

You Inherit a Patient On High Dose Opioids. What Do You Do?

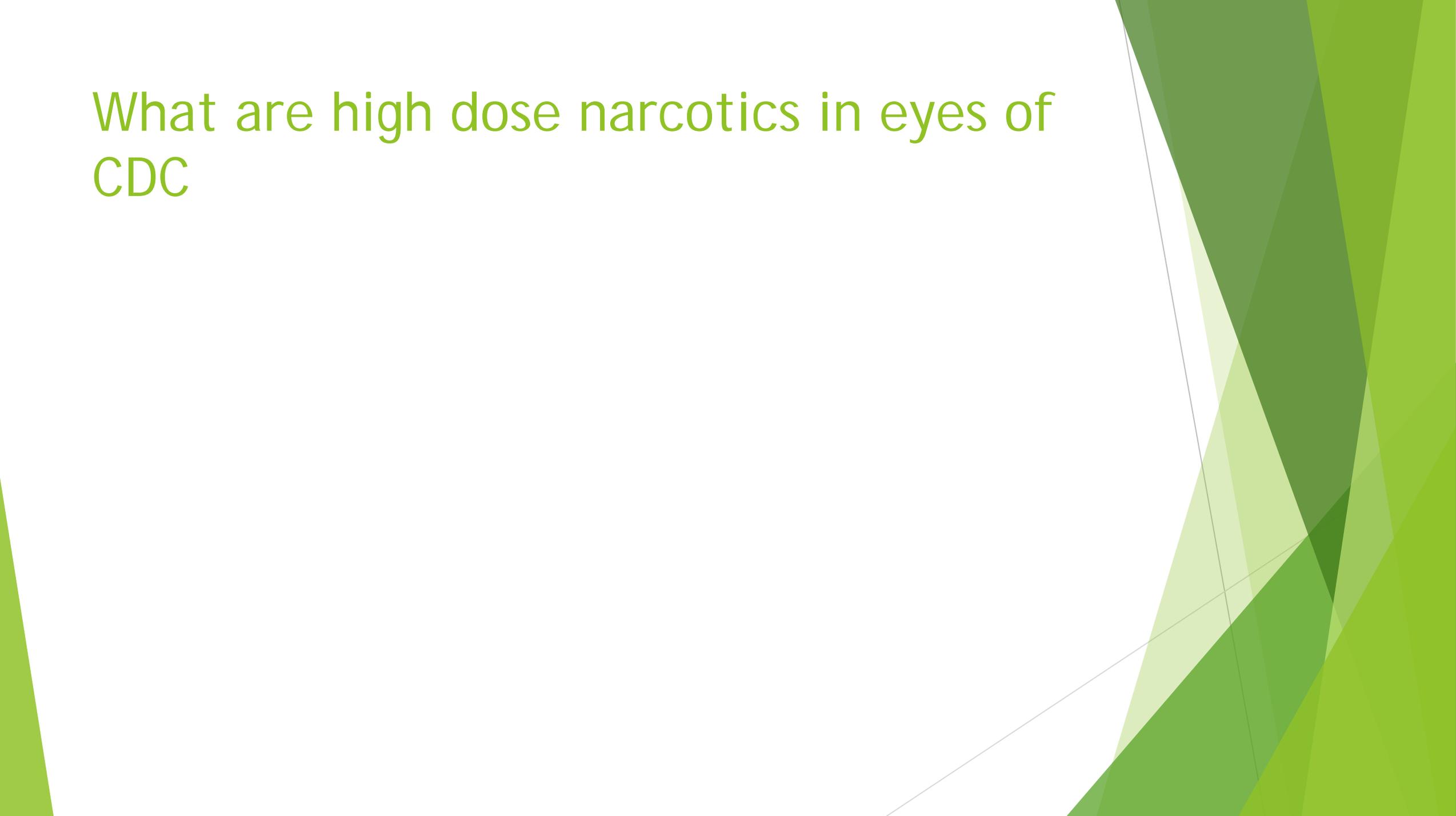
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University of Idaho ECHO Session

The speaker has no significant financial conflicts of interest to disclose.

What are high dose narcotics in eyes of
CDC

The background of the slide features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the right side and bottom of the frame, creating a modern, layered effect against the white background.

