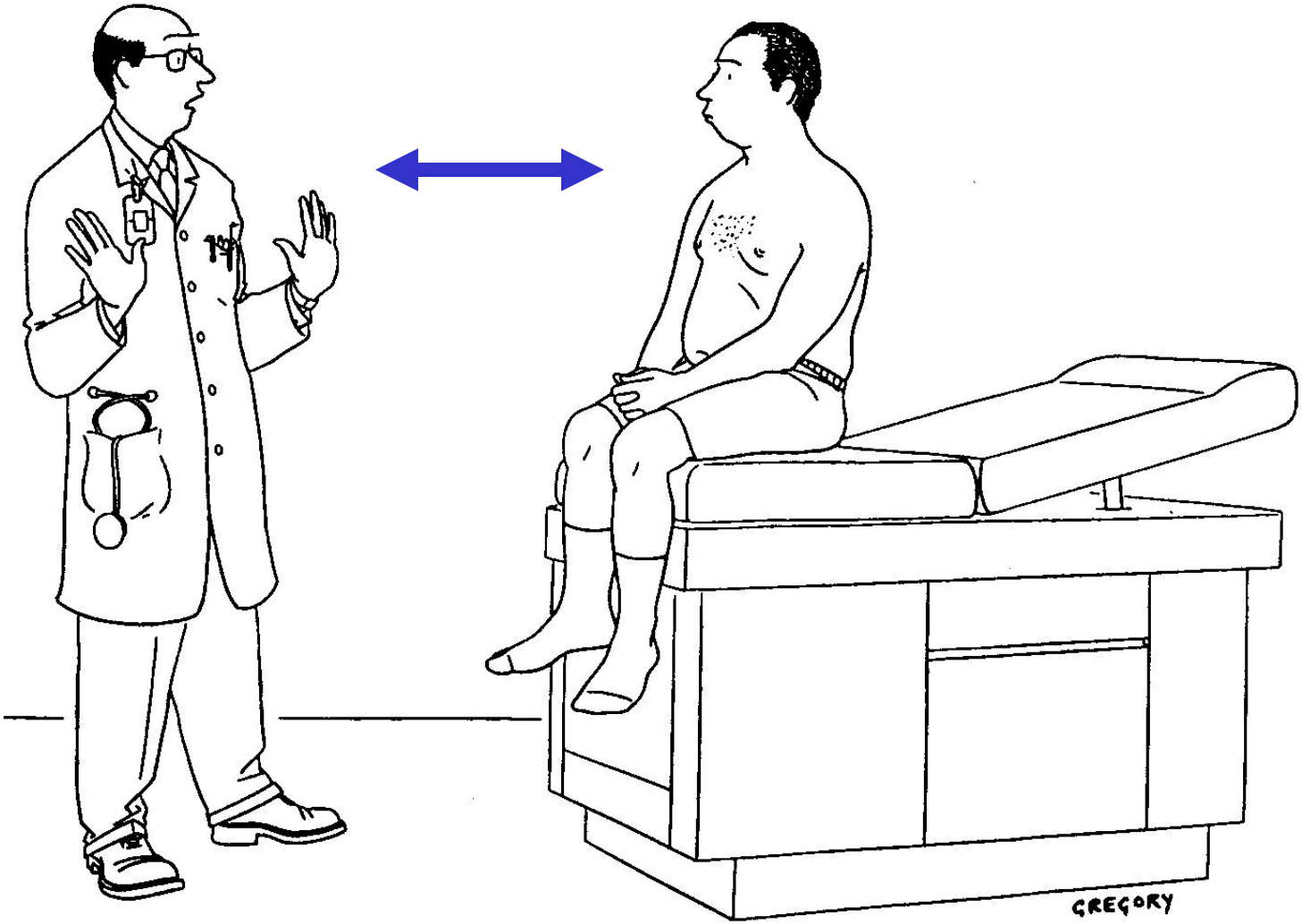
Potential for mutual mistrust:

- Provider
  - drug seeking
  - dependence/intolerance
  - fear / lack of knowledge
- Patient
  - lack of empathy
  - avoidance
  - Fear/ lack of knowledge

Altered Pain Experience in Persons with Opioid Dependence

- Less pain tolerance when opioid dependent
- Less pain tolerance on agonist maintenance.
- Less pain tolerance in women on methadone maintenance after cesarean delivery

Martin J (1965), Compton P (2000), Meyer M (2007)



"Whoa…way too much information"

Approach to the Person

Maximize provider/team time with person/family

- Attitudes
  - Develop comfort in caring for people with substance use disorder (SUD)
  - Open, Non-judgmental, patient-centered care
- Skills
  - Reflect person's perspective to build rapport
  - Motivational interviewing skills
  - Listen mindfully- in quietness
- Knowledge of SUD and pain management

