Basics of Pain Management
Part 1

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Objectives:
By the end of this session, you will be able to:

1. Differentiate the types of pain scenarios
2. Systematically assess pain as a symptom
3. Describe the basic principles of opioid pharmacotherapy
4. Perform simple opioid conversions
5. Describe the treatment of common opioid side effects
PAIN

- Acute pain without prior chronic pain
  - Acute pain superimposed on chronic pain
  - Exacerbation of chronic pain
  - Maintenance of stable chronic pain
Route, route, route

- Long versus short acting
- Oral versus parenteral

Intravenous IS NOT stronger and usually is not better!!!!!!!!!!!!!!!
Case 1a – Pain Assessment

Mr. A. is a 50 year old man with newly diagnosed widely metastatic cancer admitted to your palliative care ward. He complains of pain.

What questions do you ask Mr. A. about his pain?
Pain assessment: History (basic)

- Onset
- Provocative or Palliative features
- Quality
- Radiation and Related symptoms
- Severity (intensity and effect on function)
- Temporal pattern
Pain assessment: History (medical documentation)

- Location
- Severity
- Radiation
- Onset
- Duration
- Precipitating or relieving factors
- Context
Pain assessment: Pain Intensity Scales

- 0-10
- Wong-Baker Faces scale
- PainAD
<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Very happy, no hurt</td>
</tr>
<tr>
<td>2</td>
<td>Hurts just a little bit</td>
</tr>
<tr>
<td>4</td>
<td>Hurts a little more</td>
</tr>
<tr>
<td>6</td>
<td>Hurts even more</td>
</tr>
<tr>
<td>8</td>
<td>Hurts a whole lot</td>
</tr>
<tr>
<td>10</td>
<td>Hurts as much as you can imagine (don’t have to be crying to feel this much)</td>
</tr>
</tbody>
</table>
The development of a withdrawal syndrome following dose reduction or administration of an antagonist.

### Pain Assessment in Advanced Dementia - PAINAD

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>Score</th>
</tr>
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<tbody>
<tr>
<td><strong>Negative vocalization</strong></td>
<td>None</td>
<td>Occasional moan or groan. Low level speech with a negative or disapproving quality.</td>
<td>Repeated troubled calling out. Loud moaning or groaning. Crying.</td>
<td></td>
</tr>
<tr>
<td><strong>Facial expression</strong></td>
<td>Smiling or inexpressive</td>
<td>Sad. Frightened. Frown</td>
<td>Facial grimacing.</td>
<td></td>
</tr>
<tr>
<td><strong>Consolability</strong></td>
<td>No need to console</td>
<td>Distracted or reassured by voice or touch.</td>
<td>Unable to console, distract, or reassure.</td>
<td></td>
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</table>
Pain Assessment: Psychosocial Assessment

- What does pain mean to the patient?
- What are the patient’s prior pain experiences?
- Does the patient have any pre-conceived beliefs or erroneous information about pain control?
- Can patient afford the pain med?
- Is the patient depressed?
Case 1b – Evaluate efficacy

Mr. B. is a 50 year old man with cancer and constant pain from tumor extension. You order hydrocodone/APAP 5/325 2 tablets every six hours PRN. A repeat pain assessment the next morning shows the pain is not controlled.

What specific questions would you ask Mr. B about his pain control other than the OPQRST?
Questions to ask????????

1. Did the patient take the medication

2. Does the dose relieve your pain after taking the medication?

3. Does the relief last the full time before the next dose is due?
A Simple Approach to Pain Management – The WHO Analgesic Ladder

- **Pain**
  - **Non-Opioid**
    - APAP, NSAID
  - **“Weak” Opioid**
    - codeine, hydrocodone, oxycodone
  - **“Strong” Opioid**
    - morphine, hydromorphone, fentanyl, oxycodone, methadone
Rule of Thumb

no more than 4 grams of acetaminophen per 24 hours chronically

and

no more than 8 grams of acetaminophen per 24 hours acutely
# Opioid Equivalency Chart

<table>
<thead>
<tr>
<th>Opioid Agonist</th>
<th>Parenteral (mg)</th>
<th>Oral (mg)</th>
<th>Duration of Action</th>
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<tbody>
<tr>
<td>Morphine</td>
<td>10</td>
<td>30</td>
<td>2-4 hrs</td>
</tr>
<tr>
<td>Hydrocodone</td>
<td>NA</td>
<td>30</td>
<td>2-4 hrs</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>NA</td>
<td>30</td>
<td>2-4 hrs</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>1.5</td>
<td>7.5</td>
<td>2-4 hrs</td>
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Example of equianalgesics

Morphine sulfate 2mg SIVP = Morphine sulfate 6mg PO = Hydrocodone/APAP 5/325

Factor of 3

1mg ± 1mg
Example of equianalgesics

Morphine sulfate 6mg SIVP = Morphine sulfate 18mg PO = Hydrocodone/APAP 10/325 two tablets

Factor of 3
1mg ± 1mg
Rule of Thumb

DO NOT UNDERTREAT
Case 1c – Individualize regimen

Mr. B. is a 50 year old man with lung cancer and **constant** chest wall pain from tumor extension. He is taking hydrocodone/APAP 5/325 2 tablets every six hours PRN. The pain is not controlled. He explains that the medication works well within 30 minutes from taking the opioid, but it **wears off** after about 3.5-4 hours.

