

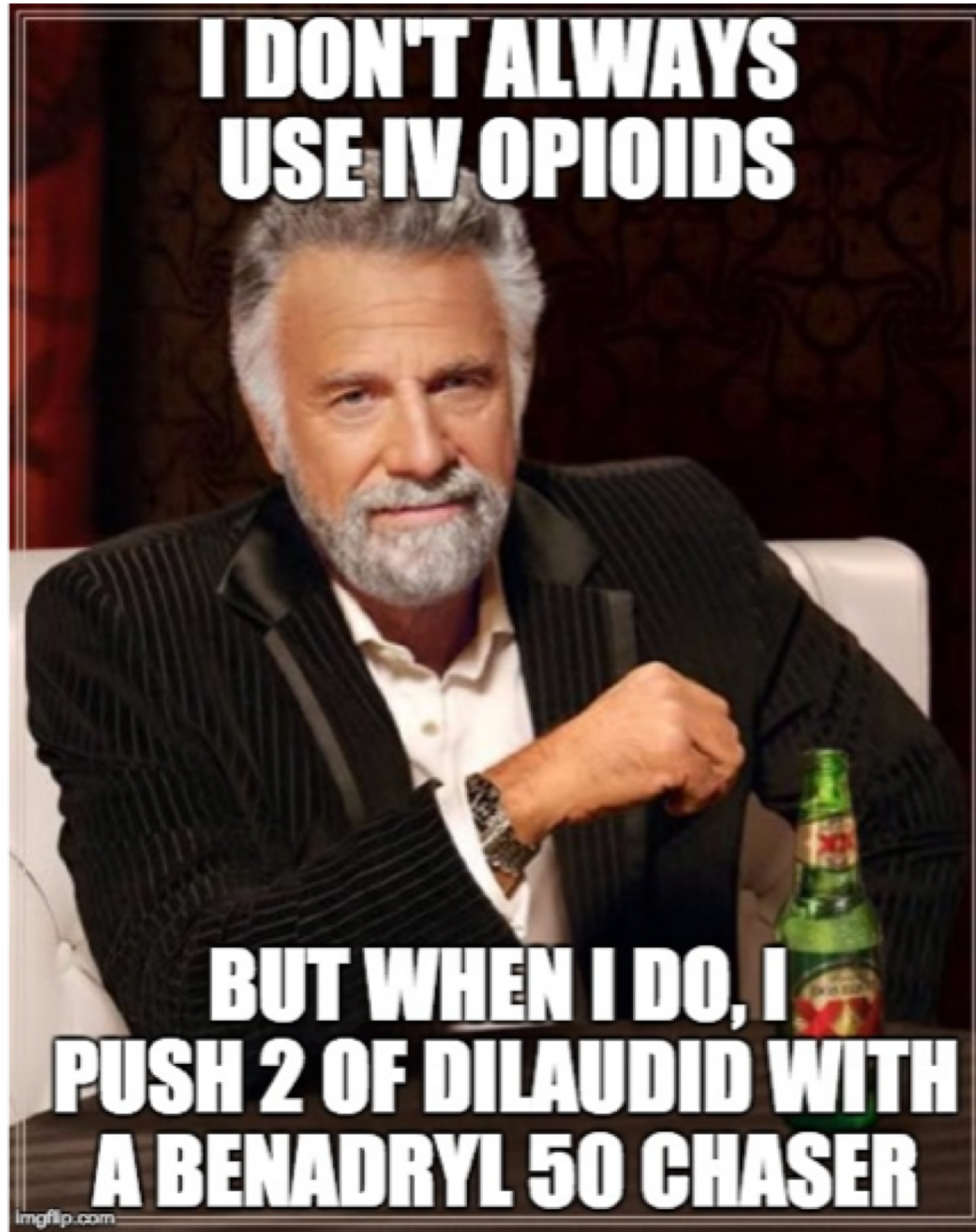
E•QUAL | EMERGENCY QUALITY NETWORK

Opioid Initiative Wave I –
Treating Pain in Patients with Opioid-Use Disorder

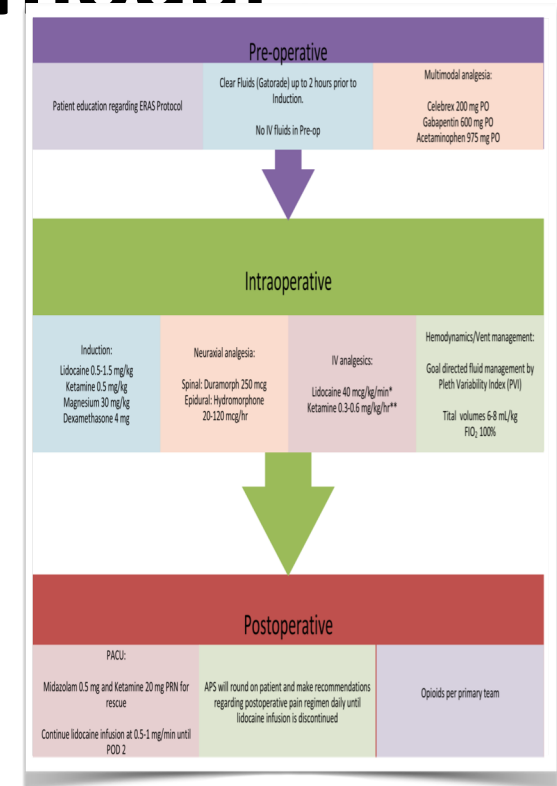
Presenter



Andrew A. Herring, MD



Opioid monotherapy has been largely replaced with a multimodal approach