Know mindful, No mindless

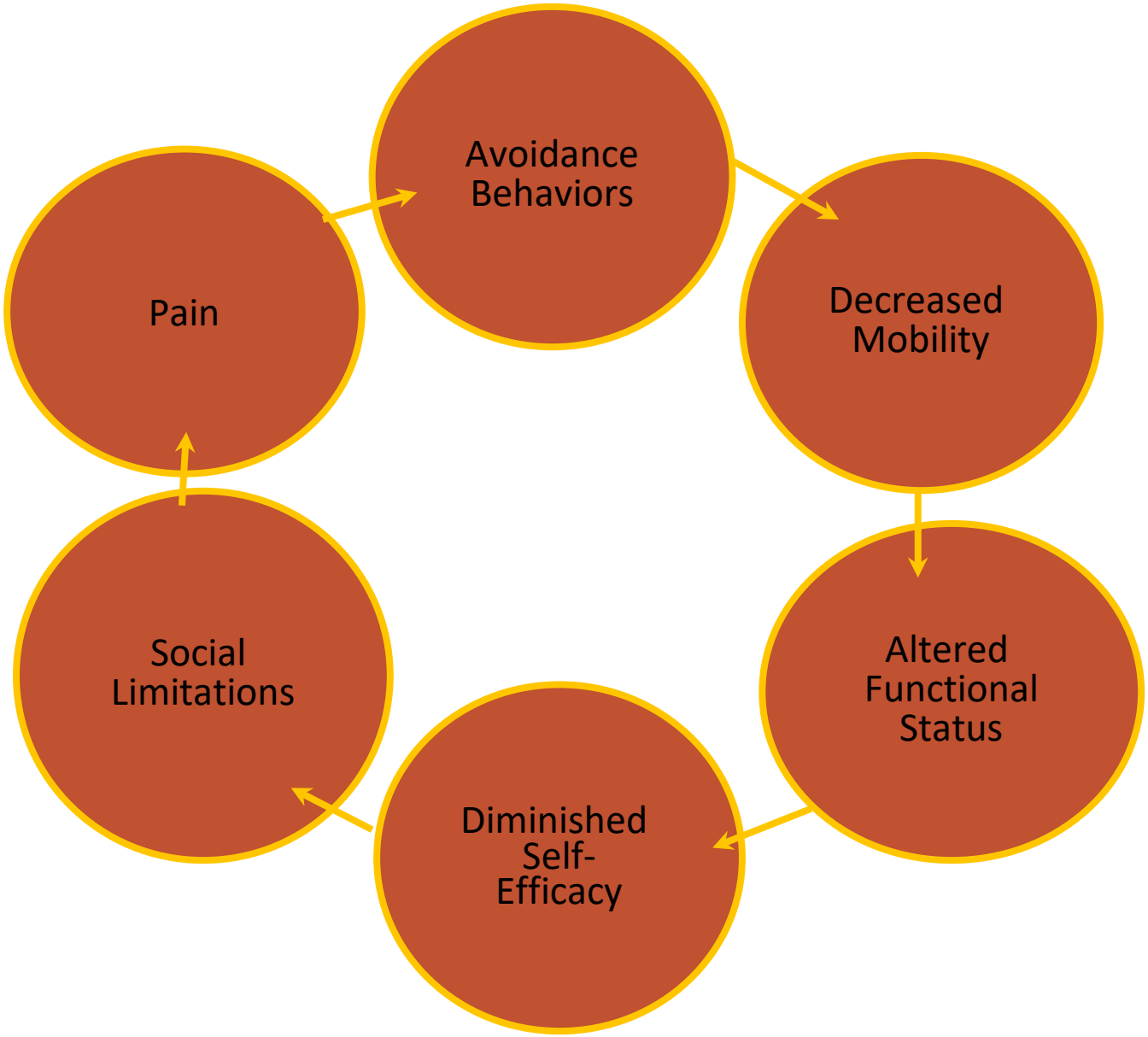
1. Know the patient, know the pain
   a) Establish relationship first
   b) Communication and Teamwork
   c) Systems approach to needed data
      i. Pain engine(s)
      ii. Psychological engine(s)
      iii. Outpatient data = Know past
      iv. Plant seed of recovery (HOPE) early
      v. Motivation(s) for treatment
      vi. Contextual aspects of presentation

Perceived Pain as Suffering

At risk patients

- Past history of SUD
- Emotionally traumatized
- Dysfunctional / alcoholic family
- Lacks effective coping skills
- Dependent traits
- Aberrant pain processing

Vicious Cycle of Uncontrolled Pain



Philosophy and Goals:

Pain is unavoidable, suffering is modifiable

- Primary Goals are Two:
  - Reduce pain and suffering
  - Maintain/Increase functioning
- Everyone has unused potential
- Feelings, beliefs, thoughts, and actions
  - We possess ability to use these to create negative feedback loops that re-cycle to increase pain and suffering. Thankfully, the reverse is true.

No Magic Bullet

Truth should not be Punitive

Pain Treatment in People with SUD

- Safe-ish Pain control is possible
- Explain potential for relapse (iatrogenic)
- Explain the rationale for the medication management to patient and supporters
- Establish a treatment plan with the patient
- Encourage family/*support system involvement*
- See frequently, **esp. around medicalizations**
- Involve OUD treatment Team
- Consultations and **multidisciplinary** approach

Balance Safety and Efficacy

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Fax (987) 654-3211

Lic. #: A12345
DEA #: AA7654321
NPI #: 789456123

110922A12345 #00001

Name Shirely Hurtz DOB 6/06/66

Address 123 Diversion Way Date 8/28/19 M/F

℞

Percocet 7.5 mg

Sig.- 1-2 *po* each 4-6 hrs. *prn* pain
Disp.- 90

Refill NR 1 2 3 4 5 Void After _____ ☐ Spanish

X ☐ Do Not Substitute-Dispense As Written

Sue D. Goode
Signature

SEE BACK FOR LIST OF SECURITY FEATURES

Treatment of Acute Pain During Full or Partial Agonist MAT

- Maintain current dose of the agonist treatment
- Methadone and buprenorphine analgesic properties are shorter acting than their potential to reduce craving and withdrawal so divided doses are more effective
- Avoid using mixed agonist/antagonist meds
  - e.g. butorphanol
- Risk of relapse may be higher with inadequate pain management
- Opioid analgesic doses will typically ***be higher*** due to cross tolerance and increased pain sensitivity (**OIH**)

