Palliative Pain Management
Part 1 - The Basics

33rd Annual Convention of the
Texas & New Mexico Hospice Organization AND
Texas Academy of Palliative Medicine

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Disclosures

☐ No financial or other conflicts of interest
☐ There will be off-label discussion

Objectives

☐ Describe basic pain management
☐ Identify and discuss opioid choices and routes in pain management
☐ Apply basic conversions and titrations
☐ Discuss and apply opioid rotation
☐ Identify and discuss adjuvant medication choices
What is pain?

- **Multiple definitions**
  - "an unpleasant sensory and emotional experience associated with actual tissue damage, or described in terms of such damage"
  - International Association for the Study of Pain
  - Whatever the patient says it is, as bad as they say it is
  - Acute pain: a symptom of another condition
  - Chronic persistent pain: present most days for more than several months

- Pain is multidimensional: physical, spiritual, emotional, psychosocial

- Pain vs SUFFERING

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Pain receptors

- **Mu**
  - Activation produces analgesia
    - Sedation, slightly reduced blood pressure, itching, nausea, euphoria, decreased respiration, miosis (constricted pupils) and decreased bowel motility often leading to constipation
    - Sedation, euphoria and decreased respiration tend to lessen with continued use as tolerance develops. Analgesia, miosis and reduced bowel motility tend to persist; little tolerance develops to these effects.

- **Delta**
  - Activation produces some analgesia, but less so than Mu

- **Kappa**
  - Activation can cause dissociative and deliriant effects
    - And may antagonize may affects of the mu-opioid receptor
    - Implicated as a neurochemical component of addiction

- **NMDA**
  - Antagonists result in dissociation, hallucinations.

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Types of physical pain

- **Nociceptive pain**
  - Pain stimulus transmitted by peripheral nociceptors
    - Somatic: musculoskeletal/connective tissue, skin
      - Is point tender, sharp, aching, throbbing
    - Visceral: sensors in organs alerted to damage
      - Ischemia, pressure, organ damage
      - Is poorly localized, diffuse, vague, hard to describe, and can be referred
  - Serves a protective function
  - Typically responds well to opioids
Types of physical pain

- Neuropathic
  - Injury/compression to nerve tissue, central or peripheral
    - DM, spinal stenosis, CVA, HIV (infectious), infiltration of nerve tissue
  - Pain usually exceeds observable injury
  - 40% of cancer pain is neuropathic
  - Is described as shooting, burning, tingling, lancinating, pins and needles, and can be difficult to describe
    - Allodynia
    - Can be in dermatomal distribution
  - Has no protective function
  - Does not respond well to Mu agonist opioids

Pain definitions

- Acute pain
- Chronic pain
- Breakthrough pain
- Incident pain
- Persistent pain
- Psychogenic pain (psychalgia)
  - Physical pain caused, increased or prolonged by mental, emotional, or behavioral factors

How to detect pain

- ASK: patient, family, caregivers
- Observe: nonverbal findings
The most commonly used pain measurement tool, used in the cognitively normal patient

- The scale is from 0 (no pain) to 10 (the greatest intensity pain)
- In general pain from 1-3 is mild pain, 4-7 is moderate pain and 8-10 severe pain

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**Numeric Pain Intensity Scale**

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>(None)</td>
<td>(Mild 1-3)</td>
<td>(Moderate 4-7)</td>
<td>(Severe 8 – 10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Pain Faces Scale**

- The patient selects the face that best represents how they feel in relation to their pain condition, from the “happiest feeling face” to the “saddest feeling face”
- The correlating number is actually the scoring card used to quantify the patient’s pain intensity
Pain Faces Scale

<table>
<thead>
<tr>
<th>Score</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>

PAINAD Scale

- PAINAD Scale is to be utilized in evaluating non-verbal patients
- A score of 0 denotes no pain, and a score of 10 the worst possible pain
- This scale is now used in place of the FLACC scale

