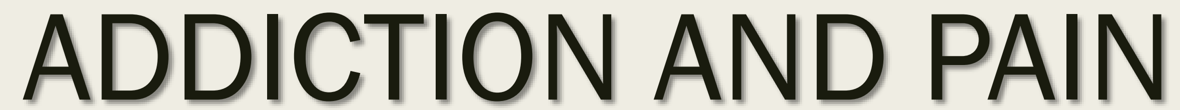
ADDICTION AND PAIN

Patrick Marshalek, MD

Objectives

- Understand what can complicate pain management in this population
- Identify patients with opioid use disorders
- Discuss common presentations
- Learn techniques for safe and effective pain management for opioid dependent patients
- Demonstrate effectiveness of MAT

Pain and addiction

Two common problems

- Increasingly common
  - *Increasing overlap*
- Relationship between opioid epidemic and management of chronic pain
  - *Problems related to focus*
- Treatment of pain leading to addiction
- Addiction leading to pain
  - *Trauma*
  - *IVDU complications*
- After a certain point, matters less which came first
  - *Both can be managed*
- Dual Dx

How did we get to problem

- Always scrutinize evidence base

ADDICTION RARE IN PATIENTS TREATED WITH NARCOTICS

To the Editor: Recently, we examined our current files to determine the incidence of narcotic addiction in 39,946 hospitalized medical patients[1] who were monitored consecutively. Although there were 11,882 patients who received at least one narcotic preparation, there were only four cases of reasonably well documented addiction in patients who had no history of addiction. The addiction was considered major in only one instance. The drugs implicated were meperidine in two patients,[2] Percodan in one, and hydromorphone in one. We conclude that despite widespread use of narcotic drugs in hospitals, the development of addiction is rare in medical patients with no history of addiction.

Jane Porter
Hershel Jick, M.D.
Boston Collaborative Drug Surveillance Program
Boston University Medical Center
Waltham, MA 02154

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2. Miller RR, Jick H. Clinical effects of meperidine in hospitalized medical patients. J Clin Pharmacol. 1978; 18:180-8.

PROGNOSTIC VALUE OF IMMUNOLOGIC MARKERS IN ADULTS WITH ACUTE LYMPHOBLASTIC LEUKEMIA

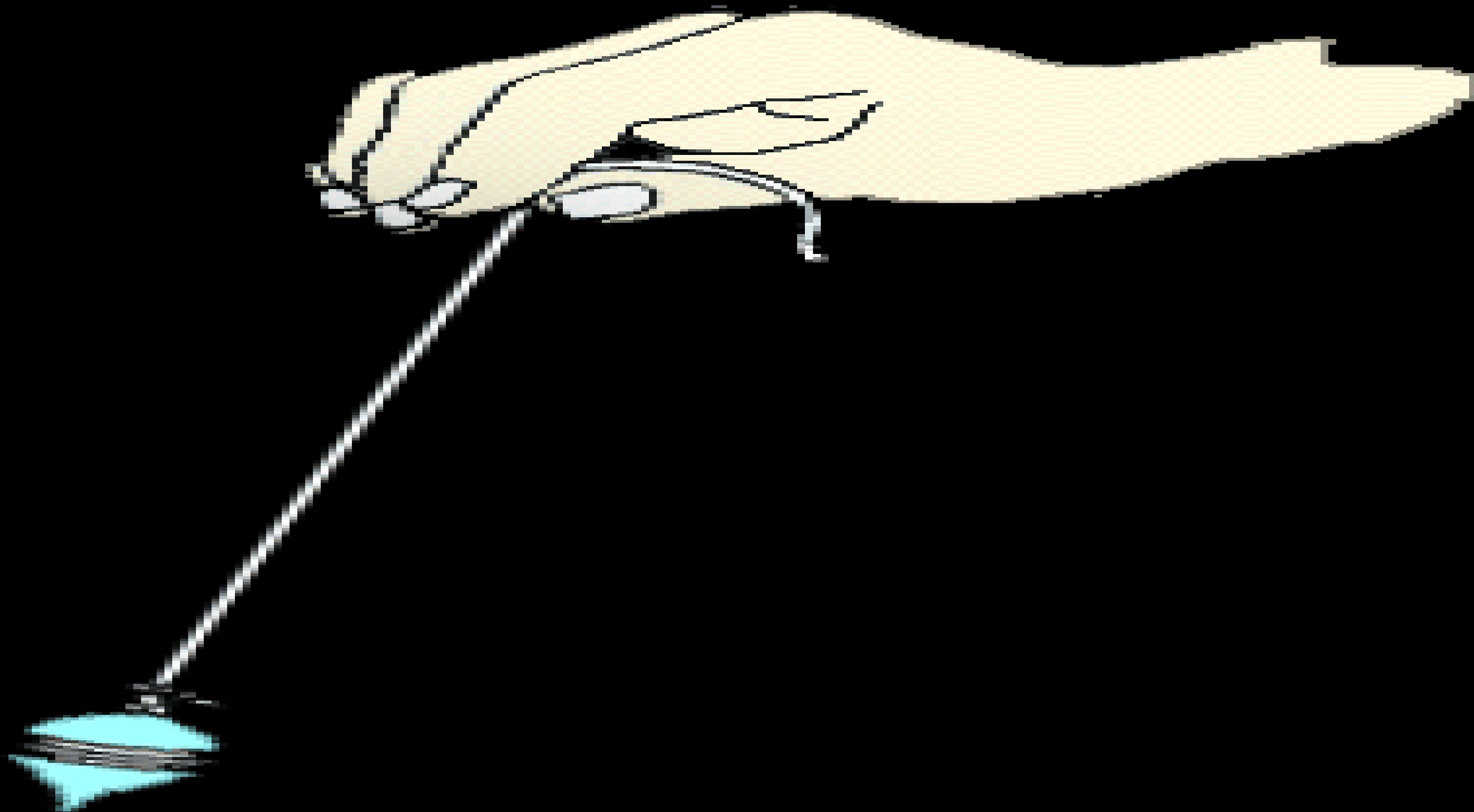
To the Editor: The letter from Dr. Bitran[1] has raised an important but as yet unsettled question about prognostic factors in acute lym-