CDC Guidelines

- ▶ When opioids are started, clinicians should prescribe the lowest effective dosage. Clinicians should use caution when prescribing opioids at any dosage, should carefully reassess evidence of individual benefits and risks when considering increasing dosage to ≥ 50 morphine milligram equivalents (MME)/day, and should avoid increasing dosage to ≥ 90 MME/day or carefully justify a decision to titrate dosage to ≥ 90 MME/day (recommendation category: A, evidence type: 3)

Quotes

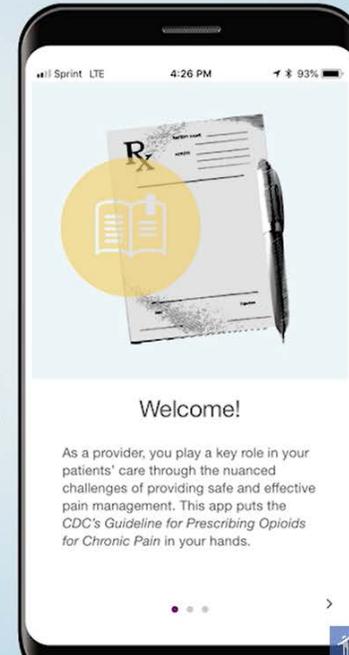
- ▶ “The contextual evidence review found that although there is not a single dosage threshold below which overdose risk is eliminated, holding dosages <50 MME/day would likely reduce risk among a large proportion of patients who would experience fatal overdose at higher prescribed dosages”
- ▶ “No single threshold could be identified.”
- ▶ 0-20 safer than 20-50
- ▶ Randomized trial found no difference in pain or function between a more liberal opioid dose escalation strategy and maintenance of current dosage (40 verses 52).
- ▶ “Most experts agreed that, in general, increasing dosages to 50 or more MME/day increases overdose risk without necessarily adding benefits for pain control or function”
- ▶ “Most experts also agreed that opioid dosages should not be increased to ≥ 90 MME/day without careful justification based on diagnosis and on individualized assessment of benefits and risks”.
- ▶ Extra caution in the elderly or renal or hepatic impairment
- ▶ Wait at least 5 half lives before going up on dose and at least a week before going up on Methadone.
- ▶ If going over 50, what are goals, need closer monitoring, precautions, Naloxone.
- ▶

CDC App

CDC Opioid Prescribing Guideline Mobile App

- CDC's new Opioid Guide App makes it easier to apply the recommendations into clinical practice
- Features include:
 - MME Calculator
 - Prescribing Guidance
 - Motivational Interviewing Practice
- Available today, download for free from your app store (iOS or Android)
- For more info, visit:
www.cdc.gov/drugoverdose/prescribing/app.html

