Improving Pain Management: The UCSF Journey

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After this discussion, learners will be able to:

- Review the history on safety issues related to opioids
- Describe various pain assessment tools
- Discuss pain treatment options
- Describe appropriate use of range orders
- Describe appropriate management of pain patches
Purpose of our journey

Quality:
• Improve pain management
• Improve patient experience

Safety:
• Decrease adverse events and unwanted results
Our Focus

Review and improve:

• Assessments for pain
• Assessments for sedation
• Treatment options
• Ordering and administration practices
Assessment Hierarchy

1. Self report: Single most reliable
2. Behaviors, e.g., cry, grimace, moaning, guarding, change in activity
3. Physiologic measures, e.g., ↑ HR, BP
4. Presence of a pathologic condition or procedure that usually causes pain; Assume Pain Present (“APP”)
Pain Self Report Tools

• Numeric: 0-10

• Wong-Baker FACES Pain Rating Scale

• Verbal Descriptor Scale: None, Mild, Moderate, Severe
Pain Behavioral Tools

ICN: N-PASS (Neonatal Pain Agitation and Sedation Scale)

Well Baby/Pedi Critical Care: NIPS (Neonatal Infant Pain Scale)

Pediatrics (Preverbal): FLACC (Face, Legs, Activity, Cry, Consolability)

Adult ICUs/Critical Care: CPOT (Critical-Care Pain Observation Tool)

Cognitively Impaired Adults: CNPI (Checklist of Nonverbal Pain Indicators)
CNPI: Checklist of Nonverbal Pain Indicators

- Measures pain behaviors in cognitively impaired elders
- Observe behaviors at rest and movement
- 0 or 1 score (0=behavior not observed)
- Score a 1 if the behavior occurred even briefly
- Total: no clear cutoff scores to indicate severity of pain - the presence of any may be indicative of pain, warranting further investigation
Checklist of Nonverbal Pain Indicators (CNPI)

<table>
<thead>
<tr>
<th>Non-verbal Indicators</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocal complaints: Non-verbal</td>
<td>0-1</td>
</tr>
<tr>
<td>Moans, grunts, cries, gasps, sighs</td>
<td></td>
</tr>
<tr>
<td>Facial grimacing/wincing</td>
<td>0-1</td>
</tr>
<tr>
<td>Furrowed brow, clenched teeth</td>
<td></td>
</tr>
<tr>
<td>Bracing or guarding</td>
<td>0-1</td>
</tr>
<tr>
<td>Clutching/holding onto side rails</td>
<td></td>
</tr>
<tr>
<td>Restlessness</td>
<td>0-1</td>
</tr>
<tr>
<td>Constant/intermittent shifting</td>
<td></td>
</tr>
<tr>
<td>Rubbing</td>
<td>0-1</td>
</tr>
<tr>
<td>Massaging affected area</td>
<td></td>
</tr>
<tr>
<td>Vocal complaints: Verbal</td>
<td>0-1</td>
</tr>
<tr>
<td>“ouch”, “that hurts”, “stop”</td>
<td></td>
</tr>
</tbody>
</table>
Pain History

If pain is present at admission
Onset
Duration
Aggravating & relieving factors
Effectiveness of treatments for them
Side-effects of medications
Acceptable Level

- Goal to provide comfort
- Aligns goals
- Pain may still be present
- Can the pt. participate in activities?
- Improved functional status
- Empowers the patient
Pain Intervention Reassessment

- Purpose: pain control and safety
- Is the treatment working?
- Helps to formulate plan
- At peak after interventions
- Sedation
- Compare with acceptable level
- Interference with ADLs, visiting with family, playing, etc.
Pain Intervention Reassessment

Action and Documentation:
Required after pain medications
15-30 minutes for IV push
45-90 minutes for PO

Use same pain scale as pain assessment
Pain intensity score
Non-verbal indicators
Snoring is an Ominous Sign

- Ask patient and family about snoring
- Patients may be too sedated to self-arouse
- Address as a sign of respiratory obstruction: reposition if appropriate and reassess
“Wanted” vs. “Unwanted”

Sedation scale based on goals of care

Unwanted (unintended) sedation

Wanted (intended) sedation: ICU
- Intubation, resting heart, etc.
Sedation Tools

Pediatric/Adult Acute Care and PACU: POSS (Pasero Opioid-induced Sedation Scale)

Adult Critical Care: RASS (Richmond Agitation Sedation Scale)

Pediatric Critical Care: SBS (State Behavioral Scale)
Pasero Opioid-induced Sedation Scale (POSS)

S = Sleep, easy to arouse
1 = Awake and alert
2 = Occasionally drowsy, easy to arouse
3 = Frequently drowsy, arousable, drifts off to sleep during conversation
4 = Somnolent, minimal or no response to verbal or physical stimulation
Assessment using POSS

• Ask a question making the patient think
  • “What did you have for breakfast today?”
• Observe patient’s ability to stay awake and answer the question
• Excessively sedated will have difficulty keeping their eyes open and will fall asleep while responding

POSS links nursing interventions to the levels of sedation
<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>Sleep, easy to arouse</td>
<td>Levels S, 1 &amp; 2 are acceptable levels</td>
</tr>
</tbody>
</table>
| 1     | Awake and alert | • no action necessary  
• may increase opioid dose if needed per provider order |
| 2     | Occasionally drowsy, easy to arouse | |
| 3     | Frequently drowsy, arousable, drifts off to sleep during conversation | Level 3 is an unacceptable level  
• Monitor respiratory status & sedation level closely until sedation level is stable at <3 and respiratory status is OK  
• Consider administering a non-sedating, nonopioid, such as acetaminophen or a NSAID as prescribed |
| 4     | Somnolent, minimal or no response to verbal and physical stimulation | Level 4 is an unacceptable level:  
• Stop opioid; consider administering narcan per provider order  
• Notify MD  
• Monitor respiratory status & sedation level closely until sedation level is stable at <3 and respiratory status is satisfactory |
Common Myths