Then

- Treat pain at all costs
  - *5th vital sign*
  - *“chasing zero”*
- Opioids are safe and effective

Now

- Opioid epidemic
  - *OD overtook MVC*
- No opioids



Addiction

- Opioid dependent
- Use, misuse, abuse
- Dependence, tolerance and withdrawal
- DSM-5
  - *Opioid Use Disorders*
    - Mild, moderate, severe, on agonist therapy
- OxyContin 80 mg q12 vs 10 “stamps” per day IV heroin
  - *Physiologically similar*
  - *Management similar*
    - later

DSM-5 SUDs

- Taking the opioid in larger amounts and for longer than intended
- Wanting to cut down or quit but not being able to do it
- Spending a lot of time obtaining the opioid
- Craving or a strong desire to use opioids
- Repeatedly unable to carry out major obligations at work, school, or home due to opioid use
- Continued use despite persistent or recurring social or interpersonal problems caused or made worse by opioid use
- Stopping or reducing important social, occupational, or recreational activities due to opioid use
- Recurrent use of opioids in physically hazardous situations
- Consistent use of opioids despite acknowledgment of persistent or recurrent physical or psychological difficulties from using opioids
- *Tolerance as defined by either a need for markedly increased amounts to achieve intoxication or desired effect or markedly diminished effect with continued use of the same amount. (Does not apply for diminished effect when used appropriately under medical supervision)
- *Withdrawal manifesting as either characteristic syndrome or the substance is used to avoid withdrawal (Does not apply when used appropriately under medical supervision)
  - *2-3 mild, 4-5 moderate, 6-7 severe*

CDC Guidelines

- Higher dosages of opioids are associated with higher risk of overdose and death—even relatively low dosages (20-50 morphine milligram equivalents (MME) per day) increase risk. Higher dosages haven't been shown to reduce pain over the long term. One randomized trial found no difference in pain or function between a more liberal opioid dose escalation strategy (with average final dosage 52 MME) and maintenance of current dosage (average final dosage 40 MME).
- In a national sample of Veterans Health Administration (VHA) patients with chronic pain receiving opioids from 2004–2009, patients who died of opioid overdose were prescribed an average of 98 MME/day, while other patients were prescribed an average of 48 MME/day.
- Calculating the total daily dose of opioids helps identify patients who may benefit from closer monitoring, reduction or tapering of opioids, prescribing of naloxone, or other measures to reduce risk of overdose.