<table>
<thead>
<tr>
<th>Item</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breathing</td>
<td>Normal</td>
<td>Occasional/tired breathing</td>
<td>Short periods of hyperventilation</td>
<td>Very labored breathing; long periods of hyperventilation; Cheyne-Stokes respirations</td>
</tr>
<tr>
<td>Finger印迹</td>
<td>None</td>
<td>Occasional moans or groans</td>
<td>Low level of respirations with a negative or disapproving quality</td>
<td>Repeated loud belly calling out; loud moaning or groaning; crying</td>
</tr>
<tr>
<td>Vocalization</td>
<td>None</td>
<td>Occasional moans or groans</td>
<td>Low level of respirations with a negative or disapproving quality</td>
<td>Repeated loud belly calling out; loud moaning or groaning; crying</td>
</tr>
<tr>
<td>Face</td>
<td>Relaxed</td>
<td>Frown</td>
<td>Frightened</td>
<td>Frowning</td>
</tr>
<tr>
<td>Body</td>
<td>Relaxed</td>
<td>Tense</td>
<td>Distressed pacing</td>
<td>Fists clenched</td>
</tr>
<tr>
<td>Language</td>
<td>No need to converse</td>
<td>Distressed or rasping, fidgeting</td>
<td>Fists clenched</td>
<td>Fists clenched</td>
</tr>
<tr>
<td>Consolability</td>
<td>No need to converse</td>
<td>Distressed or rasping, fidgeting</td>
<td>Fists clenched</td>
<td>Fists clenched</td>
</tr>
</tbody>
</table>
General approach to pain management

- Use a multidimensional approach: physical, psychological, spiritual, social, cultural, situational
- Collect data: history, physical exam, medication review
- Treat, reassess, adjust

What to report to a physician

- History
  - Diagnoses
  - Location(s)
  - Description(s), including other related symptoms
  - Severity and desired level of comfort
  - Impact on QOL
  - Radiation
  - Duration
    - When did it start?
    - If intermittent, how long does it last
  - What makes it better/worse
  - Pain timeline
  - Social, emotional, spiritual framework, last BM, urinary status...
What to report a physician

- Medications
  - Medications ordered and medications being used for pain
  - Frequency during last 24–48 hours
  - Amount during last 24–48 hours
  - When started?
  - When dosing was changed

- Allergies/adverse reactions
  - What has been used in the past and why no longer being used

- Exam
  - Physical
    - Other observations: social, emotional, spiritual framework…

- Your thoughts re the pain
  - Physical, emotional, existential, other…..
  - What are we treating?
  - Who are we treating?

How to document pain management: The 4 A’s

- Analgesia
- ADLs
- Adverse effects
- Aberrant drug-related behavior

GOALS of CARE

- Acute pain
  - Pain relief without interfering with other treatment
- Chronic pain
  - Pain improvement while allowing the greatest degree of function
- Hospice & Palliative Care
  - What are the patient’s goals of care?
  - Should we just ‘measure’ pain OR
  - Should we assess impact on ADL and QOL?
“Traditional” WHO 3-step ladder

<table>
<thead>
<tr>
<th>1 mild</th>
<th>2 moderate</th>
<th>3 severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>Codeine</td>
<td>Morphine</td>
</tr>
<tr>
<td>ASA</td>
<td>Hydrocodone</td>
<td>Hydromorphone</td>
</tr>
<tr>
<td>NSAIDs</td>
<td>Oxycodone</td>
<td>Methadone</td>
</tr>
<tr>
<td>± adjuvants</td>
<td>Dihydrocodeine</td>
<td>Levorphanol</td>
</tr>
<tr>
<td>Tramadol</td>
<td>Fentanyl</td>
<td>Oxycodone</td>
</tr>
<tr>
<td>± adjuvants</td>
<td></td>
<td>+ adjuvants</td>
</tr>
</tbody>
</table>