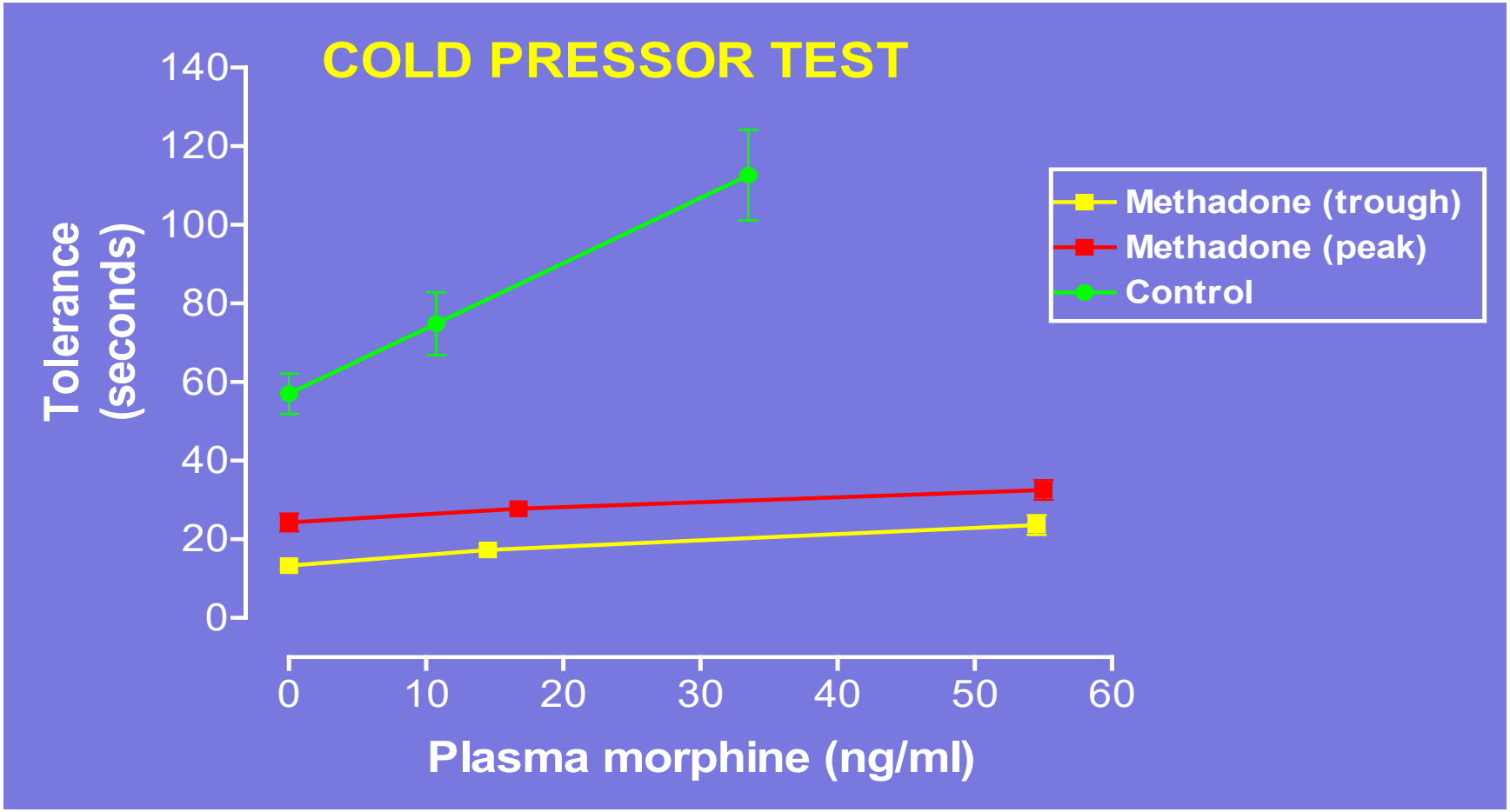
Alford DP, et.al. Ann Internal Med 2006

Opioid analgesic doses will typically ***be higher*** due to cross tolerance and increased pain sensitivity (**OIH**)

- When compared with matched opioid-naïve controls-
  - surgical patients on chronic opioids for OUD, cancer, and chronic noncancer pain used on average **three** times higher morphine equivalents in the first 24 hours after surgery
- Why so much more?
  - more permissive dosing in 1995 and certainly due to tolerance and OIH**

Pain 1995;61 (2):195–201

Morphine in MM patients



Problems associated with Pain Management in MMT Patients

- Methadone clinics cannot administer methadone more than once daily
- Methadone can only be prescribed for opioid use disorder in an OTP (in ED/Hosp. Ok)
- Drug testing more confusing if an additional opioid is being prescribed
- Focus on non-pharm. and non-opioid treatments for first

Treatments

- *EDUCATION*
- Progressive Exercise
- Aerobic/strength
- Water activities
- Yoga/Tai Chi
- *Massage*/Acupuncture
- Chiropractic
- Heat, TENS, Ice
- Pacing Activity
- **Purpose**/Service

- Mind-Body
  - Diaphragmatic breathing
  - Guided Imagery & MBSR
  - Relaxation Response & CBT
  - Counseling
- Goal Setting
- Fun/Bliss/enjoyment
- Non-opioid medicine
- Sleep Changes
- Food as Medicine
- *EDUCATION*

Only need to exercise on days you eat

Non-Opioid Modalities

- Medications
  - NSAIDS/APAP
  - Anticonvulsants
  - Antidepressants (SNRIs, TCAs)
  - Topical agents
  - Ketamine/laughing gas
- Interventions
  - Nerve blocks/ablations
  - Steroid injections
  - Trigger point injections
  - Balls of local (acute pain)
  - Stimulators

Acute Pain with MMT

- Continue once daily methadone dose
- Add full agonist for acute pain and post-op
  - Avoid Drug of Choice (DOC)
- Patients on agonist therapy will have a higher tolerance to opioids, not to pain
- Continue to monitor the patient when titrating and tapering the opioid
- *Short Rx duration,* ***safe-storage***
- Naloxone Rx and Education

Alford DP, Compton P, Samet JH. Ann Intern Med 2006

Kantor TG et al. Drug and Alc Dependence. 1980

Buprenorphine and mu-agonists

- both preclinical and clinical studies demonstrate that, at analgesic doses, the combination of buprenorphine and mu-agonists elicits an **additive response**
- antagonistic effects were only seen when buprenorphine was used at doses higher than analgesic doses (> 12-16 mg/day)

Buprenorphine for Pain

- Sublingual bup. products for pain exist- *Belbuca*
- Mono-product, Sublingual combination (Bup./nal.), subdermal and subcutaneous formulations for treatment of OUDs
  - ➢It can be used off label for pain
- The parenteral and transdermal (7 day) forms are **not** approved for treatment of OUD
  - –IM/IV 0.3 mg IM/IV every six hours as needed
  - –It is illegal to use these formulations for the treatment of an OUD, but legal for pain

SL Buprenorphine: Pain Dosage
OFF LABEL

- Considered 30X stronger than morphine
- Opioid Naïve
  - 1-2 mg BID- TID (3-6mg/day)
- Opioid Tolerant
  - 4mg BID-TID (12-16mg/day)
  - 24mg/day split doses
  - 32mg/day maximum split doses

Chronic Pain Not (maybe not) Associated with Worse MAT Outcomes

Prospective study:

- Comparing Office-based opioid treatment (OBOT) retention and opioid use patients with and without pain
- Results:
  - no association between pain and buprenorphine treatment outcomes

Fox AD et al. Subst Abuse. 2012;33(4):361-5

Meta-Analysis review:

- Chronic pain may increase the risk for poor physical, psychiatric, as well as personal and social functioning for patients with opioid use disorder and on MMT

Dennis BB, et.al., Subst Abuse. 2015; 9: 59–80

Study on Sublingual Buprenorphine In 95 pain people referred "opioid detox."

- Patients not benefitting from long term opioid therapy
  - Increased pain
  - Decreased Functional Capacity
  - Emergence of opioid use disorder (8%- curious)
- Chronic non-cancer pain treated with bup./ nalox.
  - Good retention in treatment with relatively few complaining of increased pain
- Buprenorphine maintained patients with pain
  - Suggested that analgesia was better if dosing was divided.