MME=Morphine Milligram Equivalents

- 50 MME/day:
  - *50 mg of hydrocodone*
    - 10 tablets of hydrocodone/ acetaminophen 5/300
  - *33 mg of oxycodone*
    - ~2 tablets of oxycodone sustained-release 15 mg
  - *12 mg of methadone*
    - <3 tablets of methadone 5 mg)
- 90 MME/day
  - *90 mg of hydrocodone*
    - 9 tablets of hydrocodone/ acetaminophen 10/325
  - *60 mg of oxycodone*
    - ~2 tablets of oxycodone sustained-release 30 mg
  - *20 mg of methadone*
    - 4 tablets of methadone 5 mg

Do the math

No SIM 9:04 AM 92%

Calculator Clear All

MME Total 80

50-89 MME/day Guideline

Fentanyl transdermal
25 mcg/hr, one patch every 3 days 60

Hydrocodone
10 mg, 2 tablets daily 20

Select a drug to edit.
Swipe a drug left to delete.

Add a new drug

Overview Calculator Guideline Interviews Glossary

FDA

- FDA identifies harm reported from sudden discontinuation of opioid pain medicines and requires label changes to guide prescribers on gradual, individualized tapering

Routes of administration

- By mouth
  - *“Use the gut if it works”*
- Intravenous
  - *“Push it fast”*
- Sublingual/transbuccal
  - *Avoidance of first pass*
- Transdermal
  - *Heating pads/cachexia*
- Intramuscular

Lowest effective dose

- Be mindful of conversions
  - *Not all calculators the same*
  - *Controversy*
  - *Utilize resources*
- Pumps
- Epidural
- PCA

Opioids Vilified

- Think about relationship with substance
- Think about risks and benefits
  - *Risks have been know for many, many years*
  - *At times have been minimized*
  - *At times have been overemphasized*
  - *FDA warnings recently*

Pain

- *“Insert definition here”*
- Emotional
- Physical
- On a scale of 1-10
  - *12/10*
- Acute
  - *Local tissue injury*
- Chronic
  - *Where does it live once it becomes chronic*

Opioids

- Analgesic
- Antidepressant
- Anxiolytic
- Euphoriant
- If the reason for pain (acute of chronic) has been addressed but continued need
  - *Question the above*
- Before you go down this road
  - *Question the above*

Opioids

- Acute vs Chronic
- Different risks benefit profile
- Shot of morphine in ED turning into a shot of heroin at home?

Opioids for chronic pain?

- Agree or disagree no shortage of patients on these medications
  - *2 pools*
    - Shut off faucet
    - What to do w excess water?
- Not comfortable with this regimen
  - *How did they arrive there*
    - Not easy to clarify in current climate
    - Not easy for patients to seek care
    - “Pain Refugee”
- Easy to say things got of out hand
  - *Hard to work backwards from current point*
  - *CDC, SEMP*
    - Taper
    - Maintenance

Beyond opioids

- Stimulators
- Blocks
- SNRI
- AED
  - *Trigeminal neuralgia*
- Wellness
  - *Move, acupuncture*
- Focus on function

Who gets opioids?

Risk Assessment

- Chart Review
- History and Clinical Assessment
- Opioid Risk Tool/ SOAPP-R
- Collateral from friends/family members
- Interdisciplinary communication
- SBIRT

Risk Stratification

- Not a bad idea to think about risks
- How much time and energy do you spend on this
- Can be perceived by patients as an extra hoop to jump through
- Some move through the system easier than others

GOOD
BAD

BAD

Opioid-Risk Tool

Medscape® www.medscape.com

Item	Mark each box that applies	Item score if female	Item score if male
1. Family history of substance abuse			
Alcohol	[ ]	1	3
Illegal drugs	[ ]	2	3
Prescription drugs	[ ]	4	4
2. Personal history of substance abuse			
Alcohol	[ ]	3	3
Illegal drugs	[ ]	4	4
Prescription drugs	[ ]	5	5
3. Age (mark box if 16 to 45)	[ ]	1	1
4. History of preadolescent sexual abuse	[ ]	3	0
5. Psychological disease			
Attention deficit disorder, obsessive compulsive disorder, bipolar, schizophrenia	[ ]	2	2
Depression	[ ]	1	1
Total		___	___

Total score risk category: low risk (0–3); moderate risk (4–7); and high risk (≤8).