What can you do to improve Mr. B’s pain control?
Opioids – Principles of Dosing

- Individualize dose by gradual escalation until development of adequate analgesia or intolerable and unmanageable side effects.
  - NO THREAPEUTIC CEILING
- “Around the clock dosing” for continuous pain
- “As needed” (“prn”) dosing for dose finding and for “rescue doses”
- Duration of action short acting agents is LESS THAN 4 HOURS!!
PAIN

- Acute pain
  - Acute pain without prior chronic pain
  - Acute pain superimposed on chronic pain
  - Exacerbation of chronic pain
  - Maintenance of stable chronic pain

- Chronic pain usually is constant

Acute pain usually is short duration and intermittent
## Opioid Equivalency Chart

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Case 1d – Break through meds

Following dose titration in the hospital ward, Mr. B. follows up in your Palliative Medicine clinic. The pain is controlled on morphine sulfate SR 45 mg po q 12 hours. However he complains the “pain killers do not always work – like when I go out to the grocery store”

What can you do to improve Mr. B’s pain control?
Breakthrough Pain

- Transitory exacerbations of severe pain over a baseline of moderate to mild pain

- Reported by 2/3 of cancer patients with controlled baseline pain

- Often due to: incident pain or end-of-dose failure
Opioid Rescue Doses

- **Dose:**
  - Approximately **10%-20%** of daily dose equivalent.

- **Frequency:**
  - Oral every 1-2 hours as needed
  - Parenteral every 15-30 minutes as needed
Calculate Mr. B’s rescue dose of MSIR for his ordered morphine sulfate SR 45 mg PO BID

1. 45 mg X 2 = 90mg/24 hrs
2. 90 mg X 10% = ≈ 10 mg
3. 90 mg X 20% = ≈ 20 mg
4. MSIR comes in 15 and 30 mg tablets, so give 15 mg PO q1-2 hours prn
After a month, Mr. B’s pain worsens to the point he is taking prn MSIR 30 mg eight times a day for breakthrough pain.

Why do you think that there is a need for more morphine?
**Tolerance:** A change in the dose-response relationship induced by exposure to the drug and manifested as a need for a higher dose to maintain an effect.

Develops at different rates to these varying effects of opioids:

- respiratory depression, somnolence, nausea
  >>
  analgesia
  >
  constipation

Analgesic tolerance is rarely a problem. Increased opioid requirements after stable periods is often a signal of disease progression.
Case 2 – Dependence???

Mr. D. is taking morphine sulfate SR 600 mg po q 12 hours. He reports complete resolution of his pain following radiation therapy and wishes to discontinue his morphine.

What do you advise?
**Dependence:** The development of a withdrawal syndrome following dose reduction or administration of an antagonist.

Can occur even if opioid is given for just a few days.

Not a clinical problem if drug is tapered before discontinuation.

Taper by no more than 50% of the dose/day.
Mr. E. is reluctant to begin opioid therapy.

“If I take strong medication now, what will I do then things really become bad? Maybe I should wait a while and just put up with the pain.”

What is your advise?
Barriers to Effective Opioid Therapy

• **Patient barriers**
  - Save for “when it is really bad”
  - Fear of addiction
  - Stigma of morphine
  - Side effects
  - Reluctant to report pain, “a whiner”

• **Physician barriers**
  - Fear of addiction
  - Knowledge deficits
  - Regulatory oversight
  - Analgesia low priority compared to cure
Case 4 – Addiction????

Ms. F. is reluctant to take opioids. “I don’t want to become an addict.”

What do you say?
Addiction continued...

Risk of iatrogenic addiction in patients with pain and no prior history of substance abuse is extremely small.

Need to recognize aberrant drug-related behavior and understand the differential diagnosis for this behavior.

“Pseudoaddiction” – behaviors that are reminiscent of addiction, but are driven by pain and disappear with more adequate analgesia.
Case 5 – Constipation

Ms. G. is a 72 year old woman with metastatic colon cancer to liver, s/p resection of her primary tumor who complains of worsening abdominal pain and watery diarrhea for the last week. The **sole** medication she is currently taking is Duragesic 150 mcg/hr patch q 72 hours.

What is the probable cause of her GI symptoms?
Opioid Induced Constipation

- Most common adverse effect encountered during chronic opioid therapy
- No tolerance developed to this side effect
- Multifactorial
- Prophylactic laxatives are indicated
- PREVENTION IS KEY!

DO NOT order a stool softener alone for the prophylaxis of opioid induced constipation.
Opioid Induced Constipation Management

Laxatives are agents of choice!!!
- biscadoyl
- senna
Case 6 – Nausea

Mr. H. was recently started on morphine for painful bony metastases of prostate cancer. He complains, “I’m feeling really nauseated since you started me on morphine. I feel that the nausea is sometime worse than the pain. Should I just stop the morphine?”

How do you respond?
Opioid Induced Nausea and Vomiting

Sxs peak soon after administration and tolerance develops in usually 1 week

• metoclopramide, neuroleptics
Keys to Optimal Opioid Pharmacotherapy

- By the ladder
- By the mouth
- By the clock (for constant pain)
- By the individual