ACUTE PAIN CONTROL STRATEGIES

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LEARNING GOALS

• Importance of pain control
• Pain causes medical problems
• Improve mental status
• Pain as a satisfaction measure
• Limiting pain to improve rehab
• Effects on length of stay
IMPORTANCE OF PAIN CONTROL

- Diminish adrenergic drive
- Relax patient
- Allow for proper nursing care
- Improve mental status
- Relieve spasms
- Improve function
PAIN AS A MEDICAL PROBLEM

• Increased adrenergic drive
  ➢ Increased blood pressure
  ➢ Increased heart rate
    • Increased myocardial oxygen demand
    • Increased cardiac ischemia

• Decreased mental status
  ➢ Probably via acetylcholine metabolism

• Possible pulmonary compromise
  ➢ Mechanical

• Risk factor for other conditions
PREFERRED OPIOIDS

• Morphine
• Hydromorphone
• Oxycodone
  ➢ Limited or no metabolites
  ➢ Inexpensive
  ➢ Readily available
  ➢ Familiar
  ➢ Many preparations to choose from
OPIOIDS TO AVOID

• Meperidine (Demerol)
  ➢ Active metabolite causes delirium

• Propoxyphene (Darvocet)
  ➢ No more effective than acetaminophen

• Codeine
  ➢ Must be metabolized & some people can’t
  ➢ More nausea, constipation than others

• Tramadol (Ultram)
  ➢ Seizures
  ➢ Can’t use combined with true opioids
PRE-OP REGIMEN: OPIOID-NAÏVE PATIENTS

- **Acetaminophen** around the clock
  - Absolute limit 4 grams per day
  - Relative limit 2 to 3 grams per day
- **Morphine** 2–4 mg IV every 1–2 hours
- **Oxycodone** 2.5–5 mg PO every 2–3 hours
- No combination drugs, weak opioids, partial agonists
- Avoid multiple or complicated regimens
PRE-OP REGIMEN: CHRONIC OPIOID USERS

- Usual doses + 30% – 50%
- Rescue dose = 10% – 30% of daily dose
- Recalculate dose every 24 hours
  - Total daily dose of opioid divided by 2 – 4 given BID – QID plus new rescue dose
PREOPERATIVE
PERIPHERAL NERVE BLOCK

• Indications
  ➢ Poor pain control on opioids
  ➢ Chronic opioid user
  ➢ Anesthesia Pain Service

• Useful for almost any fracture
  ➢ Hip, shoulder, upper & lower extremities

• Neuraxial, brachial plexus, femoral 3 in 1, etc.

• Indwelling catheters

• Is this useful?
ANESTHESIA & PAIN CONTROL IN THE OR

• Anesthetic technique varies with fracture
• Epidural
• Spinal narcotics
• Peripheral nerve blocks
• Indwelling catheters
ROLE OF THE SURGEON

• Local anesthesia
• Stable fixation
• Cemented implants
• Comfortable dressings
POST-OP REGIMEN: OPIOID-NAÏVE PATIENTS

- **Morphine** 2–4 mg IV every 1–2 hours PRN
  - 2 mg IV morphine = 6 mg PO morphine
  - 6 mg PO morphine = 6 mg PO hydrocodone
  - 5 mg hydrocodone + 500 mg acetaminophen = 1 Vicodin
  - 2 mg IV morphine ≈ 1 Vicodin
  - 2 mg IV morphine is minimum starting dose

- **Oxycodone** 2.5–10 mg PO every 2–3 hours PRN
  - 1 Percocet = 5 mg oxycodone + 325 mg acetaminophen
  - 1 Vicodin ≈ 2/3 of a Percocet
POST-OP REGIMEN: CHRONIC OPIOID USER

- Usual regimen
- Morphine
- Hydromorphone
- Oxycodone
- Consider indwelling block
THANK YOU FOR YOUR TIME!

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