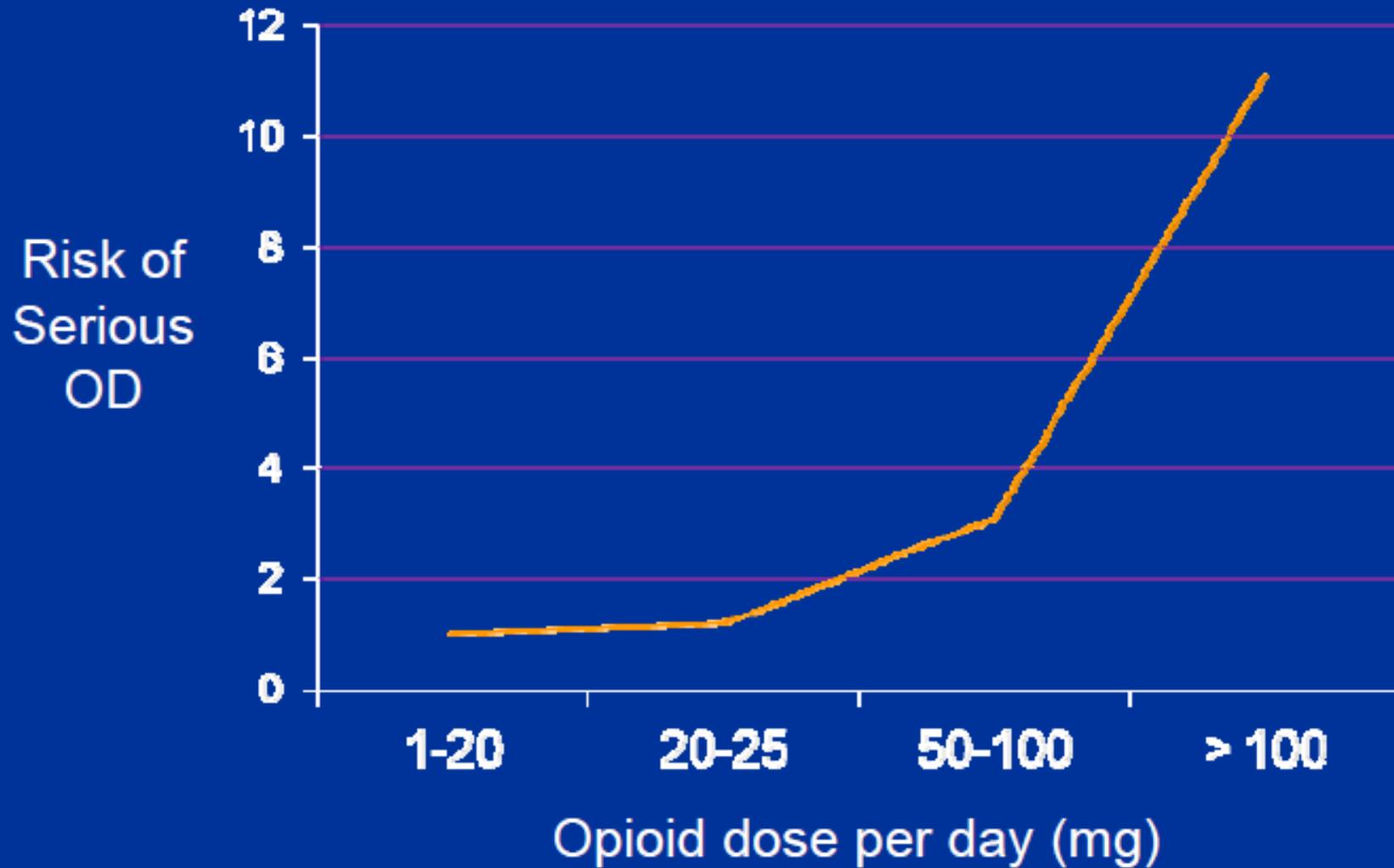
Recommendation category A: Evidence type: 3



Compared to oral morphine on per mg basis...