Malinoff H, 2005; Heit HA, Gourlay DL. 2008; Pade PA, 2012

Acute Pain in the Buprenorphine Maintained Person

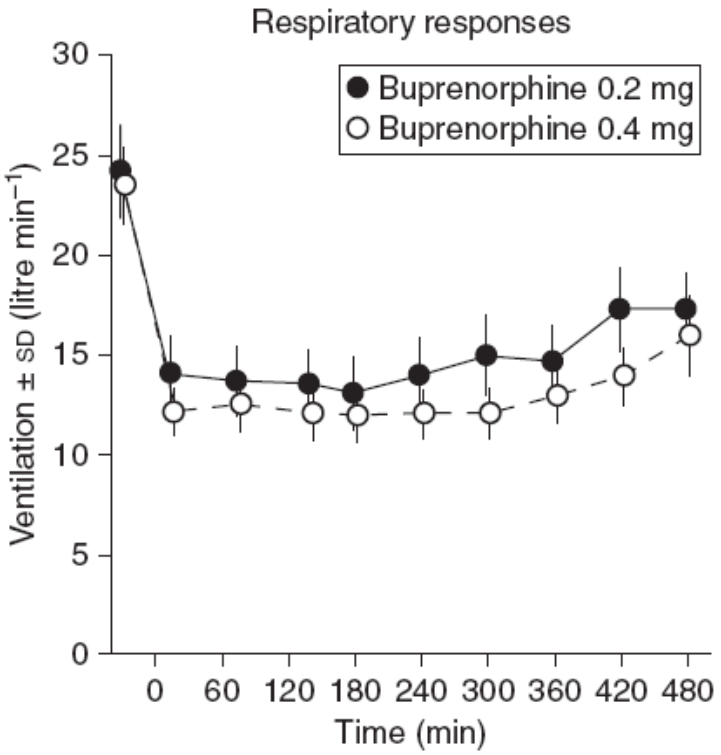
- Attempt stabilization with non pharmaceutical and non-opioid treatments

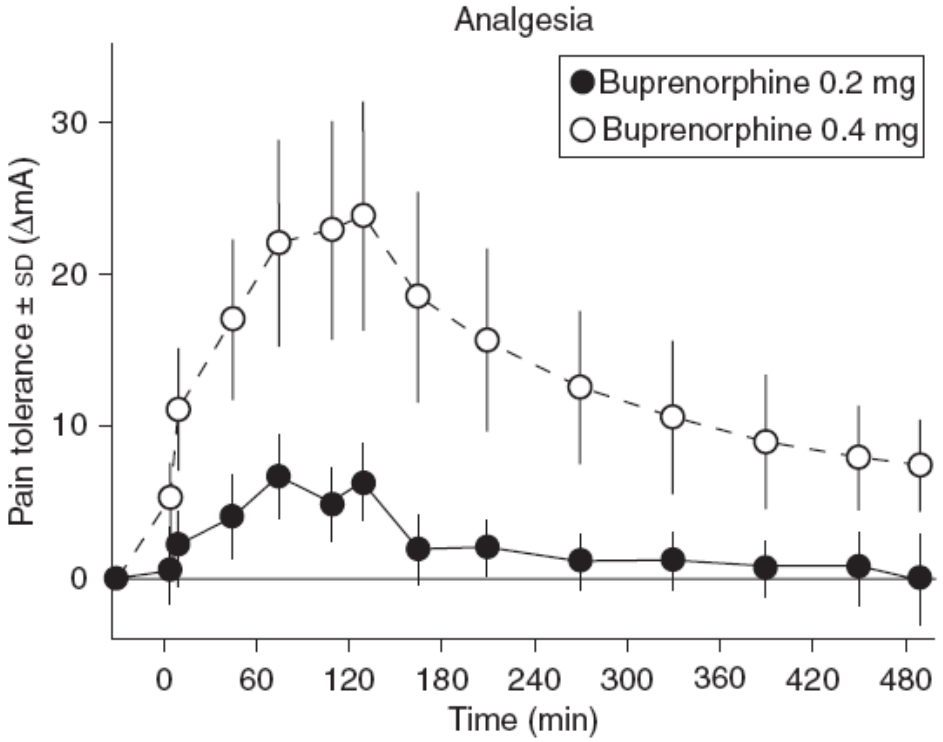
1. Consider splitting buprenorphine dose
2. Consider temporary dose increase
3. Consider using a full agonist with buprenorphine.
4. Less commonly, consider discontinuation of buprenorphine and initiating a full agonist

- Know that a higher than normal dose of opioids will likely be required. Chronic buprenorphine use causes hyperalgesia and opioid tolerance*

Pain Medicine 2018; 0: 1–10*

Buprenorphine Safety and Pain





An increase in the dose can improve analgesia but there is no change in respiratory depression.

Dahan A et al. Br J Anaesh 2006

Table 4. *Summary of recommendations for perioperative management of buprenorphine.*

Type of Surgery	Buprenorphine Management	Perioperative Pain Management	Postoperative Monitoring
Elective surgery with low postoperative opioid requirement (e.g., bronchoscopy, colonoscopy, cystoscopy)	Continue buprenorphine perioperatively without taper.	Utilize non-opioid adjuvants (NSAIDs, COX-2 inhibitors, NMDA antagonists). Utilize regional anesthesia if applicable. Maximize local anesthetic infiltration by surgeon.	Post anesthesia care unit and regular nursing floor Discharge home if pain is adequately controlled.
Elective surgery with intermediate postoperative opioid requirement (e.g., laparoscopic, thoracoscopic, arthroscopic, open neurosurgical)	Discontinue buprenorphine 3 days prior to procedure. No pure agonist therapy for bridging needed.	High affinity pure mu-opioid receptor agonist therapy, consider high-dose PCA. Utilize non-opioid adjuvants (NSAIDs, COX-2 inhibitors, NMDA antagonists). Utilize regional anesthesia if applicable. Maximize local anesthetic infiltration by surgeon.	Post anesthesia care unit Discharge home if pain is adequately controlled. Consider intensive care unit bed for respiratory monitoring in difficult to control pain.
Elective surgery with high postoperative opioid requirement (e.g., laparotomy, thoracotomy, orthopedic procedures)	Discontinue buprenorphine 3–5 days prior to procedure. Consider pure opioid agonist for one to 2 doses to manage withdrawal symptoms.	High affinity pure mu-opioid receptor agonist therapy, consider high-dose PCA. Utilize non-opioid adjuvants (NSAIDs, COX-2 inhibitors, NMDA antagonists). Utilize regional anesthesia if applicable. Maximize local anesthetic infiltration by surgeon.	Post anesthesia care unit Consider intensive care unit bed for respiratory monitoring.
Emergency surgery with low postoperative opioid requirement	Continue buprenorphine perioperatively without taper.	Utilize non-opioid adjuvants (NSAIDs, COX-2 inhibitors, NMDA antagonists). Utilize regional anesthesia if applicable. Maximize local anesthetic infiltration by surgeon.	Post anesthesia care unit and regular nursing floor Discharge home if pain is adequately controlled.
Emergency surgery with intermediate or high postoperative opioid requirement	Ascertain last dose of buprenorphine. Discontinue buprenorphine, do not administer perioperatively.	High affinity pure mu-opioid receptor agonist therapy, consider high-dose PCA. Utilize non-opioid adjuvants (NSAIDs, COX-2 inhibitors, NMDA antagonists). Utilize regional anesthesia if applicable. Maximize local anesthetic infiltration by surgeon.	ICU for respiratory monitoring

Perisurgical Pain Management

For major surgical procedures:

- Take bup. dose the day before surgery
- Restart buprenorphine when pain is stabilized
- Continue opioid supplementation either parenteral or oral if necessary

Newer Data

- buprenorphine can be continued throughout surgical course, and full opioid agonists can be added for additional pain control and reducing need for the second opioid