Multimodal analgesia

NSAIDs

Acetaminophen

Low dose ketamine

Intravenous lidocaine

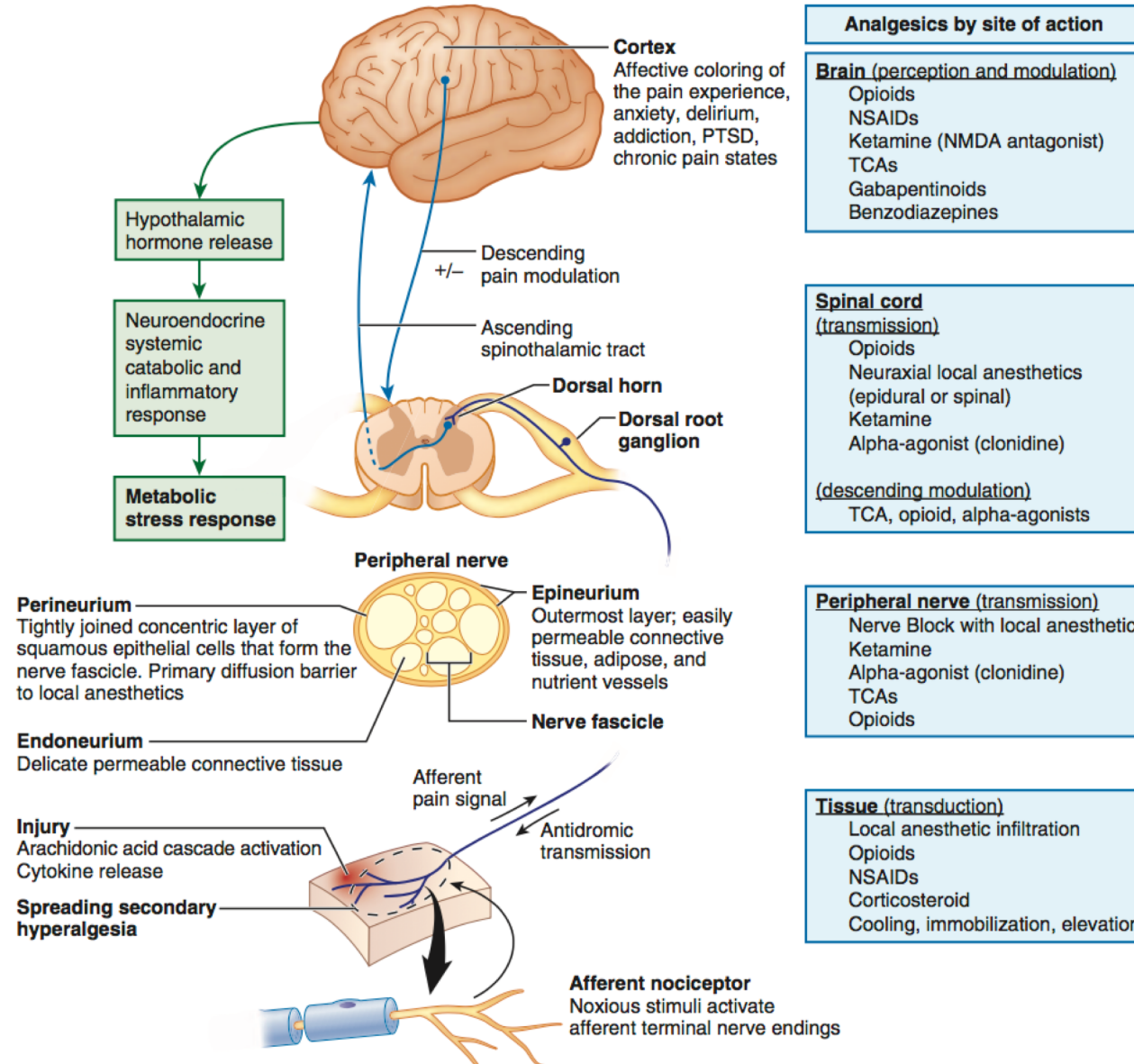
Regional Anesthesia



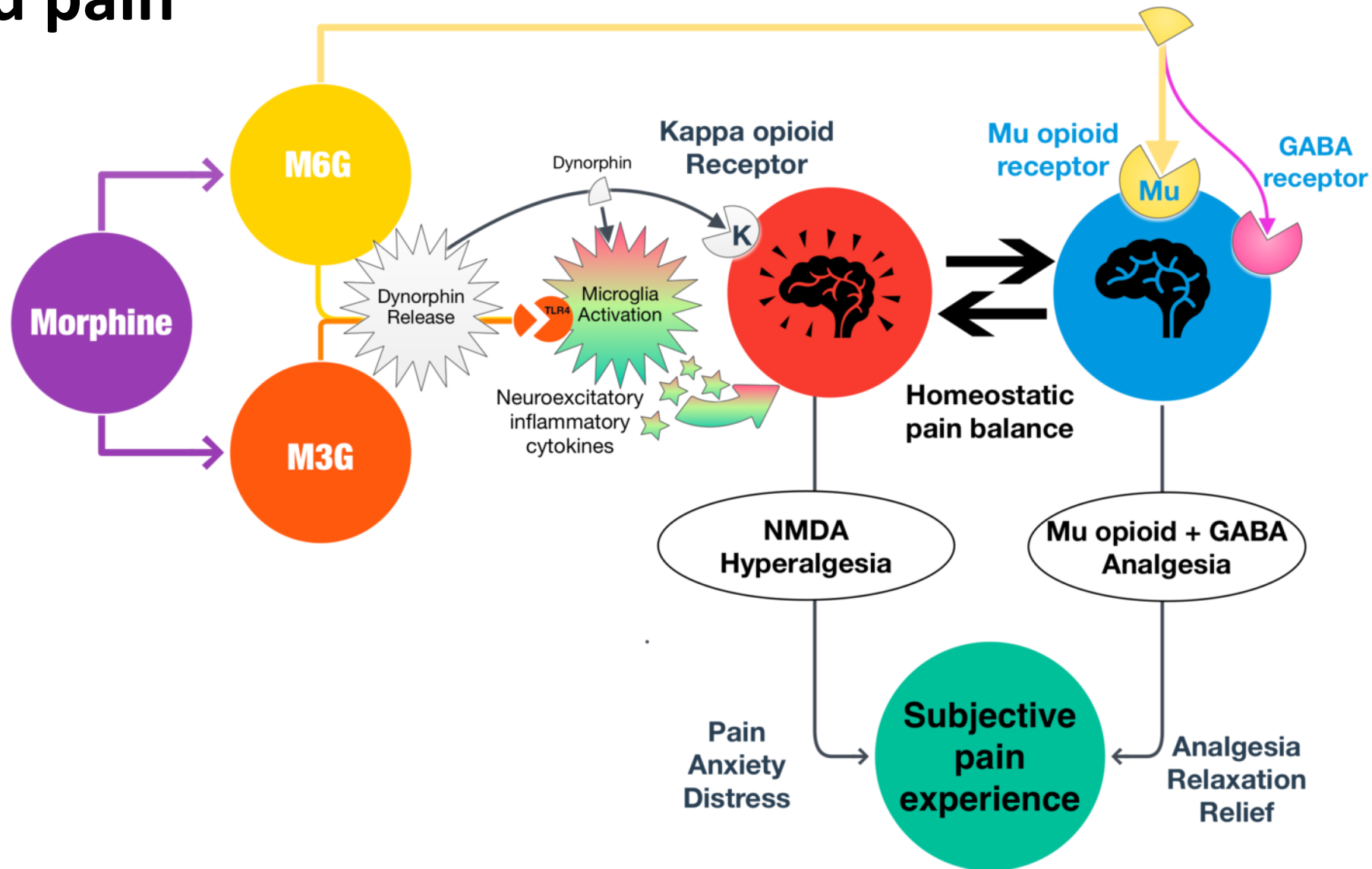
POLICY STATEMENT

Approved April 2017

***Optimizing the Treatment of Acute
Pain in the Emergency Department***