Source: South Med J © 2007 Lippincott Williams and Wilkins

Exhibit 2-14 SOAPP–R Questions

How often do you have mood swings?
How often have you felt a need for higher doses of medication to treat your pain?
How often have you felt impatient with your doctors?
How often have you felt that things are just too overwhelming that you can’t handle them?
How often is there tension in the home?
How often have you counted pain pills to see how many are remaining?
How often have you been concerned that people will judge you for taking pain medication?
How often do you feel bored?
How often have you taken more pain medication than you were supposed to?
How often have you worried about being left alone?
How often have you felt a craving for medication?
How often have others expressed concern over your use of medication?
How often have any of your close friends had a problem with alcohol or drugs?
How often have others told you that you have a bad temper?
How often have you felt consumed by the need to get pain medication?
How often have you run out of pain medication early?
How often have others kept you from getting what you deserve?
How often, in your lifetime, have you had legal problems or been arrested?
How often have you attended an Alcoholics Anonymous or Narcotics Anonymous meeting?
How often have you been in an argument that was so out of control that someone got hurt?
How often have you been sexually abused?
How often have others suggested that you have a drug or alcohol problem?
How often have you had to borrow pain medications from your family or friends?
How often have you been treated for an alcohol or drug problem?

Reprinted from Butler et al., 2008. Validation of the revised screener and opioid assessment for patients with pain. Journal of Pain, 9, 360–372. Used with permission from Elsevier.

Risk Stratification

- No measures like a lab value or image
- Clinical interview
- SOAPR-R
- ORT
- Records
- Good when done but can also be used to cherry pick pts or slow movement through system

Risk Stratification

- Good starting/teaching point
- At risk for what?
- [Low/Medium/High]
  - *Fit into one of three categories*
- Limitations
  - *Cross-section*
  - *More information the better*
    - Forensic
  - *Moving target*
    - We'd see this on PRT consults

Not done with work

- Once risk assessment is completed
- Some level of ongoing reassessment or safeguards
  - *Clinical*
  - *Regulatory*
  - *Legal*
  - *Institutional*
- Some can deter/discourage pt or provider from dealing with in the first place

LIBERTY

Risk Modification

- Treatments
  - *Mood*
  - *Anxiety*
  - *SUD*
  - *Surgery*
  - *Wellness*
- Empirically
  - *High index of suspicion*
  - *Low risks*
    - therapy
- Do so in context of continuity allows for both modification and ongoing stratification
  - *Similar to routine clinical practice*
- Focus on

Chronic opioids

- Long acting vs short acting

- Hyperalgesia

- Abuse deterrent

- Methadone and buprenorphine
  - *Evidence bases*
  - *Irony*

X + Y = Analgesia

- X = amount of opioids per day to avoid withdrawal
  - *Confirmed OAT/MAT dose*
  - *Confirmed chronic regimen*
    - WVBOP CSMP
  - *Starts to get difficult when things move underground*
    - 10 “stamp” bag heroin = ? morphine equivalents
    - X = 0 by way of dishonesty
      - *“I don’t use or take anything”*
    - X = minimized
      - *“I don’t use or take that much”*
        - Common in pregnant patients
    - Opioid withdrawal hurts!

X + Y = Analgesia

- Y = an attempt to quantify acute pain
  - *Consult the expert*
    - How much pain did the procedure cause
      - *What does it normally cause?*
      - *Complications?*
      - *How would it be managed in opioid naïve patient?*
        - What medication, route and for how long?

