UNIVERSITY HOSPITAL
Newark, New Jersey

Pain Assessment & Management for Physicians and Allied Health Professionals

2020

GOALS

1. Review methods of pain assessment
2. Understand various types of pain
3. Review treatment algorithm for acute and chronic pain
4. Understand the significant risks associated with opioid use

Patient Evaluation

- Comprehensive history and physical exam (chronic pain lasts or recurs for > 3months)
- Review past medical history, family history, and psychosocial history
- Pain Characteristics – onset, duration, location, quality, intensity, associated symptoms, exacerbating and relieving factors
- Past and current management therapies (medications, interventions)
- Review notes from consultants, imaging, and other advanced studies
- Utilize functional and psychosocial assessment tools
- Discuss patient (and family's) expected goals for treatment

Patient Evaluation

- Determine mechanism of pain (e.g.: somatic, visceral, neuropathic, cancer-related), and identify etiology of patient's pain
- Develop a comprehensive treatment plan (biopsychosocial approach)
- Consider referrals to addiction medicine, psychology, and/or pain management
- If utilizing medications to address chronic pain, use WHO pain ladder as starting point

Pain: A Complex Phenomenon

Pain

Sensory stimuli and/or neurologic injury modified by an individual's memory, expectations, emotions

Bio-cultural Model of Pain

Society also influences an individual's pain experiences

Bedside Assessment

ASK the patient about pain

- Asking about ADL's and IADL's
- Asking about physical activity, mood, sleep, appetite, energy level

Identify *preferred pain terminology*

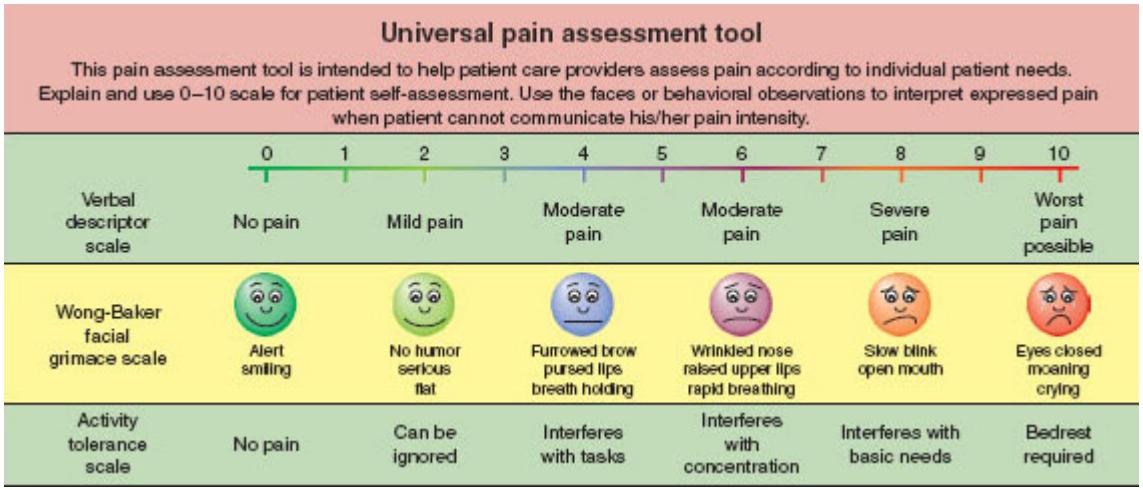
- Hurting, aching, stabbing, discomfort, soreness

Use a pain scale that works for the individual

- Ensure understanding of its use
- Modify sensory deficits

Use a standard scale to track the course of pain

Visual Analog Scale (VAS)



Universal pain assessment tool

This pain assessment tool is intended to help patient care providers assess pain according to individual patient needs. Explain and use 0–10 scale for patient self-assessment. Use the faces or behavioral observations to interpret expressed pain when patient cannot communicate his/her pain intensity.