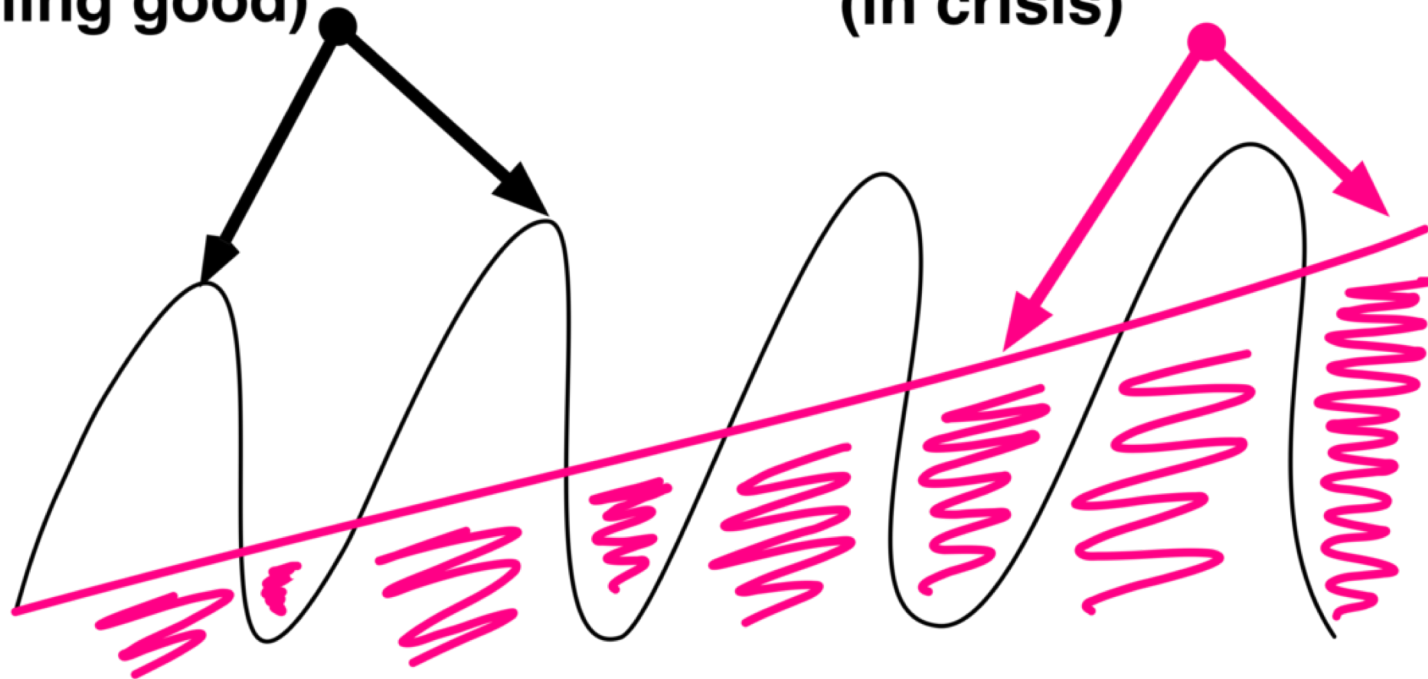
Opioid induced pain



Opioid induced pain

**Mu opioid analgesic peaks
(feeling good)**

**Unmasked hyperalgesic state
(in crisis)**



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

(This is how we do it)

Chance that the drug may harm you

We start with the safest & most effective options

Position your injury in comfort
Ice, elevate, apply a splint

Acetaminophen

Still uncomfortable?

We may use these drugs

Ibuprofen

Lidocaine

Ketorolac

Magnesium

Gabapentin

Clonidine

Nerve block
or injection

Dexamethasone

Still uncomfortable?