X + Y = Analgesia

- Still consulted on regularly and see situations where we have yet to define X
  - *Patient still is in opioid withdrawal*
    - Not comfortable with amounts
    - Inaccurate information
- Titrate carefully until withdrawal is gone

Safeguards

- Do not underestimate the power of addiction
  - *Will not stop using just because sick or in hospital*
    - Using before OR
- Treating versus Policing
  - *Balancing risks and benefits and resources*
- Set up protocols
  - *Universal precautions*

Safeguards

- Treatment works
- MAT is evidence based approach
  - *MTD, bup, bup/nlx*
- Connecting with treatment remains difficult due to access issues
- Recent steps to improve
  - *Access*
  - *Quality*

Safeguards

- Drug screens
- Searching rooms and belongings
- Being aware of visitors
- Safety precautions
  - *“suicide watch” versus video monitoring*
- Nursing education
  - *Pills in cup*
- PCA

Safeguards

- If on OAT/MAT or chronic pain regimen, confirm dose
  - *Provider, pill bottle, pharmacy, CSMP*
    - Don’t rush to start methadone
- Urine Drug Screen
  - *Know what to look for*
  - *Know to confirm*

Evidence for buprenorphine

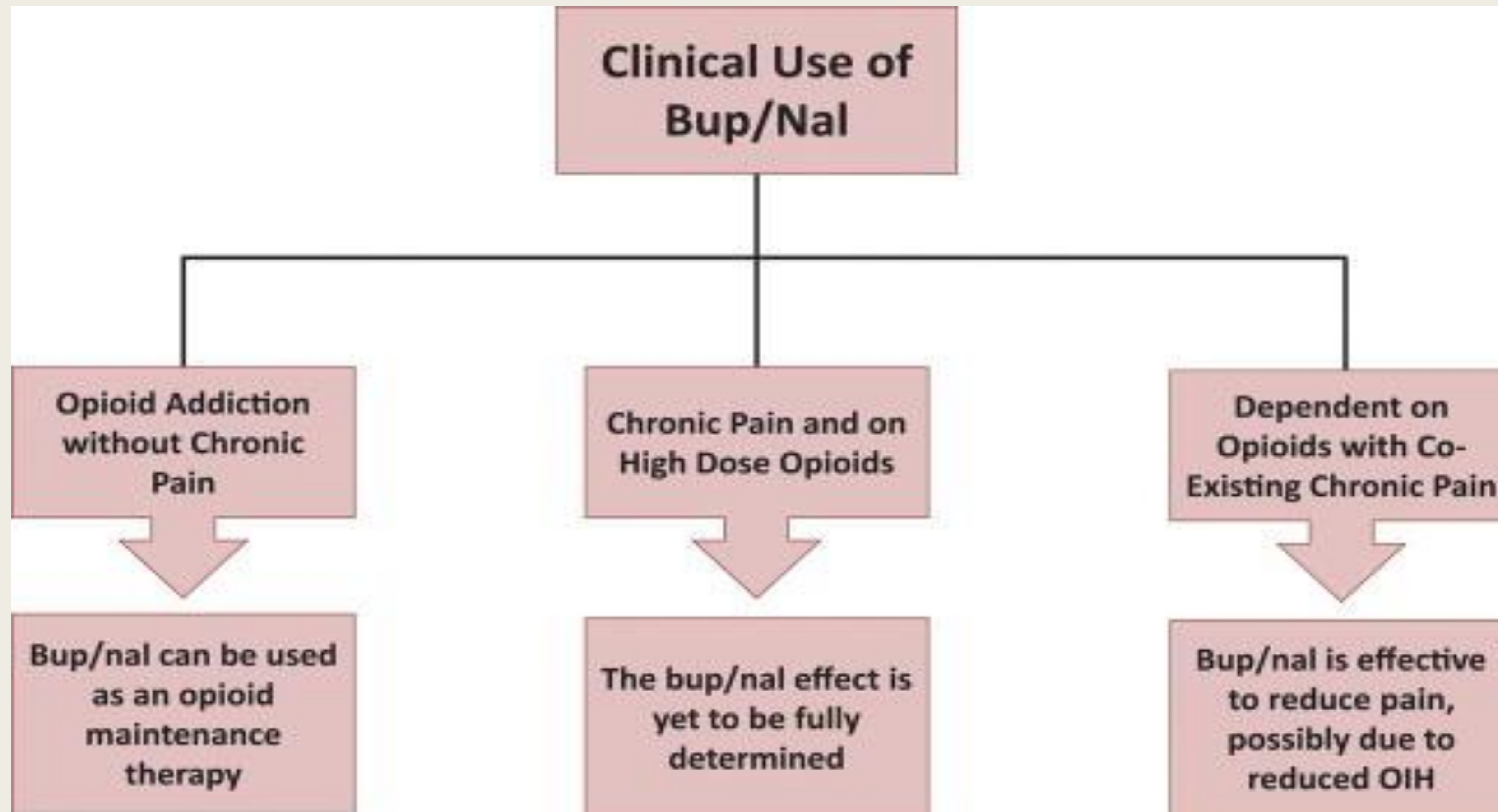
- Why
  - *Safety*
    - Not so much when sedatives on board
- Routes
  - *IV, sl, IM, TD*
  - *Buprenorphine (Suboxone®), buprenorphine-naloxone (Subutex®), buprenorphine (Butrans®)*
- When
  - *Opioid naïve vs dependent*
    - “Conversion”
    - Precipitating w/d
  - *Acute pain*
    - Traumatic or perioperative
    - With or against