	0	1	2	3	4	5	6	7	8	9	10
Verbal descriptor scale	No pain		Mild pain		Moderate pain		Moderate pain		Severe pain		Worst pain possible
Wong-Baker facial grimace scale	Alert smiling		No humor serious flat		Furrowed brow pursed lips breath holding		Wrinkled nose raised upper lips rapid breathing		Slow blink open mouth		Eyes closed moaning crying
Activity tolerance scale	No pain		Can be ignored		Interferes with tasks		Interferes with concentration		Interferes with basic needs		Bedrest required

Nonverbal Pain Indicators (Pediatrics/Geriatrics)

- Facial expressions (grimacing)
  - Less obvious: slight frown, rapid blinking, sad/frightened, any distortion
- Vocalizations (crying, moaning, groaning)
  - Less obvious: grunting, chanting, calling out, noisy breathing, asking for help
- Body movements (guarding)
  - Less obvious: rigid, tense posture, fidgeting, pacing, rocking, limping, resistance to moving

Consequences of Untreated Pain

Acute pain:

- Increases metabolic rate and blood clotting
- Impairs immune function
- Induces negative emotions

Without intervention, pain receptors become sensitive and may have long lasting changes in the neurons (i.e., hyperalgesia)

Types of Pain: A Brief Review

- Nociceptive Pain
  - –Visceral
  - –Somatic
- Neuropathic Pain
- Mixed/Unspecified Pain
- Psychological cause (e.g., depression)

Visceral Pain

Descriptors: cramping, squeezing, pressure

Distribution/Examples:

- –Referred
  - heart attack, kidney stone
- –Colicky
  - Bowel obstruction, gallstone
- –Diffuse
  - Gastroenteritis, Irritable bowel syndrome

Analgesics: acetaminophen, opioids, NSAIDS, Adjuvants

Somatic pain

- **Descriptors:** *aching, deep, dull, gnawing*
- **Distribution/Examples**:
  - Well localized—patients can often point with one finger to the location of their pain
    - bone mets, sprained ankle, toothache
- **Analgesics**: *NSAIDS, acetaminophen, opioids*

Psychological Causes

Depression often manifests as physical pain, indistinguishable to the patient from somatic pain.

Assessment focuses on accompanying symptoms of:

- –Loss of pleasure
- –Loss of energy
- –Sadness
- –Appetite and sleep disturbances
- –Guilt and thoughts of death

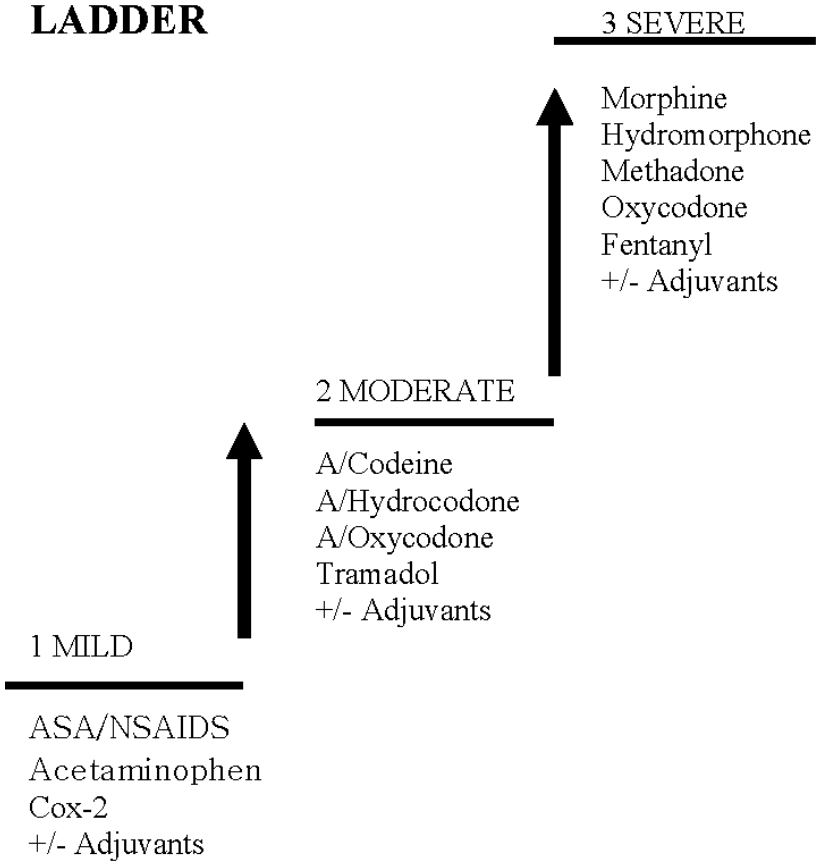
General Approaches to Treat Pain

- Set a goal of reduction of pain to tolerable levels, not a goal of complete relief (i.e., set expectations)
  - For example, Wong-Baker score of 4 or less
  - Or daily improvement in functional status (i.e., tolerated PT, out of bed)
- Make sure patient and family are aware of goals
- Frequent clinic visits at first for assurance, validation, and monitoring of titration