We may use these drugs

Ketamine

Buprenorphine

Morphine

Oral Agents for Opioid tolerant acute pain

- Ibuprofen 400mg PO
- Acetaminophen 1000 mg
- Gabapentin 600-1200mg
- Clonidine 0.1-.2 PO

Parenteral Agents for Opioid tolerant acute pain

- Ketamine (0.1-0.3 mg / kg over 15 minutes)
- IV lidocaine (1 mg / kg bolus then 1.5 mg/kg/hr)
- Magnesium (Mag 30-50 mg/kg bolus then 10mg/kg/ hr)
- Others (dexmedetomidine, haldoperidol et al.)

Regional anesthesia

Guidelines for Emergency Regional Anesthesia for Trauma Orthopedic Injuries

Block OK

- Shoulder dislocation
- Clavicle fracture
- Proximal humerus fracture
- Low energy distal radius fracture
- Hand and digit injuries
- Hip fracture and dislocation
- Low energy foot and ankle fractures

Contact orthopedic surgery as soon as possible for any patients to be admitted or patients who will require in ED consultation, but do not delay block placement.

Block after Consultation

- Humeral shaft fracture
- Elbow fracture
- Both bone forearm fracture
- Femoral shaft fracture

Perform and document detailed neurologic exam and consult with orthopedic service before block is placed.

No Block

High risk for compartment syndrome

- Tibial fracture
- High emergency forearm fracture
- High Energy foot fracture
- Any injury with evidence of neurovascular injury or clinical concern for a possible compartment syndrome

Perform block only after requested by Trauma and Orthopedic service attending.

Universal precautions

- Appropriate splinting, protection, icing of any injured extremity.
- Appropriate analgesic administration.
- Block placement should not delay other time sensitive interventions.
- Appropriate consideration of and patient discussion of the risks and benefits of any block.
- Documentation of consent.
- Thorough, detailed, and appropriately documented neurologic exam before block is performed.
- Thorough, detailed, and appropriately documented compartment exam before block is performed.
- Safe and sterile procedural technique appropriately documented including but not limited to: pre-procedure timeout with confirmation correct patient, indication, and side; appropriate patient monitoring; use of real-time ultrasound-guidance with avoidance of needle to nerve contact and vascular puncture; aspiration and small volume (3-5mL) injection of appropriately dosed local anesthetic.
- Presence of necessary resuscitation equipment and intralipid in case of local anesthetic toxicity reaction.
- Clear marking of blocked extremity and documentation of block details in the medical record.
- Verbal communication of block details with participating clinical teams prior to discharge or transfer from ED.
- Appropriate post block care of weakened or insensate extremity to prevent falls and limb injury.



Perioperative and Acute Pain Management for Patients on Buprenorphine

- Buprenorphine combined with full mu opioid receptor agonists can manage acute, perioperative pain^{3,4}
- Avoids ill consequences such as relapse, re-induction and system failures.

Journal of
Clinical Pharmacy and Therapeutics

Journal of Clinical Pharmacy and Therapeutics, 2014, 39, 577-583

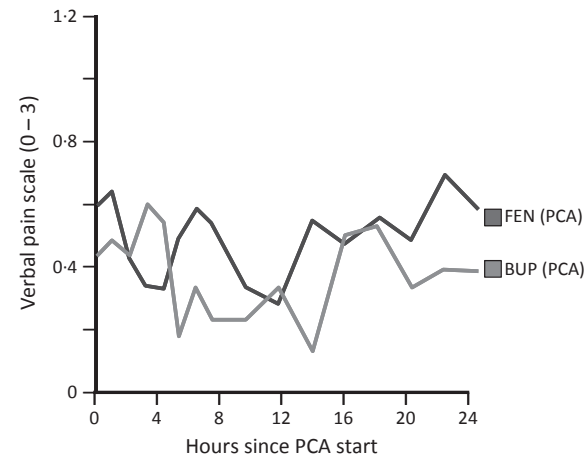
doi: 10.1111/jcpt.12196



Commentary

The clinical analgesic efficacy of buprenorphine

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- Buprenorphine is at least 30 to 40 times more potent than morphine
- Clinically significant analgesia begins at 5-10% receptor occupancy
- Analgesic effect seen over the 0.1 to 10 mg range IV