Evidence

Reference	Drug Dose and Study Duration	Type of Study	Treatment Regimen	Clinical Outcome	Comments
Fudala *et al.*[32] 2003	16 mg bup/nal daily for 4 wk	Randomized, double-blind clinical trial (n = 326) comparing bup/nal to buprenorphine and placebo	All subjects received HIV counseling and had up to 1 h of individualized counseling per week	Bup/nal or buprenorphine subjects showed reduced opioid use and craving for opioids during the study; a greater percentage of urine samples were negative for opioids in the bup/nal (17.8%) or buprenorphine (20.7%) group	*Strength:* This was a premier study addressing the effectiveness of bup/nal in an office-based setting *Limitation:* The trial ended early due to the overwhelmingly positive response to buprenorphine and bup/nal therapy
Barry *et al.*[28] 2007	Bup/nal therapy for 12 wk	Randomized, clinical trial (n = 142) comparing three treatment conditions, varying in counseling intensity (20 *vs.* 45 min) and medication dispensing (once weekly *vs.* three times weekly)	Bup/nal treatment with counseling with physician or nurse	Subjects were satisfied with primary care office-based bup/nal therapy; with an overall score of 4.4 of 5	*Strength:* The patient satisfaction questionnaire contained 19 questions, allowing for a wide range of response *Limitation:* A lot of study questions involved patient–healthcare provider interactions with a low external validity
Mintzer *et al.*[26] 2007	Individualized dose ranging from 8 to 24 mg bup/nal daily	Prospective, observational cohort study (n = 99)	Bup/nal treatment; subjects also attended alcoholics anonymous, narcotics anonymous, and/or counseling services	In total, 54% of subjects were sober at 6 mo. Opioid-addicted subjects were safely and effectively treated in a primary care setting with limited resources	*Strength:* The study was conducted in an urban environment with proper randomization of study subjects *Limitation:* Lack of an untreated control group
Fiellin *et al.*[29] 2008	Individualized dose ranging from 16 to 24 mg bup/nal daily for at least 2 yr	Prospective observational study (n = 53)	Bup/nal treatment with monthly counseling with a physician; patients with illicit drug use were provided with enhanced services	High subject satisfaction (86 of 95); 91% of the monthly urine specimen collected were negative for opioid. There was a moderate level of retention in primary care office-based treatment for addiction	*Strength:* The study followed patients up to 5 yr *Limitation:* A large number of patients, approximately 50%, had left treatment after 1 yr and they were not included in follow-up
Rapeli *et al.*[35] 2007	Mean daily bup/nal dose of 15.8 mg for 6 wk	Randomized clinical trial (n = 50) comparing bup/nal to methadone and placebo	Cognitive, attention, and memory tests were conducted	Bup/nal was more effective than methadone in the preservation of cognitive function within the 6 wk of the study	*Strength:* Included cognitive testing and two of three cognitive tests used a computer test, reducing the possibility of researcher bias *Limitation:* Cognitive tests were not fully validated
Kamien *et al.*[33] 2008	8 or 16 mg bup/nal daily for 17 wk	Randomized, double-blind clinical trial (n = 268) comparing bup/nal to methadone in varying dose strength	Subjects received 1 h of individual behavioral counseling with a therapist. Subjects were allowed to continue illicit drugs	Bup/nal was just as effective as methadone in producing positive outcomes (10% of 8 mg bup/nal, 17% of 16 mg bup/nal, 12% of 45 mg methadone, and 17% of 90 mg methadone had opioid negative urine samples for 12 consecutive urine samples. Urine sample were measured three times a week)	*Strengths:* The first clinical trial to compare the effectiveness between bup/nal and methadone as maintenance therapy; no take home therapy, reducing bias on the amount of drug taken; a double-blind and double-dummy design *Limitation:* Required participants to go to clinic every day to get medication, a possible confounding factor of study compliance
Parran *et al.*[30] 2010	Either 12 or 16 mg bup/nal daily for 18 mo	Retrospective chart review and cross sectional telephone interview (n = 176)	Full adherence was required. Those with substance abuse were referred back to the next highest level of care	Bup/nal was found to be a viable office-based opioid treatment option; 77% subjects were more likely to report abstinence, affiliated with 12-step recovery, be employed, and have improved functional status at the 18th month follow-up	*Strength:* The study explored the impact of socioeconomic status of patients on a bup/nal therapy *Limitation:* Patients had to follow through with every step of the bup/nal treatment or they would be discharged from the program
Schackman *et al.*[27] 2012	8 mg bup/nal daily for 2 yr	Prospective observational cohort study (n = 53)	Patients were allowed to continue on their illicit drugs	Bup/nal maintenance therapy had a cost-effective ratio of $35,100/QALY and has 64% chance of being below the $100,000/QALY threshold as compared with no treatment	*Strength:* Data were calculated from a cohort study and the quality of life weights were obtained from a clinical trial questionnaire *Limitation:* Did not consider the impact of bup/nal on other health services (*e.g.*, mental health services, decrease in criminal behaviors, *etc.*)
Neumann *et al.*[36] 2013	Individualized dose ranging from 4 to 16 mg bup/nal daily (mean: 14.9 mg) for 6 mo	Randomized open-label clinical trial (n = 54) comparing bup/nal to methadone	Subjects stopped self-administering opioid medications and illicit drugs and drinking alcohol. Nonopioid analgesics were allowed; and patients were encouraged to attend self-help programs	26 (48.1%) subjects noted a 12.8% reduction in pain score under bup/nal or methadone at the 6-mo follow-up. No subjects in the methadone group, as compared with five in the bup/nal group, reported illicit opioid use at the 6-mo follow-up	*Strength:* Approximately 50% of participants completed the study *Limitation:* An open-label design