Modified pain mgmt step ladder

- Effective 100% of time
  - If sedation is acceptable

<table>
<thead>
<tr>
<th>1st Line / Mild pain</th>
<th>2nd Line / Moderate-Severe Pain</th>
<th>Refractory Pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>Opioids ± NSAIDs ± Adjuvants</td>
<td>Spinal/Epidural Opioids ± alpha-2 agents ± local anesthetics ± other agents</td>
</tr>
<tr>
<td>ASA</td>
<td></td>
<td>Selective nerve blocks</td>
</tr>
<tr>
<td>NSAIDs</td>
<td></td>
<td>Neurostimulation</td>
</tr>
<tr>
<td>± Adjuvants</td>
<td></td>
<td>Neuroablution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IV Lidocaine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Subanesthetic ketamine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Palliative Sedation</td>
</tr>
</tbody>
</table>

Common Opioid and Non-opioid analgesics

- Opioids
  - Morphine
  - Fentanyl
  - Oxycodone
  - Hydromorphone
  - Hydrocodone
  - Methadone
  - Codeine
  - Tramadol
  - Oxymorphone
  - Tapentadol
  - Buprenorphine

- Non-opioids
  - NSAIDs
  - Acetaminophen
  - Cox-2 inhibitors
  - Tri-cyclic antidepressants
  - Steroids
  - Anti-convulsants
  - SSNRIs
  - Lidocaine
  - Capsaicin

Opioids
Advantages

- Standard of pain management
- No ceiling doses, except tramadol and meperidine
- Multiple routes available
- Short and long acting formulations

Opioids
Choice of routes for delivery

- Most convenient, least noxious route
- Oral/Sublingual/TM
- Enteral
- Subcutaneous/Parenteral--no IM!
- Rectal
- Transdermal
- Epidural
- Intrathecal

Sublingual absorption of selected opioid analgesics at PH 6.5*

- Buprenorphine 55%
- Fentanyl 51%
- Methadone 34%
- Morphine 18%
  Hydromorphone and oxycodone at best no better than morphine

- At PH 8.5 methadone absorption is 75%
- Lipophilic drugs better absorbed than hydrophilic drugs

* under controlled conditions
### Commonly Used Opioids

<table>
<thead>
<tr>
<th>Drugs</th>
<th>Short Acting</th>
<th>Long Acting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxycodone</td>
<td>Tabs, caps, liquid</td>
<td>OxyContin</td>
</tr>
<tr>
<td></td>
<td>concentrate</td>
<td></td>
</tr>
<tr>
<td>Morphine</td>
<td>Tabs, caps, liquid,</td>
<td>MS Contin, Avinza,</td>
</tr>
<tr>
<td></td>
<td>concentrate,</td>
<td>Kadian, generic</td>
</tr>
<tr>
<td></td>
<td>injectable</td>
<td></td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>Tabs, oral solution,</td>
<td>Exalgo</td>
</tr>
<tr>
<td></td>
<td>supp, injectable</td>
<td></td>
</tr>
<tr>
<td>Fentanyl</td>
<td>Transmucosal: Actiq,</td>
<td>TD-Duragesic,</td>
</tr>
<tr>
<td></td>
<td>Fentora, Abstral,</td>
<td>generic</td>
</tr>
<tr>
<td></td>
<td>Onsala, Subsys*</td>
<td>intranasal-Lazanda</td>
</tr>
<tr>
<td>Methadone</td>
<td>Injectable, tabs,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>dispersable tab, oral</td>
<td></td>
</tr>
<tr>
<td></td>
<td>solution, liquid</td>
<td>concentrate</td>
</tr>
</tbody>
</table>

*These require enrollment in single shared risk evaluation and mitigation strategy (REMS).