MRI

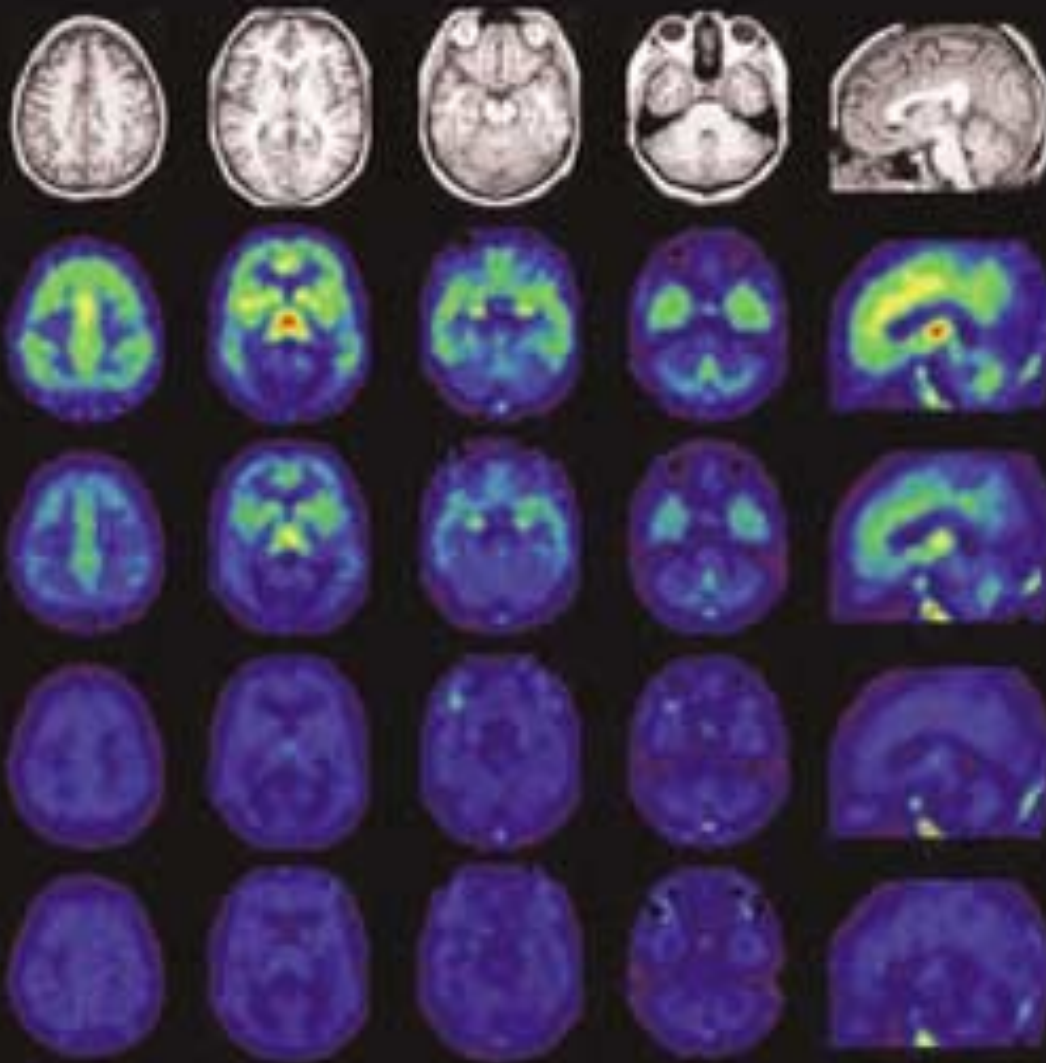
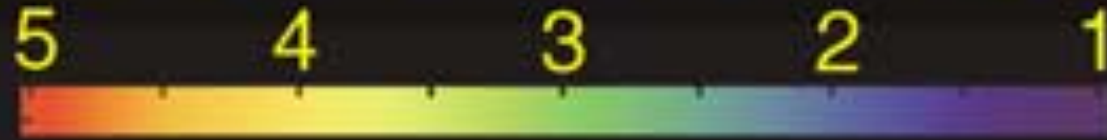
Bup 0

Bup 2

Bup 16

Bup 32

DVR



Neuropsychopharmacology (2003) 28, 2000–2009
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www.neuropsychopharmacology.org

Effects of Buprenorphine Maintenance Dose on μ -Opioid Receptor Availability, Plasma Concentrations, and Antagonist Blockade in Heroin-Dependent Volunteers

Mark K Greenwald^{1*}, Chris-Ellyn Johanson¹, David E Moody², James H Woods³, Michael R Kilbourn⁴, Robert A Koeppe⁴, Charles R Schuster¹ and Jon-Kar Zubieta⁵