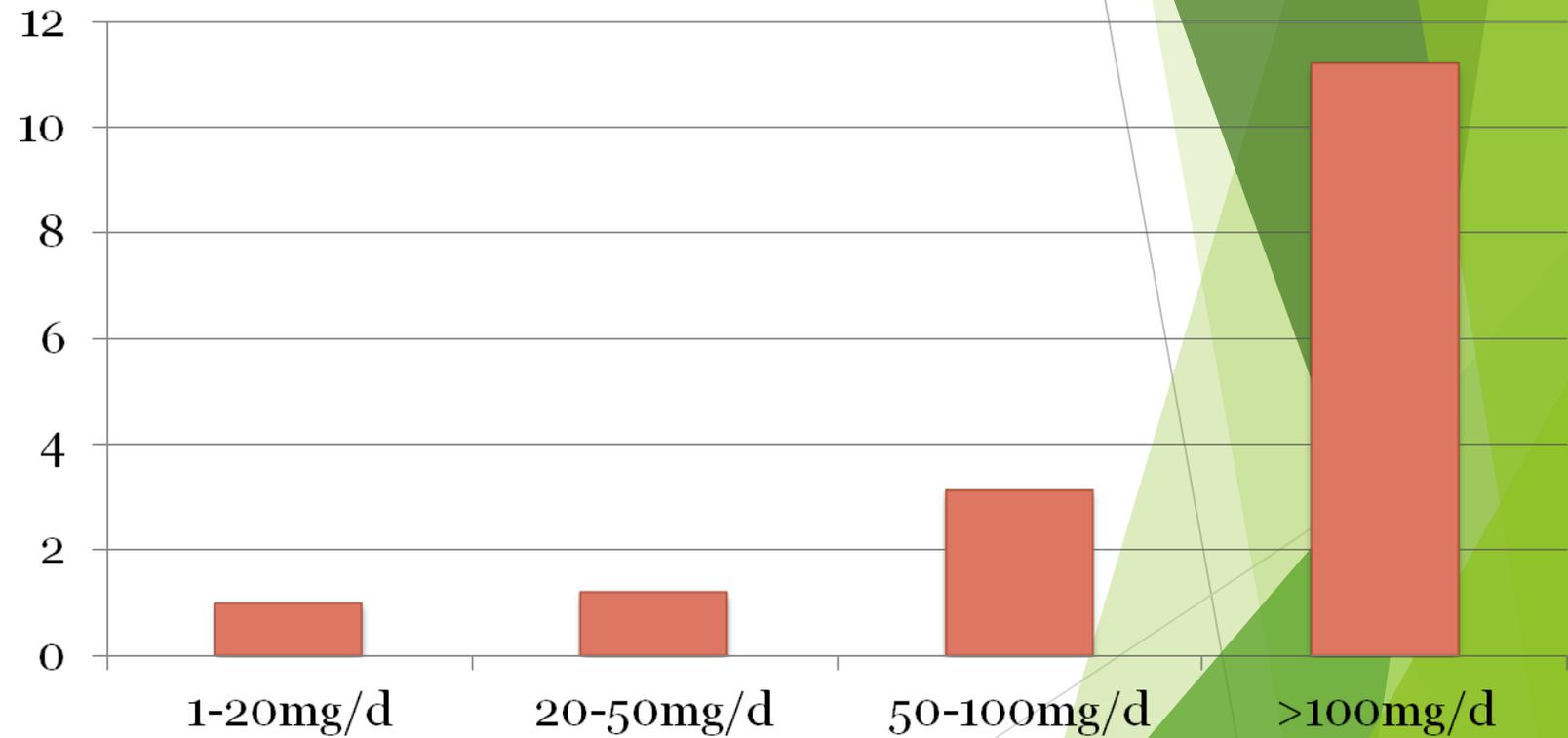
- Codeine is 1/10th as potent
- Tramadol is 1/10th as potent
- Hydrocodone is ~ 1 -1.5 times as potent
- Oxycodone is ~ 1.5 times as potent
- Parenteral morphine is ~3 times as potent
- Hydromorphone is ~ 4 times as potent
- Parenteral hydromorphone is ~20 times as potent

Risk of OD + Daily Dose



Lower Doses

HR for Overdose by Morphine Equivalents



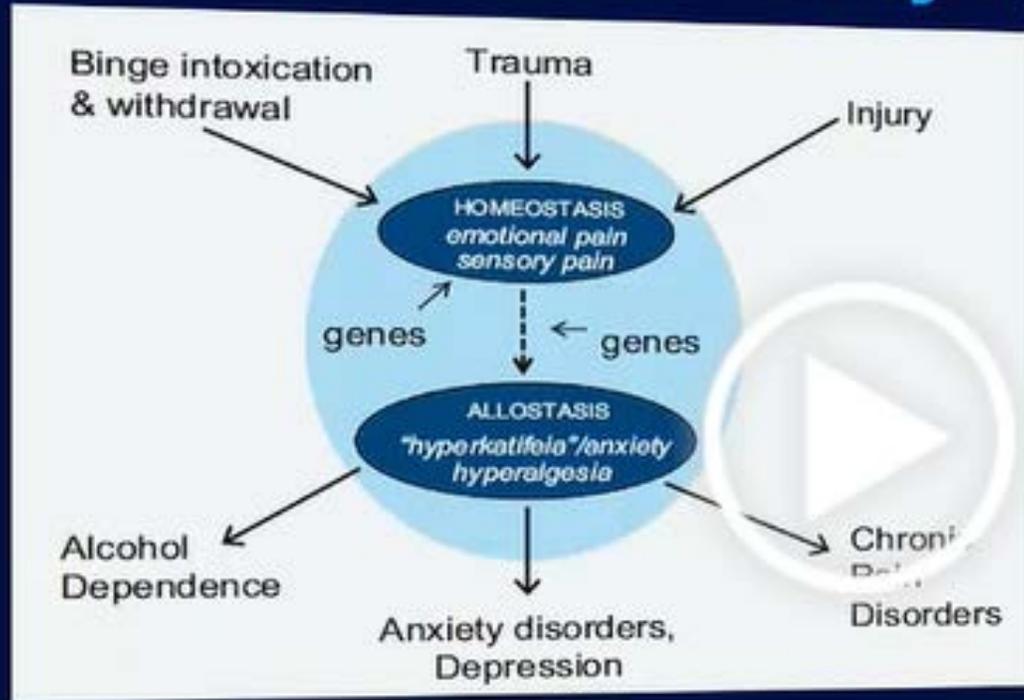
Ann Intern Med. 2010;152:85-92.