### Other opioids

- **Oxymorphone**
  - Not recommended for use in moderate to severe renal and liver impairment
  - Conversion ratio morphine:oxymorphone is 3:1

- **Buprenorphine Transdermal System** (Butrans)
  - Every 7 day patch
  - Equipotency to oral morphine not established

### Opioids with limited or no value in palliative care patients

- Hydrocodone or oxycodone with acetaminophen combinations, oral only, dose ceiling due to APAP
- Meperidine: has a therapeutic ceiling due to CNS toxicity and is not indicated for chronic cancer pain.
- Codeine: weak opioid
- All three of these have narrow therapeutic to toxic ratios
- Tramadol: 400 mg limit per day. Ceiling for acetaminophen when used in combination
- Tapentadol
Tapentadol

- Package insert states that is ½ to ⅓ as potent as morphine in producing analgesia in animal models
- Not recommended for use in severe renal or liver disease
- No studies on conversion from other opioids to long-acting
- Pharmacodynamics
  - Half-life elimination
    - Immediate release: ~4 hours
    - Long acting formulations: ~5-6 hours, yet is dosed q12hrs
  - Time to peak, plasma: Immediate release: 1.25 hours; Long acting formulations: 3-6 hours

J.W.

J.W. is a 61 y.o. male diagnosed with pancreatic cancer 9 months ago. He has been resistant to disease-directed therapy. The cancer is now metastatic to his liver and regional lymph nodes. He c/o nagging middle upper and right upper abdominal pain, up to a 5/10 at times, but generally 2-3/10. He uses HC/APAP 10-325, one tab q4hrs prn. He uses this when his pain is a 4 or 5 and normally takes 1-2 tabs per day.

Your Thoughts?

- He should not be on a combination medication that has APAP in it
- He should be rotated to a different opioid
- If he’s good with it, I’m good with it
Scheduling short-acting and long-acting opioids

- Starting an opioid:
  - Schedule opioids/pain meds as immediate release every 4 hours ATC
- Provide rescue dose
  - Generally given as 5-15% of total daily opioid dose. May be repeated after peak effect reached.
    - Oral = q1hr
    - SC = q20 min
    - IV = q5-10 min
- Convert total daily (24 hrs) use of short-acting/breakthrough dosage to long-acting opioid
- Goal is pain rating acceptable to patient
- Do not start opioid naïve patients on long-acting opioids

The continuing saga of JW

5 weeks later, JW’s pain has worsened and he now has pain in his mid-back. He is taking the HC/APAP 10/325, 2 tabs q4hrs round the clock. This keeps his pain at around a 4, but it is periodically as high as 5-6.

Your thoughts?

- If he’s good with it, I’m good with it
- His pain control is adequate, but I’m concerned about the total daily APAP dose
- He should increase the frequency or the dose of the HC/APAP use
- Whoa pawdner, let’s use another opioid
You decide to convert the HC/APAP to long acting Morphine.

We now interrupt this program for an important news flash: What is REMS?

- Really Enjoying My Siesta (until now, that is)
- The various splinter bands of the Alternative Rock band, R.E.M., who will be touring in the next few years
- Don’t know, don’t care
- Risk Evaluation and Mitigation Strategies

ER/LA Opioid REMS

- Prescriber Education
  - Approved educational programs
  - “Required by the USFDA”
- Covers
  - Assessing patients for ER/LA opioid treatment
  - Risks v benefits
  - Misuse/abuse
  - Applying proper methods for initiating, modifying, and discontinuing ER/LA opioids
    - Dosing, converting, discontinuing these meds
    - Methods for counseling patients/caregivers in safe use, proper storage and disposal
    - Reviews and assesses general and product information of ER/LA opioids, including potential adverse effects
Opioid Rotation Considerations-
Reason for rotation

- Adding an ER/LA opioid
- Opioid intolerance
  - Pseudo-allergy: flushing, itching, sweating and/or mild hypotension only
  - OR itching, flushing, or hives at injection or application site only
  - Possible true allergy: rash, breathing, speaking, or swallowing difficulties
  - OR swelling of face, lips, mouth, tongue, pharynx, or larynx
  - Nausea, somnolence, constipation?
- When rotating, consider different opioid class
  - Fentanyl
  - Methadone
  - Morphine, HC, oxycodone, oxymorphone, HM
  - (Tapentadol, Tramadol)
- Expense?
- High doses?
- Change in delivery route needed