• If someone is sleeping they must not have much pain
• Patients lie about pain
• Addiction
• It is better to wait until the patient is uncomfortable to start medications
Evidenced-based Guidelines: Non-pharm Pain Management

- Music
- Heat
- Ice
- Positioning
- Relaxation
- Imagery
- Humor
Non-pharmacologic Pain Management

Example: Ice Packs

Account for subcutaneous fat when determine time of application:

• < 10 minutes if very little subcutaneous fat,
• 10 – 15 minutes in areas with moderate amount
• 15 – 20 minutes in areas with more than 2 cm of subcutaneous fat
Medications

Non-Opioid Analgesics
- Acetaminophen
- NSAIDS
- Anticonvulsants
- Antidepressants

Opioids
- Reduce pain producing signals in the CNS
NSAIDs: Toradol (Ketorolac)

- Short-term (up to 5 days in adults)
- Management of moderately severe acute pain
- First doses are IV and can continue PO if needed
- Dosing: 15-30mg IV Q 6 (max 120mg/day)
NSAIDs and COX

- NSAIDs block prostaglandins by inhibiting cyclooxygenase (COX)

<table>
<thead>
<tr>
<th>COX 1</th>
<th>COX 2</th>
</tr>
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<tbody>
<tr>
<td>• Present in most tissues</td>
<td>• Present at sites of inflammation</td>
</tr>
<tr>
<td>(housekeeping role)</td>
<td>• Used for signaling pain</td>
</tr>
<tr>
<td>• Helps maintain GI tract</td>
<td></td>
</tr>
</tbody>
</table>

- Traditional NSAIDs inhibit both
  - More side effects: Ulcers, GI bleeding
- COX-2 inhibitors less side effects
NSAIDs: COX 2

1. Vioxx: (2004) Voluntarily taken off the market d/t cardio risk (MI/CVA)

2. Bextra (2005) FDA request to take off the market d/t lack of evidence of safety, risk of increased CV

3. Celebrex (celecoxib): only one left!
Multi-modal Approach

Combinations of drugs/routes that can attack more than one pain mechanism

Pain management from many angles

• Non-pharm
• Non-Opioids
• Opioids

• The result is lower doses of each drug → fewer adverse effects
Opioids: PCA Lockout

- National reported events
- UCSF reported events
- Changed lockout interval from 6 min to 10 min
- Breakthrough doses PRN
Ketamine Infusion: Low Dose

For treatment of opioid tolerant patients requiring high opioid doses and in severe pain

- High-dose ketamine used for inducing anesthesia
- Low dose has an analgesic effect
- Adjunct with other opioids to enhance pain relief and rarely used as a primary med

Low dose (Opioid sparing): 1-5 mcg/kg/min
- No titration, high risk med, CPO
“It is the position of the BRN that RNs have the expertise to assess and manage pain given a range of dosages and frequencies ordered by the physician.”

We determine which PRN med and the proper dose.
Range Order: Choosing a Dose

Key Points

• Start with the **lowest dose** in the range
• Then assess the patient’s response

• **Prior knowledge** that other doses have worked, you can start at that dose
• Previous care of that patient
• Handoff report with previous documentation
Range Orders: Timing

Time Interval: “Rolling-Clock” Method

- Total dose that can be given within the ordered time interval cannot exceed the high end of the dose range
- Ordered time interval based on the time of the last dose

Dose Frequency: Peak Effect Times

Once the medication peak effect time has passed, additional doses can be given until the max reached
Transdermal Medication Patches

- Use
- Admission Documentation
- Application
- Monitoring
- Wasting/Disposal
Transdermal Fentanyl

- Indications: chronic pain
- Gradual increase in serum concentration (levels off 12-24 hours)
- 48-72 hour application time
FDA Definition: package insert

Current Analgesic Daily Dosage (mg/day)
60mg oral morphine equiv/day for at least 1 week

Daily:
Oral Morphine 60-134mg
Oral Oxycodone 30-67mg
IV Hydromorphone 1.5-3.4mg
IV Methadone 10-22mg
Transdermal Fentanyl

• Bypasses GI tract = no first pass effect, less constipating
• High patient satisfaction
• Reports of fewer adverse effects, less stigma than oral opioids; high adherence
Transdermal Medication Patches

• Upon Admission:
  • Presence of a patch
  • Date of application
  • Removal of home patch
  • Location of patch
  • Name of patch & dose
Patch Application

- Contraindicated if significant diaphoresis, skin breakdown, irritation, or itching
- Wear gloves and wash hands with soap and water immediately after

Do not:
- Cut or alter patch in any way
- Use soaps, oils, lotions, alcohol
- Shave hair (clip if needed)
Patch Application

- Rotate site with each application
- Apply to flat site (chest, back, upper arms)
- Press onto skin for 15 to 30 seconds with palm of hand
- Multiple patches: Apply close with at least 1-2 inches between them

- MRI: Many patches contain aluminum which could cause harm
- Screen prior to sending
Patch Monitoring

• RN assess patch every shift
• Verify patch is intact, appropriately applied and no skin reactions
• Avoid heat (heating blankets or pads) as heat increases absorption
Disposal: Fentanyl Patches

- Fold in half so that sticky ends are folded together
- Dispose of in pharmaceutical waste container
- Document witnessed waste in Pyxis