What is multimodal analgesia?

- Combining analgesics from two or more drug classes or analgesic techniques with different mechanisms of action, targeting different (peripheral or central) pain pathways, thus achieving a synergistic effect at lower analgesic doses.

Why use multimodal analgesia?

- Improved pain control compared to single agent analgesic use
- Reduced need for opioid analgesics which reduces the risk of opioid-related side effects

How is multimodal analgesia achieved?

- Scheduled acetaminophen and NSAID if not contraindicated
- Regular use of non-pharmacologic interventions
- Behavioral interventions (music, deep breathing relaxation, patient education, etc.) to reduce anxiety and pain
- Use of gabapentin for neuropathic pain or surgical pain with potential for neuropathic pain
- Use of PRN opioid for pain uncontrolled with scheduled analgesics
  - PO route is preferred if patient is able to take PO; IV route for pain unresponsive to PO analgesics or unable to take PO
- Use of neuraxial (intrathecal, epidural) and regional analgesia when indicated

Patient education

Most patients are familiar with use of opioids for manage pain after surgery or injury. Some patients may be hesitant to use non-opioid medications. You have all heard patients say, “Tylenol® doesn’t work for me.” Familiarize yourself with the following message:

- “Tylenol is not going to bring a 10/10 pain down to zero, but it will lower your pain so other medications will work better.”

Nurses must help patients understand what a multimodal approach is and why it is more effective than use of opioids alone. Patient education should include:

- Availability of non-pharmacologic interventions
- Names of all pain medications and how they work. Keep it simple.
  - NSAIDs and acetaminophen block pain chemicals from being released by injured tissues
  - Local anesthetics and gabapentin work on nerves to block the pain signal from the injured tissue to the spinal cord
  - Opioids block pain chemicals in the spinal cord and in the brain.
- Dose, dosing schedule (PRN or scheduled), and potential side effects
- Notify staff if pain is not adequately controlled or if experiencing any side effects

Nurses should also be able to address patient concerns regarding opioid use and safety.
Multimodal Pain Order Set FAQs and Helpful Hints

1. What is the maximum daily dose of acetaminophen (Tylenol®)?
   ♦ Up to 4,000 mg can be used for healthy adults under the direction of a health care provider.
   ♦ Manufacturer guidelines recommend limiting acetaminophen (APAP) to 3,000 mg per day. This is a good practice for patients to follow after discharge.
   ♦ Reduce dose or use with caution with older adults, history of hepatic impairment, or alcohol abuse.

2. Why aren’t there any PRN options for APAP and NSAIDs?
   ♦ The goal is to maximize non-opioid use through scheduled dosing.
   ♦ **Patient education tip:** “It is important to maintain a steady level of pain medication to best manage your pain. This reduces the need to take stronger pain medication that can have more serious side effects.”

4. Why aren’t Vicodin® (hydrocodone/APAP) or Percocet® (oxycodone/APAP) on the orders?
   ♦ Use of opioid combination products limit the ability to maximize the dose of APAP. In order to receive the maximum APAP daily dose with combination products, the patient would have to use the maximum opioid prescribed PRN, which they typically do not need.
   ♦ Physicians can order medications not on the order set but need to be aware of the risk of APAP toxicity if Vicodin® or Percocet® are ordered along with a separate APAP order, either scheduled or PRN.

5. Why do we need to start with the lowest opioid dose each time?
   ♦ The physician will select the starting dose of opioid based on the patient’s individual need (age, tolerance, medical comorbidities, etc.)
   ♦ Patients need less opioid when non-opioid analgesics are maximized. In addition, pilot sites within Ascension found patients rarely needed a second dose of opioid.

5. Helpful hints:
   ♦ Note the opioid orders contain hold parameters. Sedation level is assessed prior to administration of an opioid and with reassessment.
   ♦ Patient response to NSAIDs varies. If one NSAID is ineffective, a trial of another NSAID should be given.

Opioid Safety:
♦ Because of the ongoing opioid crisis, patients may be concerned with addiction. Discuss with patients the difference between tolerance, physical dependence and addiction. This link provides helpful patient education tips.
♦ Explain to patients for their safety, they will be checked on often. This may mean waking the patient at night if needed.
♦ Discuss with patients safe storage and disposal of opioid medication.

Additional Resources
♦ Check out the Pharmacologic Management section on the Pain Management LibGuide for additional recommended reading.