Bup/nal = buprenorphine–naloxone; HIV = human immunodeficiency virus; QALY = Quality-Adjusted Life Years.

Buprenorphine-naloxone therapy in pain management.
Chen KY[1], Chen L, Mao J.


Clinical Use of Bup/Nal
Opioid Addiction without Chronic Pain
Chronic Pain and on High Dose Opioids
Dependent on Opioids with Co-Existing Chronic Pain
Bup/nal can be used as an opioid maintenance therapy
The bup/nal effect is yet to be fully determined
Bup/nal is effective to reduce pain, possibly due to reduced OIH

OAT/MAT with bup or bup/nalx

- Chronic pain is sometimes best treated with MAT
  - *We are treating pain/opioid problem by shifting focus primarily on SUD*
    - Unhealthy relationship
- Double edge sword wrt acute pain management
  - *Blocker good when used as addition medication*
  - *Can be bad when attempting to manage pain*
- With it or against it

OAT/MAT with bup or bup/nalx

- With it
- Confirm dose
  - *Defer to how pt takes it at home unless red flags*
  - *Divide if possible as* $t_{1/2}$ different for analgesia?
    - Methadone dosing…
- “Top off”
  - Add additional 1-2 mg doses to maintenance for break through or acute pain
    - Similar to other acute regimens
- Ceiling effect
  - Diminishing returns as you approach 32 mg
- Don’t combine other agonist opioids

OAT/MAT with bup or bup/nalx

- Against it
  - *Override*
- Stop medication
- Initially fighting medication as it leaves system
- Eventually replacing X once it clears
- Either way you look at it, alarming dosages
- bup or bup/nalx is potent
- We typically will utilize fentanyl PCA with success
- Transition back at some point

Take homes

- X + Y = analgesia

Take home

- Pain is challenging to treat alone
- Add depression, anxiety or addiction to the mix and challenge increases
  - *These can be treated if identified*
  - *Don’t miss opportunities to treat or refer*
- Do not underestimate addiction
  - *Doesn’t go away if sick or pregnant*

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Questions?

Thanks!

print