More on rotating opioids-
Incomplete cross tolerance

- Reduce dose of new opioid by 25-50% based on clinical judgment**
  - Closer to 50%
    - On relatively high dose of opioid
    - Elderly or medically frail
  - Closer to 25%
    - None of the above
    - Changing route, not drug
- Methadone-reduce by 75-90%
  - Titrate as needed and closely monitor during adjustment period
- **Conversion tables based on single-dose potency studies, using a specific route, in patients with limited opioid exposure

And even more on opioid rotation

- Maximize dose, try to avoid the use of multiple opioids
- Simplify medication regimen
- Use the gut if it is working
- Methadone is not a linear conversion
- Morphine to Fentanyl is a more difficult conversion (long acting/fixed doses)
Titrating opioids

- If taking 3+ rescue doses/24h and pain is expected to continue → increase baseline.
- No opioid should be titrated more frequently than 3-4 half-lives**.
- For methadone, at steady state, half-life may be one to two (or more) days. Dose increases should not be done more frequently than every 4 days?? in lower doses and every 1-2 weeks in higher doses.
- Titrating methadone more rapidly than every 5-7 days is potentially dangerous.

Calculate total daily dose taken
- If pain not controlled, titrate total daily dose ↑.
- Adjust dose no more often than opioid’s t1/2 x 4.
- Normal-release medications (t1/2 ~4h).
- Extended-release medications (t1/2 ~12h).
- Suggested titration depends on severity of pain:
  - If mild – moderate, then 1 by 25%-35%.
  - If severe – uncontrolled, then 1 by 50%-100%.

ROUTE ONSET (minutes) PEAK (minutes) DURATION (hours)

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>ONSET</th>
<th>PEAK</th>
<th>DURATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>IV</td>
<td>5-10</td>
<td>15-30</td>
<td>3-4</td>
</tr>
<tr>
<td>SQ</td>
<td>10-20</td>
<td>30-60</td>
<td>3-4</td>
</tr>
<tr>
<td>PO</td>
<td>30-60</td>
<td>60-90</td>
<td>3-4</td>
</tr>
</tbody>
</table>

Morphine...the palliative gold standard

Opioid equivalencies

<table>
<thead>
<tr>
<th>po / pr (mg)</th>
<th>Analgesic</th>
<th>SC / IV / IM (mg)</th>
<th>Epi</th>
<th>Intrathecal</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>Morphine</td>
<td>10</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>30 (20*)</td>
<td>Hydrocodone</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.5 (6*)</td>
<td>Hydromorphone</td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 (15*)</td>
<td>Oxycodone</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*REMS

Fentanyl: 1 mcg/hr = 2 mg/24hrs morphine po.
**(There is variability and drug inserts have tables of conversions with ranges)

Fentanyl per hour IV dose = fentanyl per hour patch dose
Opioid use in renal and liver disease

- Renal Insufficiency
  - Methadone √, fentanyl √, hydromorphone ±, oxycodone ±, morphine???

- Hepatic Insufficiency
  - Use all of above with caution, except:
    - ‘To use morphine or not, that is the question’

JW- Conversion to morphine ER

- HC dose/24 hrs = 120 mg = 120 mg MEDD
- Adjust for opioid tolerance: 120 mg x 50% = 60 mg
  - Can give as MSER 30 mg q12hrs
- Calculate breakthrough dose: 60 mg x 10% = 6 mg
  - Can give as morphine solution 20 mg/ml at 0.25 ml (5 mg) q1hr prn or MSIR 15 mg, ½ tab (7.5 mg) q1hr prn

Checking in on JW

JW’s has been controlled for 3 weeks on the new regimen. However, his pain has worsened and he now requires MSIR 15 mg, 7.5 mg per dose, 8 doses per day, to keep his pain at a reasonable level, around a 3/10. In addition he now complains of severe left arm pruritus, without a rash. He is not jaundiced.
Now what?