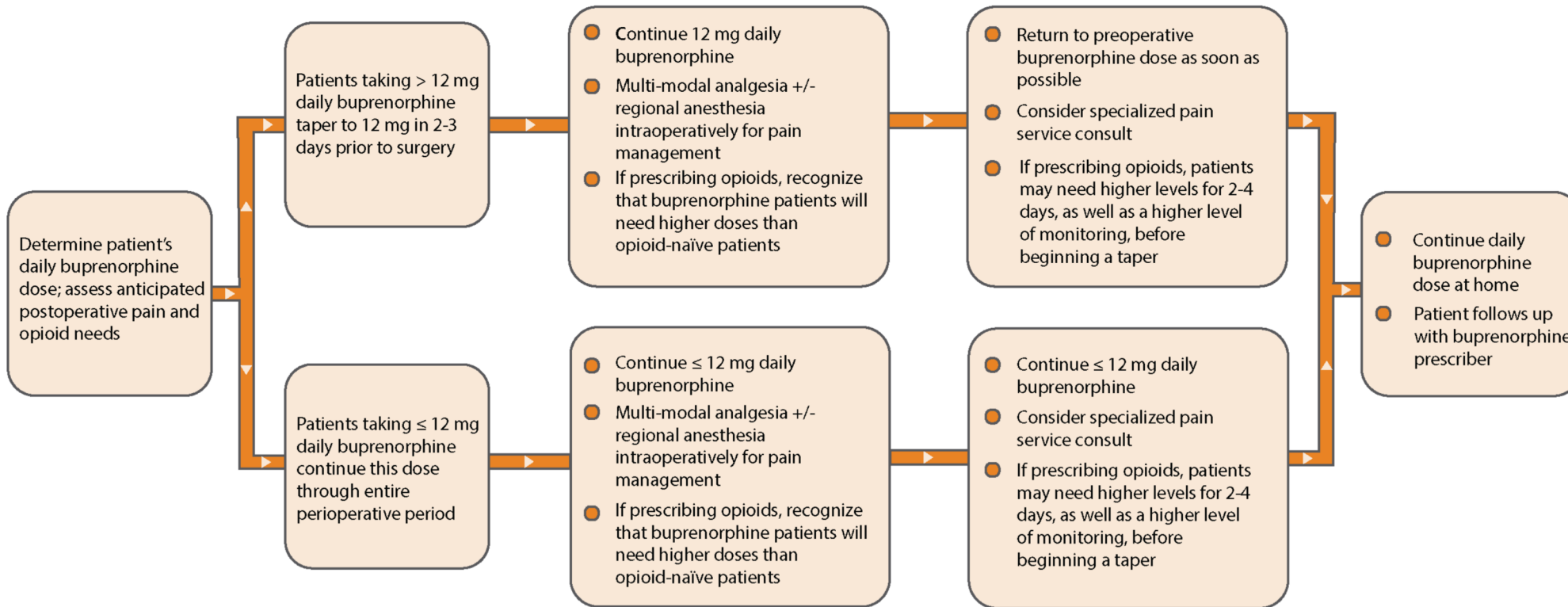
Pre-Surgery

Buprenorphine Dose

Day of Surgery

Postoperative

Discharge



University of California San Francisco



From: Patients Maintained on Buprenorphine for Opioid Use Disorder Should Continue Buprenorphine Through the Perioperative Period

Pain Med. Published online February 14, 2018. doi:10.1093/pm/pny019

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Perioperative Buprenorphine—Day of Surgery

- High affinity, full mu opioid receptor agonists (Eg- fentanyl)
- Regional anesthesia
- NSAIDs
- Acetaminophen
- Gabapentinoids, Sodium channel blockers, NMDA inhibitors
- CAM (eg- acupuncture)
- Coping skills, breathing exercises, psychoeducation, family/friends
- NOTE: Naloxone will require higher dose for opioid toxicity

Perioperative and Acute Pain Management for Patients on Buprenorphine

- Resume original buprenorphine dose as soon as possible
- Consider three times per day dosing to optimize analgesia
- Continue multimodal, non-opioid strategies
- Continue high affinity, full mu receptor agonists
- Do not provide greater than 7 days of full mu receptor agonist
- Close f/up with surgical team as well as buprenorphine provider
- NOTE: Naloxone will require higher dose for opioid toxicity

For More Information

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