Selection of Pain Medications

- Regardless of Acute or Chronic reference the WHO step ladder approach to pain control
- Source/type of pain
- Duration/timing/frequency
- History of medication use
- Impact on quality of life
- Presence of associated factors

WHO 3-STEP LADDER



Don't forget about non-pharmacological treatments

Treatment of Acute Pain

Acute Pain

- Defined as pain that typically lasts less than 3 months
- Usually occurs suddenly and has a known cause
  - Injury
  - Surgery
  - Infection
- Acute pain normally resolves as the body heals
  - Most acute pain is reduced to tolerable levels within 7 days

Acute Pain Medication Strategies

Multimodal Analgesia:

Abandoning the old opioid-centric model

Focus more on nonsteroidal anti-inflammatories, acetaminophen, gabapentinoids, NMDA antagonists, alpha-2-agonists, and sodium and calcium channel blocking agents

Use immediate-release opioids when all other adjuvant medication options have been exhausted

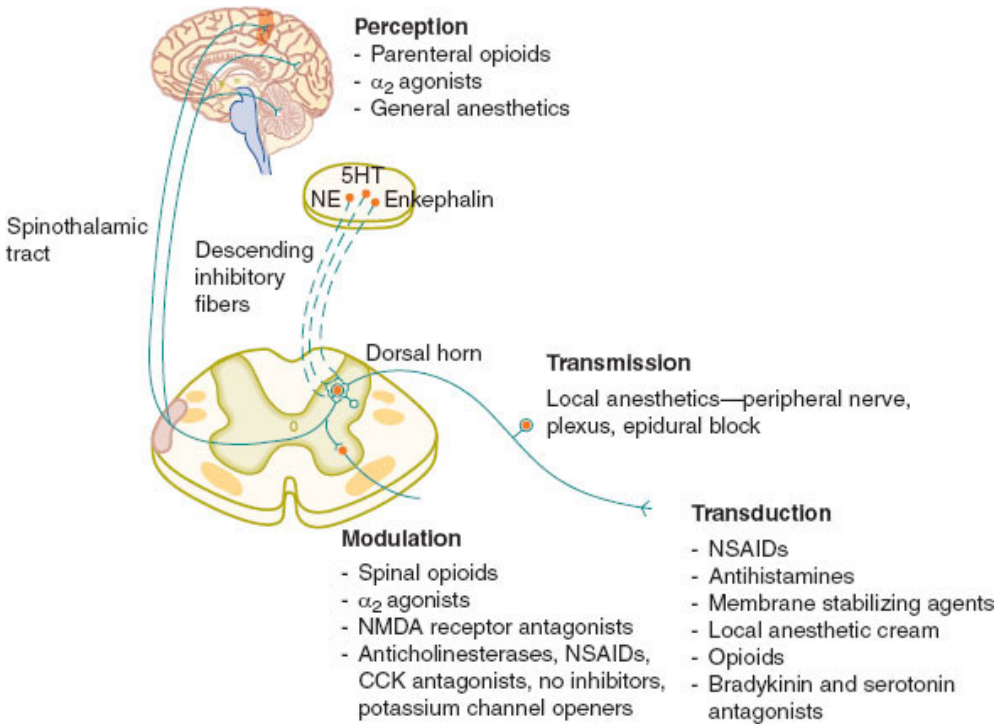
- Use lowest effective dose
- For the shortest duration necessary

Three days or less will often be sufficient

NJ Opioid regulations limits acute pain opioid prescriptions to 5 days

Non-Opioid (Adjuvant) Medications and Non-pharmacologic Strategies

1. Localized care (heat, cold, immobilization)
2. Physical Therapy
3. Exercise & Relaxation Techniques
4. NSAIDs and acetaminophen
5. Transdermal lidocaine
6. Corticosteroids
7. Anticonvulsants & antidepressants
8. Regional and neuraxial nerve blocks



From Macres SM, Moore PG, Fishman SM. Acute pain management. In: Barash PG, Cullen BF, Stoelting RK, et al., eds. *Clinical Anesthesia*. 7th ed. Philadelphia: Lippincott Williams & Wilkins; 2013:1611–1642

