Pain Recognition and Treatment: What You Should Know
What are the consequences of uncontrolled pain?

- **Increased catabolic demands:**
  - Poor wound healing, weakness, muscle breakdown

- **Decreased limb movement:**
  - Increased risk of DVT/PE

- **Respiratory effects:**
  - Shallow breathing, tachypnea, cough suppression increasing risk of pneumonia and atelectasis
What are the consequences of uncontrolled pain?

- **Negative emotions:**
  - Anxiety, depression

- **Sleep deprivation**

- **Existential suffering:**
  - May lead to patients seeking active end to life and poor quality of life
How do I assess pain?

► Pain History (PQRSTU Approach\(^1\))
  - **P**: Palliative/Provocative Factors (activity/rest)
  - **Q**: Quality of pain (types: nociceptive, neuropathic, mixed)
  - **R**: Region and/or Radiation of pain
  - **S**: Severity (see pain scale)
  - **T**: Temporal aspects (time of day, continuous or intermittent; response to medication)
  - **U**: Untoward effects on activity or quality of life

► Physical Examination

► Radiographic and Laboratory Studies (If Indicated)

► Reassess, Reexamine and Readjust therapy
What are different types of pain?

NOCICEPTIVE:

► Somatic
  - Originates from the damage to body tissue, such as bone mets
  - Described as “sharp,” “achy” or “stabbing”

► Visceral
  - Originates in visceral organ, poorly localized
  - Described as “deep, dull, cramping”

NEUROPATHIC

- Originates in damaged nerves also arises from abnormal neural activity secondary to disease or injury of the nervous system
- Described as “burning”, “searing” or “tingling”

MIXED: Nociceptive and neuropathic
How do I know the patient has pain?
You need to **ASK**

0-10 Numeric Pain Intensity Scale

0 1 2 3 4 5 6 7 8 9 10

None  Mild  Moderate  Severe

Use Faces If The Patient Fails to Grasp the 0-10 Scale
How do I treat pain?

WHO 3-Step Ladder

1 mild (1-3)
- Acetaminophen
- NSAIDs
- Aspirin
- ± Adjuvants

2 moderate (4-6)
- Acet/Codeine*
- Acet/Hydrocodone*
- Oxycodone
- Tramadol
- ± Adjuvants

3 severe (7-10)
- Morphine
- Oxycodone
- Hydromorphone
- Fentanyl
- Methadone
- ± Adjuvants

*Limited by acetaminophen

Adjuvants: tricyclics, anticonvulsants or corticosteroids
## What should I use?

<table>
<thead>
<tr>
<th>Type of Pain</th>
<th>Description</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuropathic</td>
<td>Shooting/Burning</td>
<td>Tricyclic</td>
</tr>
<tr>
<td>Visceral</td>
<td>Deep, dull, cramping</td>
<td>Find the Cause and treat Opioids often used</td>
</tr>
<tr>
<td>Somatic</td>
<td>Sharp, aching, stabbing</td>
<td>Opioids or NSAIDs</td>
</tr>
</tbody>
</table>
Principles of Analgesic Use

► Don’t wait to treat pain
► Select an appropriate route that suits the patient best. Use oral meds, when possible.
► Use WHO ladder to guide initiation of opioids
► If continuous pain, give round the clock dosing (immediate release oral opioid, give every 4 hours) or extended release, every 8-12 hrs)
Principles of Analgesic Use

► Provide breakthrough immediate release dosing, at 5-15% of 24-hour dose.

► Peak concentration for immediate release occurs at:
  ▪ Oral every 60-90 min
  ▪ Subcutaneous every 30 minutes
  ▪ IV-every 6-10 minutes

► Duration of action for immediate release is 3-4 hours
Opioid Pharmacology (Immediate Release)

- Most of them are metabolized by the liver and excreted by the kidneys:
  - Hydromorphone excreted from the kidney and in bile
  - Fentanyl: Has IV/subcutaneous and Transdermal form. Metabolized in liver and excreted in the urine

- With normal renal function, steady state is achieved in 24 hours
Opioid Metabolism

► Adjust the dose in renal insufficiency/failure or change to an opioid that is not renally excreted

► Liver impairment must be severe to require a similar adjustment

► Respiratory depression not likely with optimal doses of morphine

► Respiratory depression is a greater hazard with methadone than morphine
Principles of Analgesic Use

► If pain remains uncontrolled after 24 hours:
  - Mild-moderate pain: increase round the clock by 25-50%
  - Moderate-severe pain: increase by 50-100%
  - Or by amount equal to total dose of breakthrough medication used in prior 24 hrs
  - If patient requires 3-4 breakthrough doses in a 24 hour period routinely, consider increasing the dose of extended release preparation
Principles of Analgesic Use

► Use only one long-acting opioid and one short-acting opioid at a time for symptom control.

► To convert from one opioid to another, use equianalgesic table for conversion. If pain was controlled, start with 50-75% of equianalgesic dose of new opioid due to incomplete cross-tolerance.
# Equianalgesic Dosing

<table>
<thead>
<tr>
<th>Drug</th>
<th>Oral (mg)</th>
<th>Parenteral (mg)</th>
<th>Duration of action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine-if repeated</td>
<td>30</td>
<td>10</td>
<td>3-4 hrs</td>
</tr>
<tr>
<td>Morphine-if single dose</td>
<td>60</td>
<td>10</td>
<td>3-4 hrs</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>7.5</td>
<td>1.5</td>
<td>3-4 hrs</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>20 mg</td>
<td>----</td>
<td>3-4 hrs</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>----</td>
<td>0.1 mcg</td>
<td>5-10 min, IV</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>48-72 hrs TD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(13-24 hrs for peak effect)</td>
</tr>
<tr>
<td>Codeine</td>
<td>200 mg</td>
<td>----</td>
<td>3-4 hrs</td>
</tr>
<tr>
<td>Hydrocodone (with Acet)</td>
<td>----</td>
<td>----</td>
<td>3-4 hrs</td>
</tr>
</tbody>
</table>
Equianalgesic Dosing
Additional notes

► Equianalgesic doses for adults > 50 kg body weight.

► Methadone conversion is non-linear and requires expertise for dose conversion.

► Acetaminophen combinations are limited to 4000 mg/day in patients with normal liver function.
Is the patient addicted to opioids?

► Psychological Dependence (Addiction): The hallmark is a behavioral syndrome—compulsive drug use and continued use, despite harm physically, emotionally, socially or financially.

► Physical dependence: Abruptly stopping opioids will result in abstinence syndrome: tachycardia, diaphoresis, body aches, nausea/vomiting, diarrhea. *This is not addiction.*
Anticipate and educate about adverse effects of opioids

► Sedation: usually when started. Resolves in few days. If persists, decrease dose and increase frequency or opioid rotate

► Constipation: Anticipate and prevent by using stool softener and stimulant (docusate + senna). May need osmotic agent (lactulose)

► Nausea & Vomiting: Resolves in days to week. Dopamine-blocking agents, such as prochlorperazine or metoclopramide.
Other adverse effects to know

► Urticaria/Pruritus: due to histamine release. Resolves in few days, diphenhydramine prn.

► Urinary retention: May resolve, trial catheter. May need to rotate opioids.

► Delirium: inquire about nightmares or hallucinations, restless, myoclonic jerks. Worse with impaired renal function. Rotate opioids.
When Pain Control Proves Difficult

► Call the Pain Service (pager 689-5664) for postoperative, acute and chronic pain

► Call the Palliative Care Service (pager 606-6106) for pain or other symptoms in patients with serious or life-limiting illness.
Reference