Opioid Induced Hyperalgesia and Allodynia

- ▶ Well established easily, reproducible in labs.
- ▶ Studies have shown that Methadone-maintained individuals reliably show poor tolerance for experimental pain.
- ▶ Hyperalgesia and spontaneous bone and pain are cardinal symptoms of opioid withdrawal.
- ▶ Definitely suspect if more pain, more diffuse pain, or possibly delirium with increased dosing.
- ▶ Tolerance to the analgesic effect of opiates almost never occurs, as opposed to tolerance to sedation, nausea, itching.

Alcohol, Trauma and Injury

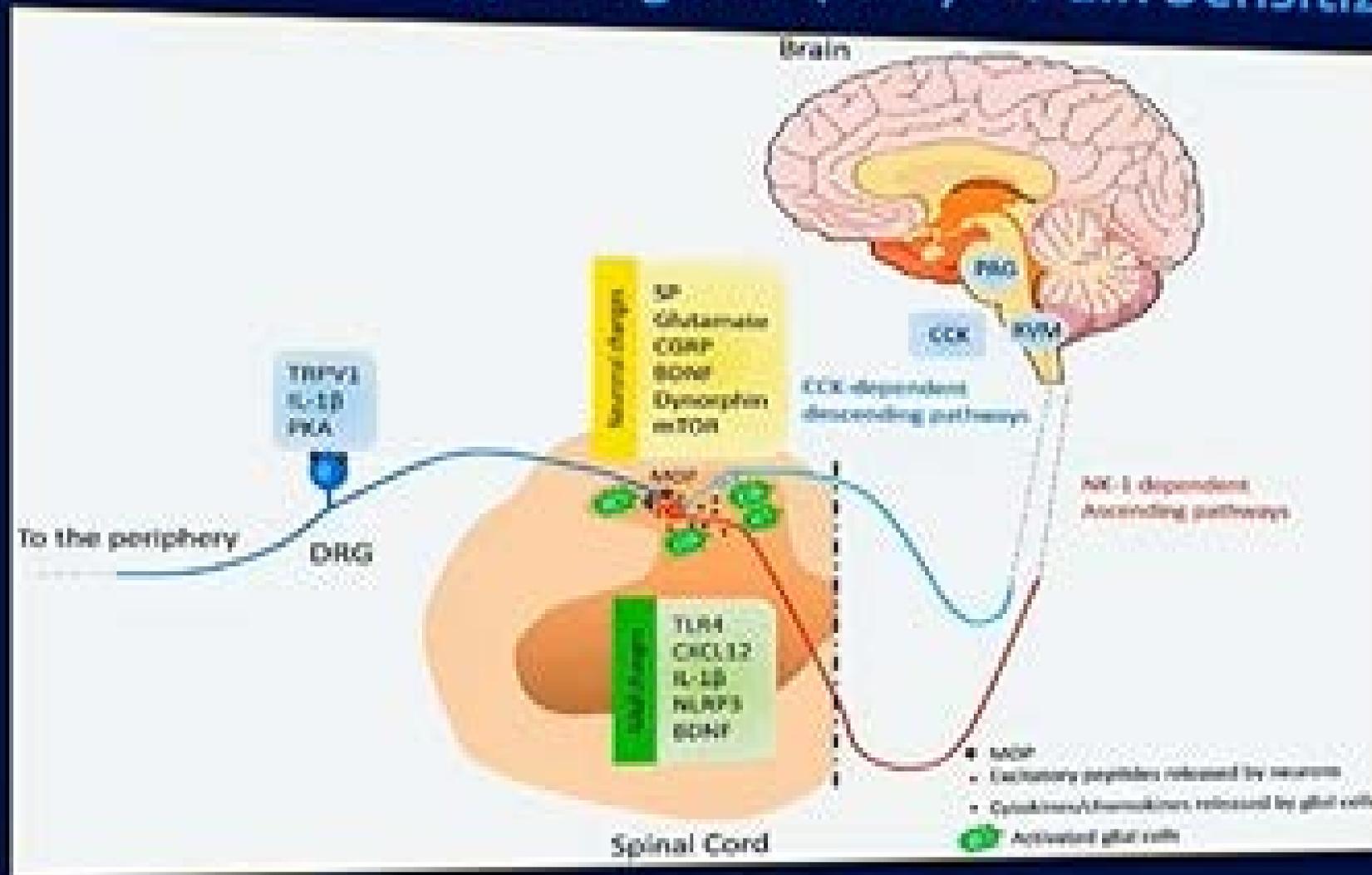


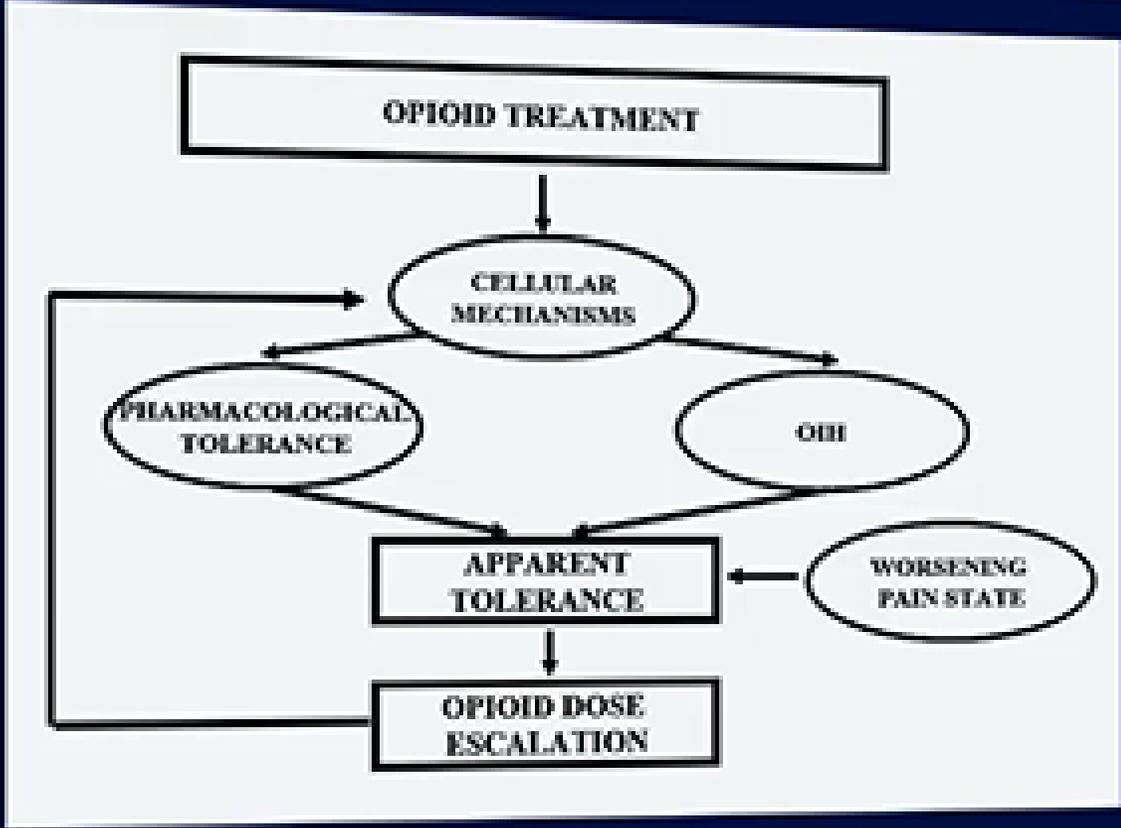
Effects of Opioids

They relieve pain but can also cause pain.

Cytokines released from Glial cells can cause neuropathic pain.

