Pain Management

National Pediatric Nighttime Curriculum

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Case 1

- A 4 year old has recently returned from having an abscess drained and has a JP drain in place. The nurse is asking for pain medication.
  - How would you assess the patient's pain?
  - How would you treat his pain?
  - What if it is getting worse?

Case 2

- A 10 yo female with a fractured arm is complaining of pruritus with morphine.
  - How would you assess her pain?
  - What changes would you make to her pain regimen?

Objectives

- Understand the different types of pain
- Know how to initiate pain medications
- Learn to assess pain and modify treatment strategies

Types of Pain

- Nociceptive
  - Somatic
    - Well-localized
    - Pain receptors in soft tissue, skin, skeletal muscle, bone
  - Visceral
    - Vague
    - Visceral organs
- Neuropathic
    - Damaged sensory nerves

Pain Management

- Pediatricians often under-treat children's pain
- When initiating pain medications, consider a standing regimen
  - Avoid combination products (i.e. Vicodin) at first
- Constantly re-assess your pain plan
  - Is it working?
  - Any side effects?

Assessing Pain

- Infants
  - Face, Legs, Activity, Cry, Consolability (FLACC)
- Verbal Children
  - Scale of 1-10 (may use faces and/or numbers)
  - Non-verbal clues

FLACC

	0	1	2
FACE	No particular expression or smile	Occasional grimace or frown, withdrawn, disinterested	Frequent to constant quivering chin, clenched jaw
LEGS	Normal position or relaxed	Uneasy, restless, tense	Kicking or legs drawn up
ACTIVITY	Lying quietly, normal position, moves easily	Squirming, shifting back and forth, tense	Arched, rigid, or jerking
CRY	No cry	Moans or whimpers, occasional complaints	Crying steadily, screams or sobs
CONSOLABILITY	Content, relaxed	Reassured by touching, hugging, voice, distraction	Difficult to console or comfort

Non-pharmacologic Pain Management

- Physical
  - Massage
  - Heat and cold
  - Acupuncture
- Behavioral
  - Relaxation
  - Art and play therapy
  - Biofeedback
- Cognitive
  - Distraction
  - Imagery and Hypnosis

Pain Medications

- Acetaminophen
  - PO: 10-15 mg/kg every 4-6 hours
  - PR: Loading dose 35-50 mg/kg; Maintenance dose 20 mg/kg every 6 hours
  - NO MORE THAN 5 DOSES in 24 hours
- Ibuprofen
  - PO: 5-10 mg/kg every 6-8 hours
  - MAX 40 mg/kg/day
  - Contraindicated in active GI bleeding, hypersensitivity to NSAIDs
  - Caution in severe asthmatics

Pain Medications

- Ketorolac
  - NSAID
  - Available PO, IV, IM
  - Potential opioid sparing effect
  - Cannot be used for a long time
    - No more than 24-72 hours in children less than 2 years
    - No more than 5 days in children 2 and older

Pain Medications

- OPIATE – If one doesn't work, try another
- Codeine
  - Weak opiate
- Morphine
  - PO: 0.2-0.5 mg/kg every 4-6 hours
  - IV: 0.05-0.2 mg/kg every 2-4 hours
  - PCA: 0.015 mg/kg/hr basal with 0.015 mg/kg PCA dose q10 min lockout

Pain Medications

- Oxycodone
  - 4-5 hour duration
- Fentanyl
  - Potent (100x morphine), short duration
  - Transdermal patch has long onset and long acting (2-3 days)
- Hydromorphone
  - 5x more potent than morphine
  - 4-6 hour duration

Take Home Points

- Assess pain using an age appropriate tool.
- Consider starting an around the clock regimen.
- Continually assess pain and modify medication regimen appropriately.

Take Home Points

- When to call the attending:
  - Patient has persistent or worsening pain despite appropriate analgesic regimen.
- When to transfer to a higher level of care:
  - Patient develops respiratory depression with opiates
    - Control airway and ventilation
    - Order opioid antagonist while calling for help

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