Kornfeld, Am J Ther, 2010, Oifa, Clin Ther, 2009

Perioperative Management of Buprenorphine: Solving the Conundrum

- Review article
- reviewed the available literature on BUP and the analgesic efficacy of BUP combined with full mu-opioid agonists
- discuss the conflicting management strategies in the context of acute pain
- Mass. General's institution protocol for the periprocedural management of BUP

Pain Medicine, 0(0), 2018, 1–14

Perioperative Management of Buprenorphine: Solving the Conundrum

- Supporting discontinuation
  - 4 case reports
- Supporting Bup. Continuation
  - 2 case series
  - 1 secondary observational study
  - 1 prospective matched cohort
  - 4 retrospective cohort studies
- Maintaining BUP perioperatively does not lead to worsened clinical outcomes

Naloxone Rx

and

Education

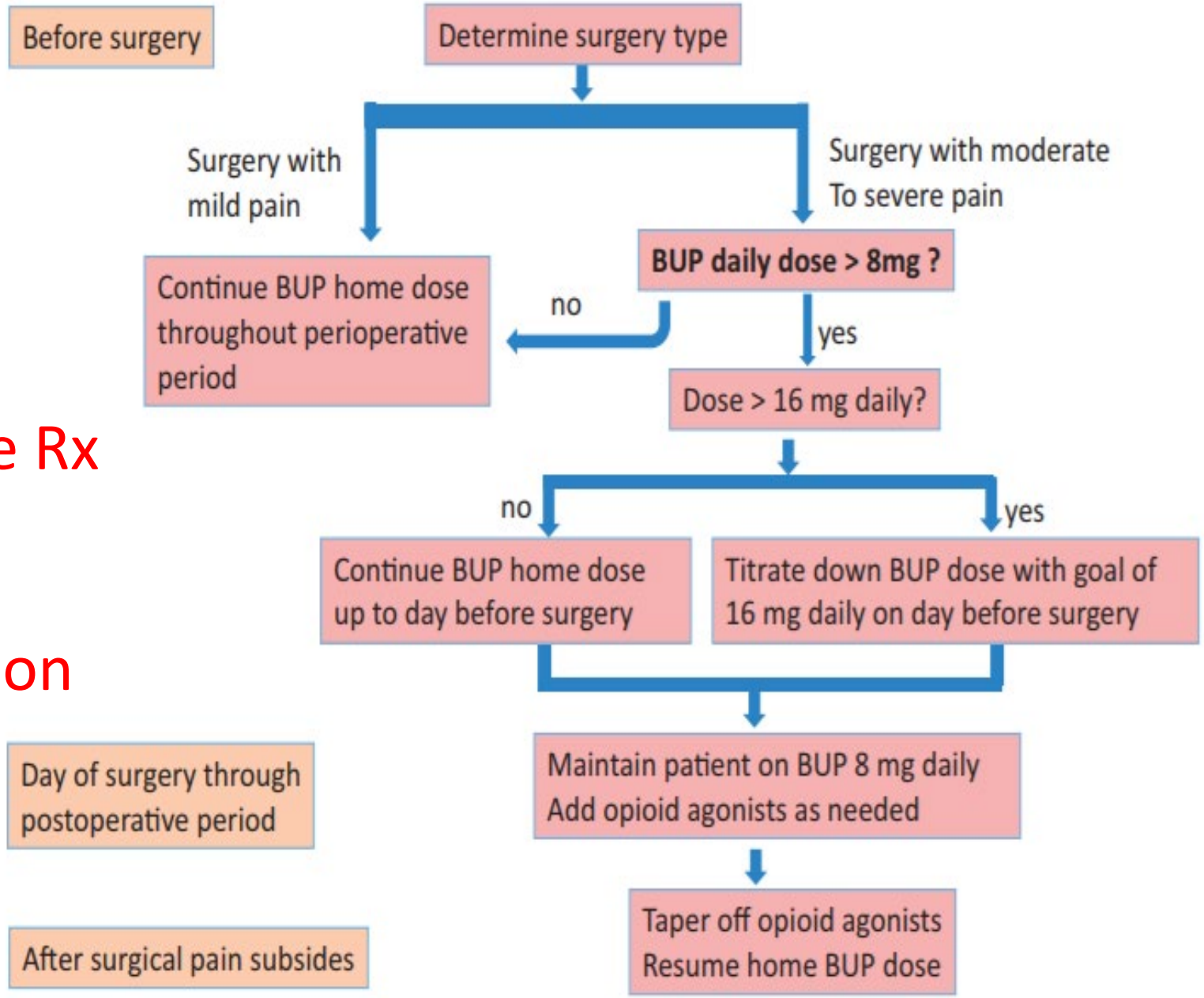


Figure 1. Algorithm for perioperative management of buprenorphine. BUP = buprenorphine.

Naltrexone XR (Extended Release)
Patient: Mild to Moderate Acute Pain

Non Opioid Therapies:

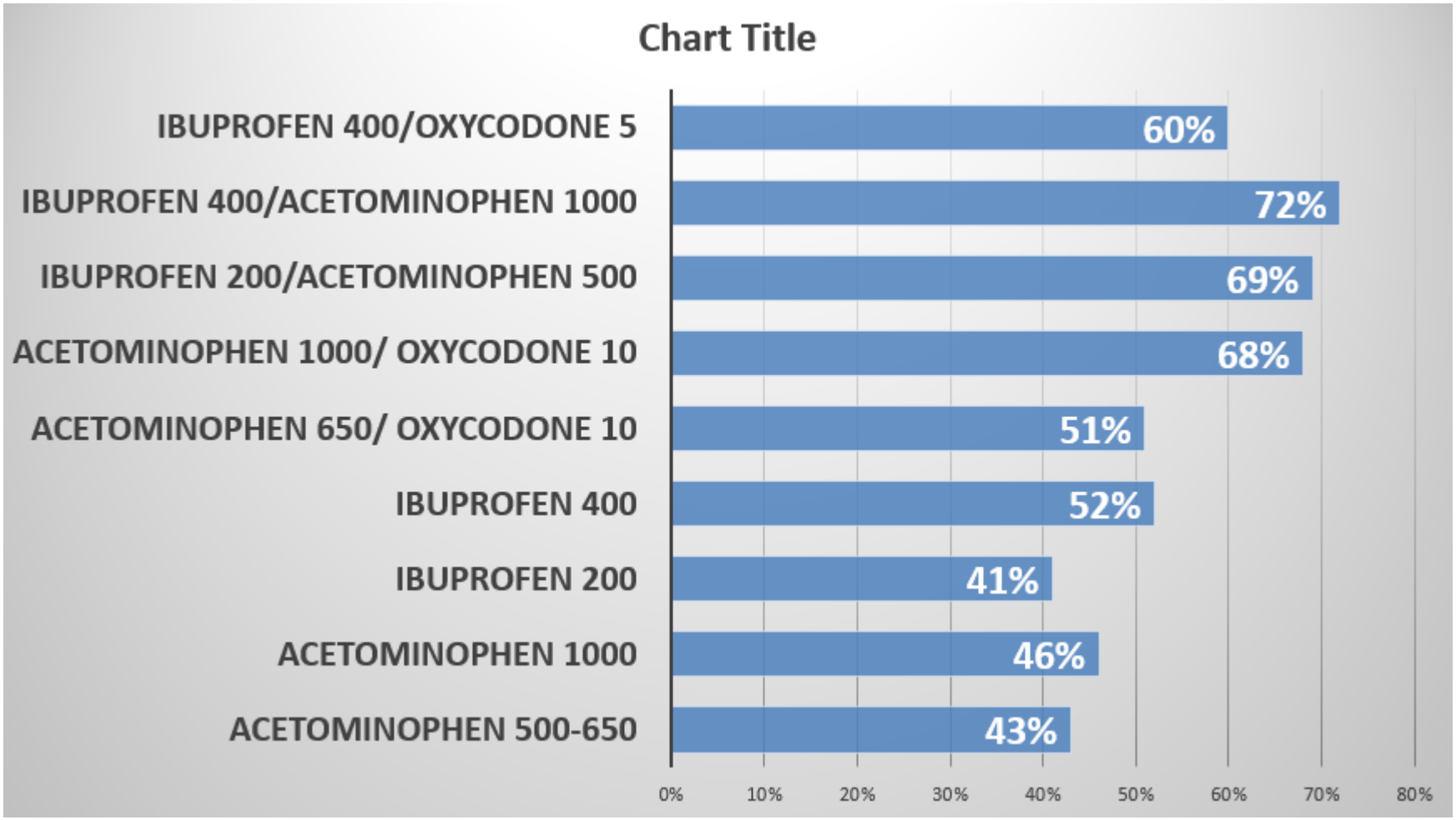
- Acetaminophen
- NSAIDs
- Ketamine
- Alpha-2 agonists
- Antispasmotics
- Nitrous oxide
- Antineuropathic agents
  (ex. Gabapentin)

Nonpharmacologic Therapies:

- Education
- Stress management/CBT
- Exercise
- PT/OT
- Acupuncture
- Peripheral nerve block
- Centroneuraxial block
- Local anesthetic infiltration (balls)

Single Dose Oral Analgesics for Acute Post-Operative Pain

Percent of patients 50% pain relief



OXYCODONE 5 = PLACEBO

Moore RA, Derry S, Aldington D, Wiffen PJ. Single dose oral analgesics for acute postoperative pain in adults - an overview of Cochrane reviews. *Cochrane Database Syst Rev.* 2015(9):CD008659

Naltrexone Patient: Elective Surgery

- Oral naltrexone:
  - (1/2 life 14hrs X 5 ½ lives) discontinue 72 hours prior to surgery
- Naltrexone XR Injectable:
  - discontinue the injectable at the normal 4 week interval
  - then initiate oral naltrexone
  - discontinue this 72 hours prior to surgery
  - at 25 days there is a 98% elimination of the drug: typically recommend waiting an additional 3 days

Robers LJ. Aust Presc 2008; 31:133

Vickers, AP and A Jolly. British Medical Journal 2006 Jan 21;332(7534):132-3

Arnold R, Childers J, UpToDate, Waltham, MA, Dec. 13, 2014

Naltrexone XR Patient: Severe Acute Pain

- Naltrexone will block full opioid agonists
- Optimize all non-opioid and non-medication treatment modalities for moderate pain
- May require high dose full opioid infusion in the ICU setting
- Ketamine might work well as bridge
- As naltrexone effect wanes, full agonist dosing must be closely monitored to avoid overdose

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Lic. #: A12345
DEA #: AA7654321
NPI #: 789456123

110922A12345 #00001

Name Ms. Ima S. Ober DOB 4/06/86

Address 321 Sobriety Lane Date 8/29/18 M/F

℞ Oxycodone/APAP 5 mg/325 mg

Sig.1-2 po each 6-8 hrs for 2 days,1 po each 6-10 hr for 2 days, 1 po each 8-12 hr as needed for 2 days, stop. (do not exceed 8/day)

Disp.- twenty-six (26)