NJ Opioid Regulations

5 Day Rule for Initial Opioid prescriptions

- A practitioner may not issue an initial prescription for an opioid drug in a quantity exceeding a five-day supply for treatment of acute pain
- Any prescription for acute pain must be for the lowest effective dose of immediate-release opioid drug

Prior to issuing an initial prescription of any opioid:

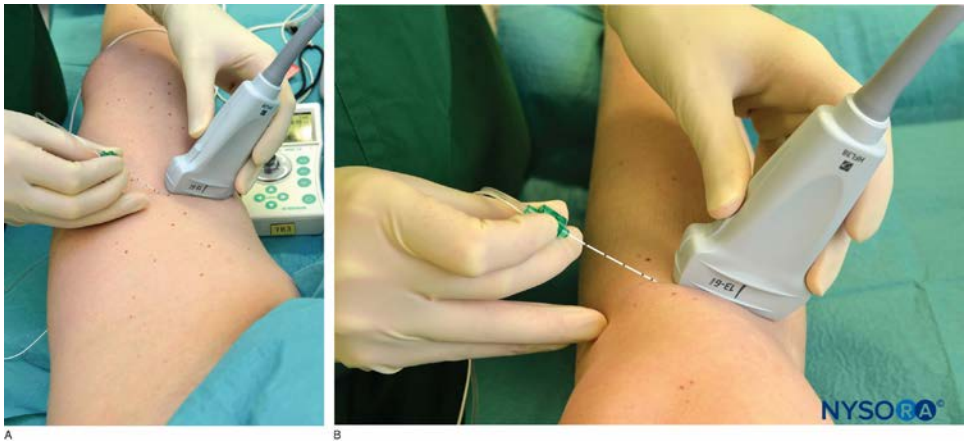
- Take and document the results of a thorough medical history, including the patient's experience with non-opioid medication and non-pharmacological pain management approaches and substance abuse history
- Conduct, as appropriate, and document the results of a physical examination
- Develop a treatment plan, with particular attention focused on determining the cause of the patient's pain
- Access relevant prescription monitoring – NJPMPAware (https://newjersey.pmpaware.net/login)
- Limit the supply of any opioid drug prescribed for acute pain to a duration of no more than five days as determined by the directed dosage and frequency of dosage

Enhanced Recovery After Surgery (ERAS)

- ERAS pathways are designed to restore baseline physiology, decrease surgical stressors, and hasten recovery

- Multimodal analgesia limiting opioid based medications is critical to ERAS success

- ERAS pathways improve patient outcomes, reduce length of stay, and improve patient's satisfaction



Example of Total Hip Arthroplasty (THA) Opioid Taper Protocol

- Patient-specific opioid prescribing and tapering protocol showed a total decrease in opioid dose prescribed by 63%
- Considering the patient's 24 hour opioid requirement prior to discharge can help to decrease opioid prescriptions
- Use of adjuvant medications and protocols like this may aid providers in decreasing total opioid prescribed

	Tapering Instructions (Prescribed As-Needed)						
Prior 24-hour Oxycodone (mg)	Days 1-2	Days 3-4	Days 5-6	Days 7-8	Days 9-10	Days 11-12	Total Oxycodone 5 mg Tablets Prescribed (n)
10 mg	5 mg twice daily						4
20 mg	5 mg four times daily	5 mg twice daily					12
30 mg	5 mg six times daily	5 mg four times daily	5 mg twice daily				24
40 mg	10 mg four times daily	10 mg three times daily	5 mg four times daily	5 mg twice daily			40
50 mg	10 mg five times daily	10 mg four times daily	10 mg three times daily	5 mg four times daily	5 mg twice daily		60
60 mg	10 mg six times daily	10 mg five times daily	10 mg four times daily	10 mg three times daily	5 mg four times daily	5 mg twice daily	84

Figure 1. Discharge opioid prescribing and tapering protocol based on each patient's prior 24-hour oral opioid use.

