

## 2021 Hospital Medicine Boot Camp

### Pain Management of the Hospitalized Patient

Andrew Pisansky MD MS

- Pathophysiology of Pain
  - Both acute and chronic pain have distinct mechanisms of the signaling that respond to distinct treatments
    - Acute pain is typically related to somatic or visceral nociception, inflammation, or acute injury to nerves
    - Chronic pain frequently involves reorganization of the central nervous system to include wind-up and facilitation of pain signaling. This produces the phenomena of allodynia and hyperalgesia that are characteristic of peripheral and central sensitization
- Mechanism-Based Approach to Pain Management
  - Pain can be divided into several different clinical mechanisms of pain:
    - Nociceptive (somatic or visceral)
    - Inflammatory
    - Neuropathic
    - Central
- Mechanisms of Pain and Analgesic Selection (note – many off label uses)
  - Nociceptive pain
    - Acetaminophen, NSAIDs, Opioids, Ketamine\*, Lidocaine\*
  - Inflammatory pain
    - NSAID, Opioids, Lidocaine\*
  - Neuropathic pain
    - Gabapentin, Pregabalin, Tricyclic Antidepressants, Selective Norepinephrine Reuptake Inhibitors, Sodium Channel Antagonists
  - Centralized pain
    - Gabapentin, Pregabalin, Tricyclic Antidepressants, Selective Norepinephrine Reuptake Inhibitors, alpha 2 agonists
- Multimodal Analgesia
  - Multimodal analgesia is the use of multiple classes of analgesics, specifically targeted to the mechanisms of pain at *low doses for synergistic effect*.
  - Multimodal analgesia is NOT polypharmacy, which is using many medications at high doses, often with significant side effects
- Opioid Management in Acute Pain
  - Goals are to control pain and create a plan for de-escalation with the presumption of pain resolution following recovery from the primary injury causing pain
  - The most common cause of chronic pain is uncontrolled acute pain
  - Opioids are indicated for acute pain after non opioid analgesics have been started and are being continued following the initiation of opioids
- Opioid Management in Chronic Pain

- Patients with chronic pain are at high risk of suffering from untreated and uncontrolled pain, particularly when there is a source of acute pain in addition to chronic pain
- The goals of opioid management in patients with chronic pain already taking opioids are: (1) control opioid escalation, (2) create a plan for opioid tapering following hospital discharge, (3) engage experts if the first two goals are not being met.
- Having a Plan and Maximizing Resources
  - Pain management requires understanding the underlying medical condition, diagnosing the mechanisms of pain, selecting appropriate and targeted analgesics, and ensuring that the plan has outpatient follow up

\*Requires specialist consultation