Opioid-induced Hyperalgesia (OIH) = Pain Sensitization





(Mao, 2008)

When opioids are stopped abruptly

- ▶ You lose the MU activity in the setting of OIH.
- ▶ Weeks or months to resolve and get to baseline pain. At least two weeks.
 - ▶ Catecholamines can play a role. Can sensitize neurons.

After being on opioids and then stopping abruptly, pain from old injuries can come back, even ones which occurred before opioids were ever started.

Emotional trauma associated with that injury can come back as well.

OIH/WIH Mitigators – Pre/clinical

- ◆ Opioid rotation, lowering or elimination
- ◆ NMDA antagonists (ketamine, DM?)
- ◆ NSAIDs (ketorolac, ibuprofen, COX-2 inhibitors)
- ◆ Gabapentinoids (gabapentin, pregabalin)
- ◆ Alpha-adrenergic blockers (clonidine); beta blockers (propranolol)
- ◆ Endocannabinoids, melatonin, lidocaine, ondansetron
- ◆ Microglia TLR-4 antagonists - enantiomers of naloxone & naltrexone, ibudilast, minocycline
- ◆ Neurosteroids (progesterone)

(Hutchinson 2014; Arouf, 2015; Chu, 2012; Compton 2010; Mao, 2008; Grace, 2014; Xin 2012)

Other options for pain

- Regular use of Tylenol (efficacy?)
 - Dosing
 - Liver disease , ETOH
- NSAIDS including topical
 - Synergy
 - Concerns
- Topical Capsaicin
- Steroid injections
- SNRI's-Cymbalta (FDA approved for treatment of musculoskeletal pain), Effexor, Pristiq, Savella
TCA's
- Muscle relaxants, Gabapentin.
- Lidoderm patches or gel
- Nitroglycerin patches for chronic tendinitis (.2 mg/hr-cut in quarters)
- Tramadol
 - Mechanism
 - Efficacy-neuropathic, fibromyalgia, Other pain-any better than NSAIDS?
 - Concerns-Death, Suicide, seizures, metabolism in older adults and liver disease.
 - Addicting.
- Anticonvulsants-Neurontin, Lyrica, Tegretol
- Intrathecal opiates.
- PT, CBT, aerobic exercise, smoking cessation, TENS, spinal cord stimulation, acupuncture, OMT, Yoga, Ice, Heat. Baths/showers, exercise, mindfulness.
- Epidural steroids, Biofeedback
- Fascial Distortion Model.
- Address sleep, psych conditions..

The Study: This double-blind randomized controlled trial enrolled patients 16 years or older who presented to the emergency department with acute extremity fracture. Patients were eligible for participation if they rated their pain as higher than 3 on a scale of 0 to 10, with 0 being no pain and 10 being the worst possible pain. A total of 89 patients were randomized, with 44 patients in the buprenorphine group and 45 patients in the control group. Patients in the buprenorphine group received 0.4 mg of sublingual buprenorphine and 5 mL of intravenous sterile water, whereas those in the control group received 5 mg of intravenous morphine plus a sublingual placebo. Pain was assessed using the same numeric rating scale used at baseline, and again at 30 and 60 minutes after the medications were administered. Adverse effects were recorded.

Results: Pain scores were similar between groups at 30 and 60 minutes after the medications were administered (median pain scores of 5 at 30 minutes and 2 at 60 minutes in both groups). Adverse effects were minimal in both groups and included nausea, dizziness, and hypotension.