Tamboli, M et al. A Multidisciplinary Patient-Specific Opioid Prescribing and Tapering Protocol Is Associated with a Decrease in total Opioid Dose Prescribed for Six Weeks After Total Hip Arthroplasty. Pain Medicine, 0(0), 2019, 1–8

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University Hospital Adult Emergency Medicine Treatment of Acute Pain Guideline

- Alternative therapies should be considered if there are contraindications to first line recommendations
- Consider next line therapies in a stepwise manner if pain persists 30 minutes after an IV dose **OR** 60 minutes after a PO dose
- Other than in the treatment of severe acute pain, the oral route is the preferred route of administration of most analgesic drugs

Abdominal Pain

First Line	Second Line	Third Line	Adjunctive Therapy	Discharge
Undifferentiated abdominal pain Acetaminophen 975 mg PO **AND/OR** Ibuprofen 400 – 600 mg PO (If patient cannot tolerate PO, ketorolac 15 mg IV) *Spasmodic pain* Dicyclomine 20 mg PO (If patient cannot tolerate PO, dicyclomine 10 mg IV) *Gastroparesis* Metoclopramide 10 mg IV	*Undifferentiated abdominal pain* Ketamine 0.3 mg/kg IV over 15 minutes *Gastroparesis* Haloperidol 5 mg IV **OR** Haloperidol 5 mg IM	Opioid rescue*	*Anti-emetics* Ondansetron 4 mg IV **OR** Ondansetron ODT 4 mg PO **OR** Metoclopramide 10 mg IV *Antacids* Mag hydroxide/aluminum hydroxide/simethicone 1200 mg/1200 mg/120 mg PO **AND/OR** Famotidine 20 mg IV	*Undifferentiated abdominal pain* Acetaminophen 975 mg PO q6H PRN **AND/OR** Ibuprofen 400 mg PO q6H PRN *Spasmodic pain* Dicyclomine 20 mg PO q6H PRN *Gastroparesis* Metoclopramide 10 mg PO q6H PRN

Clinical Pearls:

- Consider underlying etiology of abdominal pain before selecting treatment option (e.g. anticholinergics and opioids counterintuitive in gastroparesis)
- Ketamine: avoid use in patients with severe hypertension or history of psychosis
- NSAIDs: avoid use in third trimester of pregnancy, peptic ulcer disease, history of GI bleed, or active major bleeding
- Provide patient education regarding type of pain, medication choices, and what to expect
- Consider distractions such as music, talking to patient

Dental Pain

First Line	Second Line	Third Line	Adjunctive Therapy	Discharge
Acetaminophen 975 mg PO **AND/OR** Ibuprofen 400 – 600 mg PO (If patient cannot tolerate PO, ketorolac 15 mg IV)	Lidocaine 2% viscous solution – swish and spit	Lidocaine 1% dental block	Apply ice pack to painful area	Acetaminophen 975 mg PO q6H PRN **AND/OR** Ibuprofen 400 – 600 mg PO q6H PRN **AND/OR** Lidocaine 2% viscous solution – swish and spit q3 hours PRN

Clinical Pearls:

- Provide patient education regarding type of pain, medication choices, and what to expect
- Analgesia is a temporizing measure for more definitive treatment
- NSAIDs: avoid use in third trimester of pregnancy, peptic ulcer disease, history of GI bleed, or active major bleeding

Guidelines are intended to be flexible. They serve as reference points or recommendations, not rigid criteria. Guidelines should be followed in most cases, but there is an understanding that, depending on the patient, setting, circumstances or factors, guidelines can and should be tailored to fit individual needs.

ED Guideline Committee, Updated November 2018.

Treatment of Chronic Pain

Non-opioid Pain Medications

- **Acetaminophen** 650mg-1,000mg tid-qid
  - –Concern for hepatic toxicity >4 grams acetaminophen/day
  - –Adjust dosing for patient weight <50kg

- **NSAIDs**: ibuprofen, naproxen, Selective COX-2 inhibitors (i.e. celecoxib)
  - –Dosage varies for each medication
  - –Concern for gastric/renal toxicity, platelet dysfunction, may inhibit anti-hypertensive medications

Adjuvant Analgesics

- Non-pharmacologic (i.e.: ice, heat, TENS unit, physical therapy, cognitive behavioral therapy, relaxation therapy, acupuncture)
- Topical Medications (i.e.: lidocaine cream or lidocaine patches)
- Muscle relaxants
- Anticonvulsants
- Antidepressants
- Steroids
- Anti-arrhythmics

Advanced Chronic Pain Management Therapies

- Joint injections (i.e.: shoulder, knee, hip)
  - Corticosteroid or viscosupplementation

- Fluoroscopic (X-ray) guided procedures
  - Cervical (facet blocks, epidurals)
  - Thoracic (facet blocks, epidurals)
  - Lumbosacral (facet blocks, epidurals, sacroiliac joint injections)
  - Sympathetic blocks (CRPS, cancer-related visceral pain)
  - Neuromodulation
    - Spinal cord stimulation, peripheral nerve stimulation
  - Intrathecal pump delivery