Refill NR 1 2 3 4 5 Void After _____ ☐ Spanish

☐ Do Not Substitute-Dispense As Written

P. G. Yuan MD

Signature

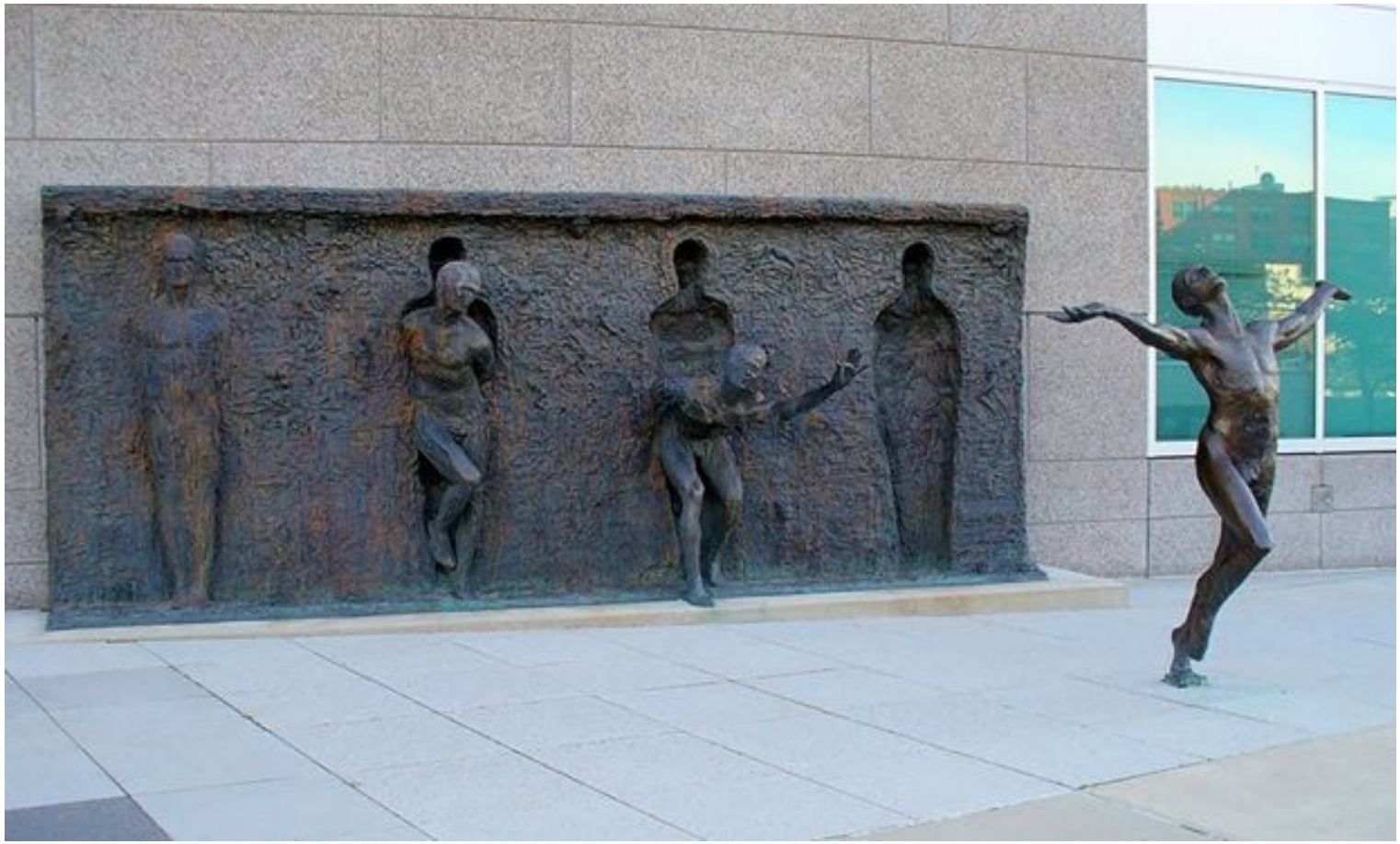
Rx

SEE BACK FOR LIST OF SECURITY FEATURES

Summary

- Opioid Use Disorder complicates the management of acute and chronic pain
- Best to maintain agonist or antagonist OUD medication while being treated for concurrent pain
- Leave nothing to chance
  - Clear and open conversations-all providers
  - Clear assignments and Rx writing
  - Never longer than 7 day Rx
  - Start or maintain support treatment
- Strongly recommend multi-disciplinary treatment in managing these complex patients

The Ultimate Goal
Repatriation



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Effect of Opioid vs Nonopioid Medications on Pain-Related Function in Patients With Chronic Back Pain or Hip or Knee Osteoarthritis Pain - The SPACE Trial

PRAGMATIC, 12-MONTH, RANDOMIZED TRIAL WITH MASKED OUTCOME ASSESSMENT

chronic back pain, hip or knee osteoarthritis pain that occured ~daily for > 6 months

Opioid Group N = 119

Step 1: morphine IR, hydrocodone/acetaminophen, oxycodone IR.
Step 2: morphine sustained-action, oxycodone SA.
Step 3: transdermal fentanyl.

max dosage up to 100 morphine-equivalent mg

Non-Opioid Group N = 119

Step 1: acetaminophen, NSAIDs.
Step 2: nortriptyline, amitriptyline, gabapentin and topical analgesics: capsaicin, lidocaine.
Step 3: pregabalin, duloxetine and tramadol

PAIN RELATED FUNCTION AT 12 MONTHS

BPI Interference Scale (1-10), 10 = worse

3.4 — 3.3

Difference: 0.1 (−0.5 to 0.7), p = 0.58

PAIN INTENSITY

BPI Severity Scale (1-10), 10 = worse

4 — 3.5

Difference: 0.5 (0.0 to 1.0), p = 0.03

MEDICATION RELATED ADVERSE EFFECT OVER 12 MONTHS

Medication related symptom checklist (1-19), 19 = worse

1.8 — 0.9

Difference: 0.9 (0.3 to 1.5), p = 0.03

JAMA. 2018;319(9):872-882.

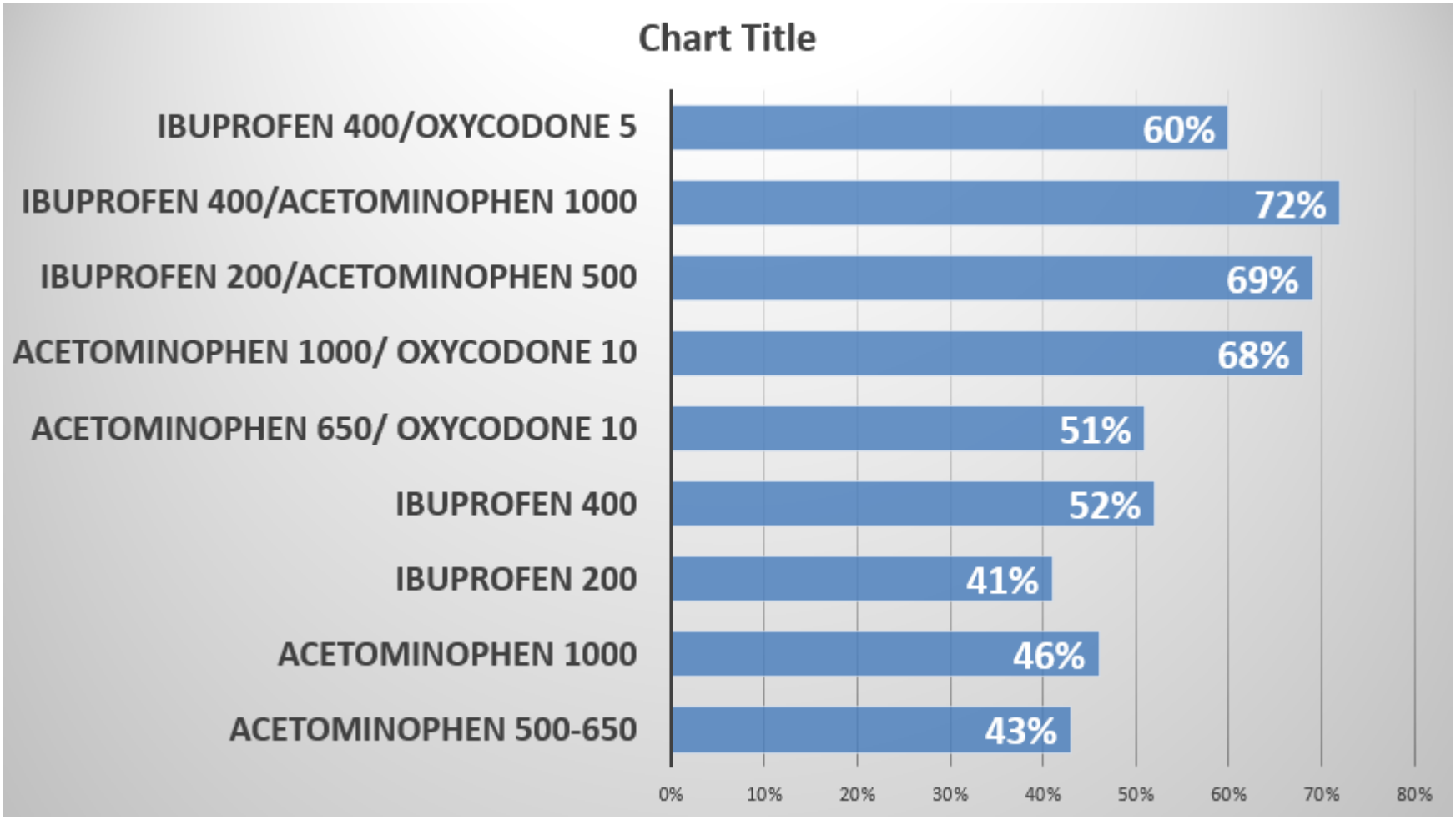
Krebs et al. | visualmed.org

Effect of Opioid vs Nonopioid Medications on Pain-Related Function in Patients With Chronic Back Pain or Hip or Knee Osteoarthritis Pain
The SPACE Randomized Clinical Trial

