TAKING THE HURT OUT OF PAIN

135th MPhA Annual Convention

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Taking The Hurt Out Of Pain

- Learning objectives
  1. Briefly describe acute versus chronic pain and palliative care
  2. Understand the use of simple analgesics and opioids for acute and chronic pain
  3. Describe strategies to manage opioid-related adverse effects and symptom control at the end of life
Taking The Hurt Out Of Pain

- Pain is derived from the Latin word “poena” which means **punishment**.
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- Acute pain
  1. Nature’s signal that something is wrong
  2. Patient expects the pain to resolve rapidly
  3. Reflex change in physiologic parameters (anxiety)
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- Chronic pain
  1. Cannot be rationalized as part of the healing process
  2. A disease state in and of itself
  3. A large psychological component
Palliative Care  (from the Latin *palliare*, *to cloak*)

"is any form of medical care or treatment that concentrates on reducing the severity of *disease symptoms*, rather than halting or delaying progression of the disease itself or providing a *cure*"

Wikipedia
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- Goals of palliative care
  1. Relief from suffering
  2. Pain and symptom control
  3. Psychological/spiritual support
  4. Patient/family support

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- Axioms
  1. A complex subjective phenomenon
  2. Difficult to define
  3. No universally accepted measurement methods
  4. Perceived as ill health (unhealthy)
  5. Creates anxiety and fear of the unknown
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- Facts to remember
  1. Pain is a defense mechanism
  2. Knowledge of cause(s) and natural history needed for optimal treatment
  3. Individualize treatment
  4. Reluctance to use appropriate analgesics
  5. Treatment is multimodal and multidisciplinary
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- The need for assessment
  1. Pain is subjective – believe the patient
  2. Objectify the pain using the appropriate tool
  3. Patients, providers and the healthcare system can impose barriers to optimal assessment
Provider Barriers

- Lack of education
- Poor assessment skills
- Opiophobia
- Misconceptions
- Personal biases
- Fear of drug adverse effects
Primary Tools in Pain Assessment

- Self-reported information (subjective)
- Conduct a thorough drug history
- Mnemonics may be very useful
  - PAINED
  - PQRST
- Use pain assessment instruments

Jones RM and Rospond RM (eds). Patient Assessment in Pharmacy Practice. 2003
Pain Assessment Instruments

- **Single-Dimension**
  - Visual analog scale
  - Verbal numeric scale
  - Verbal rating scale

- **Multi-Dimension**
  - Pain diary
  - Pain drawings
  - Faces pain scale
  - Wisconsin Brief Pain Questionnaire
  - McGill Pain Questionnaire
Single Dimension Instruments

**Simple Descriptive Pain Intensity Scale**
- No Pain
- Mild Pain
- Moderate Pain
- Severe Pain
- Very Severe Pain
- Worst Possible Pain

**10 cm No Pain/Worst Pain Scale**
- 0 = No Pain
- 10 = Worst Pain Imaginable

**0-100 mm Pain Distress Scale**
- No Distress
- Unbearable Distress
- 0
- 100

**0-5 No Pain/Worst Pain Scale**
- 0 = No Pain
- 5 = Worst Pain Imaginable

**0-10 Numeric Pain Distress Scale**
- No Pain
- Distressing Pain
- Unbearable Pain
- 0
- 10

**10 cm Descriptive Pain Distress Scale**
- None
- Uncomfortable
- Horrible

**10 cm Visual Analog Scale (VAS)**
- No Pain
- Pain as Bad as it Could Possibly Be
Caveats – Pain Assessment Instruments

- There is no one best assessment tool
- Associated advantages/limitations
- Rater consistency is important
- Findings should be documented

Jones RM and Rospond RM (eds). Patient Assessment in Pharmacy Practice. 2003
## Analgesic Associations

<table>
<thead>
<tr>
<th></th>
<th>Acute Pain</th>
<th>Chronic Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild</td>
<td>ASA/APAP</td>
<td>Aching Phase - Non-opioids</td>
</tr>
<tr>
<td>Moderate</td>
<td>NSAIDs, Combinations</td>
<td>Agonal Phase – Morphine</td>
</tr>
<tr>
<td>Severe</td>
<td>Morphine</td>
<td>Adjuncts – steroids, TCAs, anxiolytics, etc.</td>
</tr>
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**Acute Pain**
- Mild - ASA/APAP
- Moderate - NSAIDs, Combinations
- Severe - Morphine

**Chronic Pain**
- Aching Phase - Non-opioids
- Agonal Phase – Morphine
- Adjuncts – steroids, TCAs, anxiolytics, etc.
NSAIDs

- 8 distinct chemical classes
- MOA – inhibition of COX-1 and/or COX-2
- Better than ASA as an analgesic
- Adverse effects similar to ASA (except platelets)
- Cardiovascular risk
- ASA/NSAID interaction
- Utility in bone pain
Ketorolac

- NSAID with morphine equivalency (IV/IM)
- Adverse effects similar to NSAIDs
- Duration longer than most opioids
- Role in OPD/ED settings
- Oral potency less than morphine
Tramadol

- Step 2 analgesic ladder
- Dual mechanism of action
  - μ receptor agonist
  - serotonin/norepinephrine reuptake inhibition
- Well tolerated (opioid-like SEs)
- Low abuse potential
- Alternative to traditional opioids
- Anaphylactoid reactions (codeine)
Opioid Analgesics