Opioid Strategies

- **Multimodal analgesia** using adjuvant (non-opioid) pain medication should be used to keep opioid use and dosing to a minimum
- If starting an opioid, use lowest effective dose
- Choose immediate-release (short-acting) opioids if appropriate for your patient

New Jersey Opioid Law – Chronic Pain

- Prior to issuing an initial prescription of a Schedule II drug or opioid, for acute or chronic pain, the practitioner must:
  - Complete a thorough medical history, including the patient's experience with non-opioid medication and non-pharmacological pain management approaches and substance abuse history
  - Conduct and document results of a physical examination
  - develop a treatment plan, with particular attention focused on determining the cause of the patient's pain
  - access relevant prescription monitoring information under the Prescription Monitoring Program (PMP)

New Jersey Opioid Law – Chronic Pain

- Must discuss with the patient, or the patient's guardian:
  - the risks of addiction and overdose associated with opioid drugs
  - dangers of taking opioids with alcohol, benzodiazepines, or CNS depressants
  - the reasons why the prescription is necessary
  - alternative treatments that may be available
  - risks of addiction to opioids, even when taken as prescribed
  - risks of developing a physical or psychological dependence
  - risks of taking more opioids than prescribed, or mixing sedatives, benzodiazepines or alcohol with opioids, can result in fatal respiratory depression.

New Jersey Opioid Law – Chronic Pain

- At the time of the issuance of the third prescription for an opioid, the practitioner must enter into a **written pain management agreement** with the patient, and:
  - review, at a minimum of every 3 months, the course of treatment, new information related to pain etiology, and patient's progress toward treatment objectives
  - assess the patient prior to every renewal to determine whether the patient is experiencing problems associated with physical and psychological dependence
  - periodically make reasonable efforts, unless clinically contraindicated, to either stop the use of the controlled substance, decrease the dosage, try other drugs or treatment modalities to reduce the potential for abuse or development of physical or psychological dependence
  - review the PMP Database
  - monitor compliance with the pain management agreement and any referrals
  - Conduct random urine screens at least once every 12 months
  - Advise patient of the availability of an opioid antidote (i.e. Naloxone)

New Jersey Opioid Law – Chronic Pain

- Exemption categories for above include:
  - Patients currently in active treatment for cancer
  - Patients receiving hospice care from a licensed hospice or palliative care
  - residents of long term care facilities
  - any medications that are being prescribed for use in the treatment of substance abuse or opioid dependence.

Short Acting Opioids

- Parenteral or Oral
  - codeine
  - morphine
  - hydromorphone (Dilaudid ®)
  - fentanyl
- Oral only
  - oxycodone (Percocet ®)
  - hydrocodone (Vicodin ® Lortab ®, Lorcet ®)

– Use an opioid equianalgesic chart to convert between opioid formulations, and adjust dosing for cross tolerance

Chronic Opioid Therapy

- **Opioids are not first-line treatments for chronic, non-cancer pain.**
- Evidence of long-term efficacy of opioids for chronic non-cancer pain (>16 weeks) is **limited** and of low quality.
- For many patients with chronic pain, analgesic efficacy from opioids is not maintained over long time periods.

Opioid Related Health Risks

- Dependence and/or Addiction
- Fractures from falls (especially for patients over 60)
- Respiratory depression
- Hyperalgesia
- Sexual dysfunction
- Hypogonadism
- Chronic constipation and fecal impaction
- Chronic dry mouth and tooth decay
- Dry skin and pruritus

Take Home Messages

1. Heroin, fentanyl, and prescription opioid use is an nationwide epidemic
2. Utilize a multimodal approach to treating acute and chronic pain
3. Maximize non-opioid analgesics and adjuvant therapies (e.g., regional blocks, pharmacologic and non-pharmacologic options)
4. Follow the WHO pain ladder to help guide pharmacologic therapy
5. Understand the opioid prescribing rules for acute and chronic pain, and importance of using the PMP Database
6. Opioids are not the first line treatment of chronic non-cancer pain

University Hospital Services

- **Regional Anesthesia and Acute Pain Management (RAAPM)**
  - Pager: 973-259-2166
- **Chronic Pain Management**
  - Pager: 973-312-3304
- **Addiction Medicine**
  - 1-800-960-1253
- **Medical Toxicology (Poison Center)**
  - 1-800-222-1222

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