- moderate to severe chronic back pain or hip or knee osteoarthritis pain despite analgesic use. 240 were randomized.
- Primary outcome Brief Pain Inventory (BPI) interference scale
- Secondary outcome was pain intensity (BPI severity scale)
- Each Arm had 3-tiers and opioid Arm went to 100 MED
- **Pain intensity was signif. better in nonopioid**
- **CONCLUSIONS** Treatment with opioids was not superior to treatment with nonopioid medications for improving pain-related function over 12 months. Results do not support initiation of opioid therapy for moderate to severe chronic back pain or hip or knee OA pain.

JAMA March 6, 2018 Volume 319, Number 9

Single Dose Oral Analgesics for Acute Post-Operative Pain
Percent of patients 50% pain relief



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"I'm not gonna pull the rug out from under you": Patient-provider communication about opioid tapering

4 major themes from these conversations:

1. **Explaining** — patients needed to understand individualized reasons for tapering in addition to general, population-level concerns
2. **Negotiating** — patients needed to have input, even if it was just related to the rate of tapering
3. **Managing difficult conversations** — when patients and providers failed to reach a shared understanding, difficulties and misunderstandings arose
4. **Non-abandonment** — patients needed to know their providers would not abandon them throughout the tapering process.

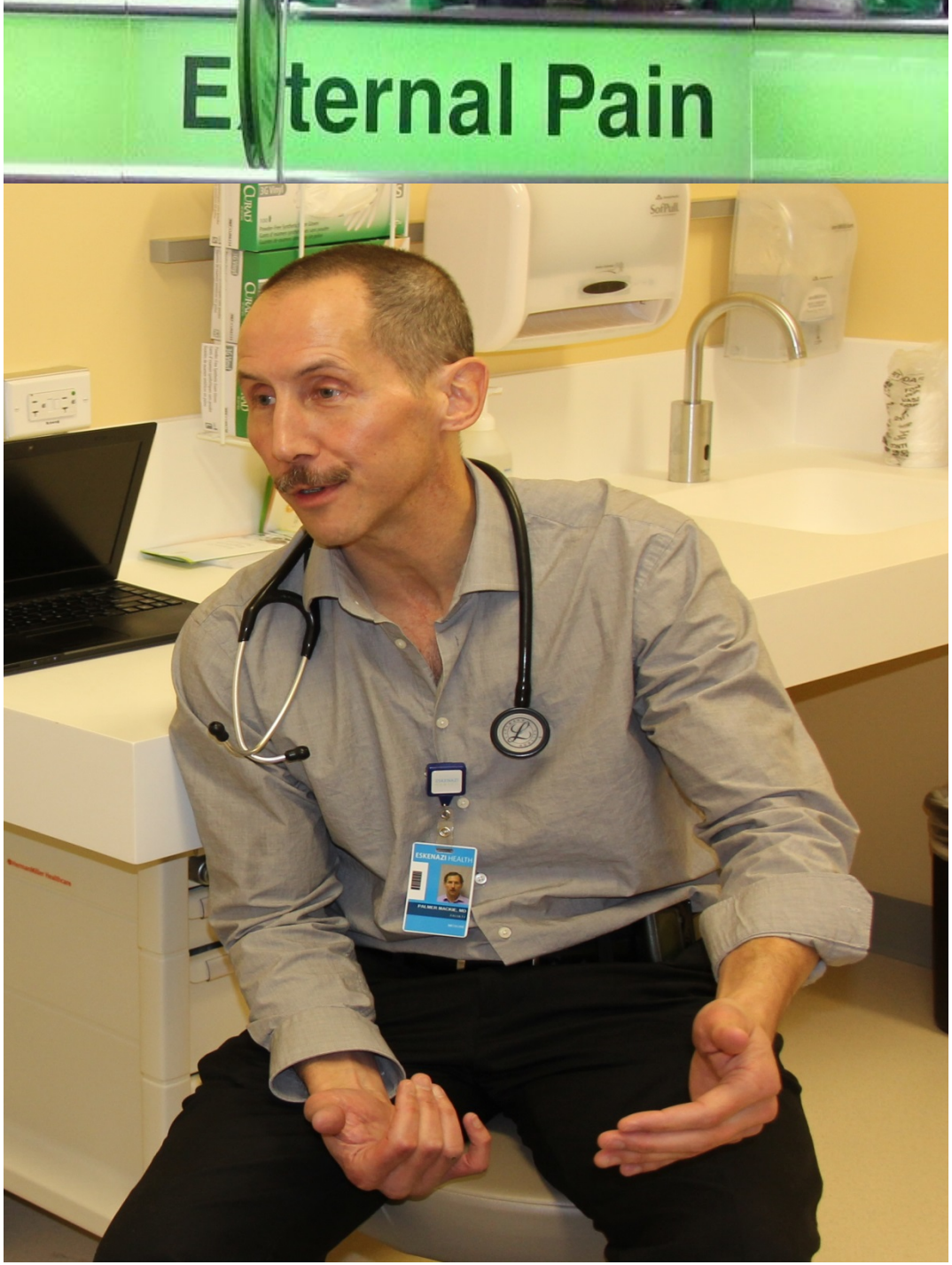
Matthias, M.S., Johnson, N., Shields, C.G., Bair, M.J., MacKie, P., Huffman, M., & Alexander, S.C. Journal of Pain 2017;18(11):1365

Decisions, Effects & Perceptions

- I've not gone to work and don't even go out. I don't go out with my husband. I don't go out with my daughter. I don't go out with anybody… My **life** is pretty much at a **standstill**. (HQ)

- I can't do the things that I used to do and it kind of makes you ***feel like you can't do anything***… You have to depend on people to do stuff for you because, like I said, I can't even walk from here to the bus stop. (MN)

- (Pain) **affects** your **relationships** because it **affects your attitude**. Sometimes, somebody might want to talk to you or whatever and you are in pain and you don't mean to be mean and rude or not responsive.


ternal Pain
ESKENAZI HEALTH