- Remember – regardless of the drug used, the pharmacologic and therapeutic properties are similar
Routes of Administration

- Oral
- IM
- SubQ
- IV (bolus vs infusion)
- PCA
- Rectal/Vaginal
- Epidural/Intrathecal
Pain Not Affected by Opioids

- Bone pain
- Deafferentation pain
- Increased intracranial pressure
- Muscle spasm
- Smooth muscle spasm
Guidelines for Selection

- Oral effectiveness
- Duration of action
- Smoothe muscle effects
- Metabolic disposition
- Past patient experience
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- Know these concepts!
  1. Equianalgesic doses
  2. Relative analgesic potency
# Equianalgesic Doses

## Equianalgesic Doses of Opioid Analgesics

<table>
<thead>
<tr>
<th>Oral/Rectal Dose (mg)</th>
<th>Analgesic</th>
<th>Parenteral Dose (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Codeine</td>
<td>60</td>
</tr>
<tr>
<td>–</td>
<td>Fentanyl</td>
<td>0.1</td>
</tr>
<tr>
<td>15</td>
<td>Hydrocodone</td>
<td>–</td>
</tr>
<tr>
<td>4</td>
<td>Hydromorphone</td>
<td>1.5</td>
</tr>
<tr>
<td>2</td>
<td>Levorphanol</td>
<td>1</td>
</tr>
<tr>
<td>150</td>
<td>Meperidine</td>
<td>50</td>
</tr>
<tr>
<td>10</td>
<td>Methadone</td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>Morphine</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>Oxycodone</td>
<td>–</td>
</tr>
</tbody>
</table>

Adapted from the EPEC Project (Education for Physicians on End-of-Life Care)

[http://www.endoflife.northwestern.edu/painmanagement/table.pdf](http://www.endoflife.northwestern.edu/painmanagement/table.pdf)
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- **Change drug, keep the same route:** (e.g. po morphine to po hydromorphone)
  
  **Example:** Change 90 mg q 12 Extended Release Morphine to oral hydromorphone
  
  - Calculate the 24 hour current dose: $90 \times 2 = 180$ mg po MS/24 hrs
  - Use the equianalgesic ratio: $30$ mg po morphine = $7.5$ mg po hydromorphone
  - Calculate new dose using ratios: $180/30 \times 7.5 = 45$ mg oral hydromorphone/24 hours.
  - Reduce dose 50% for cross-tolerance: $45 \times .5 = 22$ mg/24 hours = $4$ mg q4h

Tolerance

- Larger opioid dose required for pain relief
- First sign – reduced duration of analgesia
- Common with chronic administration
- Complex physiologic basis
- Less likely with oral opioids/combinations
- Cross-tolerance is incomplete
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- Abstinence Syndrome

  Onset and severity is related to the half-life of a specific opioid

  Avoid by slowly tapering the drug
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- Common adverse effects
- Constipation
- GI Intolerance
- Sedation
- Respiratory Depression
Opioids and Nausea/Vomiting

- Common problem
- Multiple etiologies (central vs peripheral)
- Responds to various antiemetics (trial and error)
- Tolerance develops to vestibular sensitivity
Opioids and Constipation

- Most troubling adverse effect
- Tolerance does not develop
- Multiple etiologies
- Routinely add stimulant laxatives during chronic use
- Avoid bulk-forming agents to **treat** constipation
The Rest of the Story...

- Methylnaltrexone (Relistor) SQ QD (OIC chronic non-cancer pain/advanced illness)
- Lubiprostone (Amitiza) PO BID (OIC, CIC/IBS)
- Naloxegol (Movantik) PO QD (OIC)
- Oxycodone/naloxone ER (Targiniq ER) PO (may reduce OIC)
- Naldemedine (Symproic) PO QD (OIC)
Symptom Control

- Dyspnea
- Dysphagia
- Stomatitis
- Xerostomia
- Dysgeusia
- Hiccups
- Anorexia-cachexia syndrome
- Nausea and vomiting
- Bowel obstruction
- Constipation
- Diarrhea
- Fatigue
Symptom Control

- Dyspnea
  - Common at the end of life
  - Subjective complaint
  - High risk – COPD/cardiac disease
  - Seek the cause and treat
  - $O_2$, opioids and anxiolytics (BZDs)
  - Cool breeze (circulating fans) – MOA?

Morrison LJ and Morrison RS. Med Clin N Am 2006; 90:983-1004
Fatigue

- Affects 70-100% of cancer patients
- Under-reported
- Treat underlying cause(s)
- Exercise, sleep hygiene, energy conservation
- Methylphenidate (monitor for AEs)

Case Studies

- JR is a 78 year old woman with metastatic colon cancer. *Since was recently switched from a fentanyl patch to oral extended-release morphine (60mg every 12 hours)*. Since the change, she has experienced significant nausea and vomiting, made worse by movement. She also complains of constipation, urinary hesitancy and fatigue.
“Few things a doctor does are more important than relieving pain. . . pain is soul destroying. No patient should have to endure intense pain unnecessarily. The quality of mercy is essential to the practice of medicine; here, of all places, it should not be strained.”

— Marcia Angell (Editor-in-Chief of NEJM)