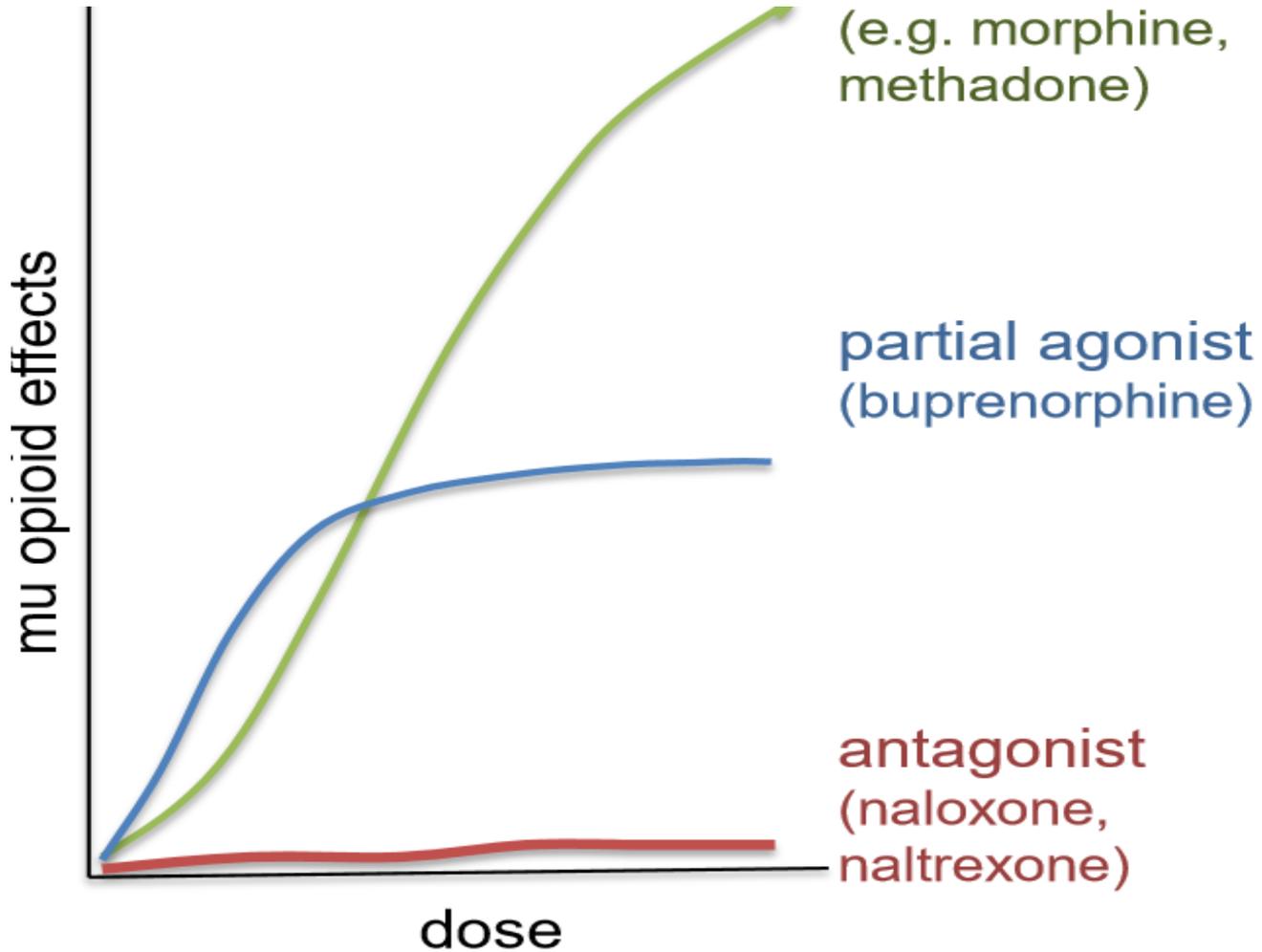
Conclusion: In adults with acute bone fracture presenting to the emergency department, sublingual buprenorphine is as effective and safe as intravenous morphine, with quicker and easier administration.

KARI KUBALANZA, MSIV

SOURCE:

Jalili M, et al. Sublingual buprenorphine in acute pain management: a double-blind randomized clinical trial. *Ann Emerg Med*. April 2012;59(4):276–280.

Suboxone/Buprenorphine option



Talking to patients about hyperalgesia

- ▶ Substances can not only relieve pain but cause pain.
- ▶ Binge or daily ETOH and opioid use can alter the nervous system and make it more pain sensitive and stress sensitive.
- ▶ During opioid or ETOH withdrawal, pain can flare and pain at old injuries can recur or intensify.
- ▶ Lowering or eliminating opioids can help. May take weeks or months to reduce added pain.
- ▶ Opioid rotation can help (Buprenorphine)
- ▶ There are other meds which can help.



Naloxone

- ▶ Temporarily reverses an opioid overdose by slipping the drug off the brain's opioid receptors and allow breathing to be restored
- ▶ Effects last 30-60 minutes, after that it wears off and overdose can come back
- ▶ Only works for opioids
- ▶ NOT: Alcohol, benzos or stimulants (cocaine, meth)