- It’s dry outside, so I’m not concerned about the pruritus
- Order diphenhydramine for the pruritus
- Add an oral steroid
- Rotate to another opioid
- Titrate his morphine extended release dose

JW-decisions, decisions

- JW would like to continue the morphine and agrees to try the diphenhydramine.
- Conversion
  - Total 24 hr morphine use = 60 mg + 60 mg = 120 mg
  - Pain is mild-moderate, use 50% increase; = 60 mg + 30 mg = 90 mg
  - New Morphine Sulfate ER dose = 45 mg q12hrs
  - For BTP: 90 mg x 10% = 10 mg. You prescribe MSIR 15 mg tabs or morphine sulfate solution, 100 mg/5 ml
    - Doses:

The saga of JW resolves, (for now)

- JW’s pruritus resolves with low dose gabapentin after failing to respond to multiple medications
- JW’s pain remains well-controlled for now
Can we talk about opioids?

- **Fentanyl**
  - The patch loads in over 12 hrs and is difficult to titrate
  - Expense?
- **Expense of LA opioids**
  - Only available as a combination product and now with LA version of this
- **Hydrocodone**
  - May be beneficial for neuropathic pain?
- **Tramadol and methadone**
  - What about using dose and frequency ranges as orders??
  - Can you give MSER or OxyContin rectally?
  - Is nebulized morphine useful for treatment of dyspnea?
  - Can you open Kadian and Avinza capsules?

Errors in prescribing opioids

- PRN dosing only for constant/chronic pain
- Scheduled dosing without pm/rescue dosing
- Failing to use prophylactic dosing for incident pain
- Scheduled long acting opioids for incident pain
- Poly-opioid use/poly-formulation use
- Failing to use adjuvant medications
- Insufficient rescue dose titration
- Incorrect dosing
- Changing more than one drug at a time
- Incorrect equianalgesic dosing calculations
  - Factors of 10
  - IV versus PO doses
  - IV versus Epidural versus Intrathecal doses
- Inadequate follow up

Medication cost: long-acting opioids

- Methadone < Morphine ER < Fentanyl < Oxymorphone ER** < OxyContin** < Hydromorphone

** As dose size increases, the prices increase disproportionally to morphine ER
KB

59 y.o. male on hospice with metastatic rectal cancer, including liver mets. C/o persistent RUQ pain, 2-4 is an acceptable pain rating for KB, but his pain goes up to a 6, hence the need for the oxycodone. Currently taking:

- OxyContin 100 mg PO q12hrs
- Oxycodone 10 mg tab, 6 to 15 tabs per 24 hrs
- Gabapentin 600 mg q12hrs

KB-What do you do?

- Nothing
- Increase his OxyContin
- Increase his gabapentin
- Rotate to methadone

Non-opioids

Limitations

- Dose ceiling/toxicities
- Drug-disease interactions
- Drug-drug interactions
- Side effects
- Routes of delivery
Non-opioid analgesics

Advantages

- Can augment the effect of opioids
  - Very-low-dose methadone and haloperidol
    - 43, acute-care, 5, 1.5
- Generally more effective for neuropathic pain
- Can treat other symptoms (depression, seizures, behavior, appetite, nausea, dyspnea)
- Minimal to no constipation or respiratory concerns

Adjuvant therapy

- dictionary.reference.com/browse/adjuvant
  - adjuvant ad·ju·vant (āj'ə-vent) n. A pharmacological agent added to a drug, predictably affecting the action of the drug's active ingredient.
- Methadone + haloperidol
- Morphine + gabapentin

Adjuvant Therapy

| NSAIDS-1 | Acetaminophen-1
| Acetaminophen-1 | Bisphosphonates-1
| Corticosteroids-1 | TCA-2
| SS&NRIs-2 | Venlafaxine
| Duloxetine | Anticonvulsants-2
| Gabapentin | Pregabalin
| Capsaicin cream | Anticholinergics

1-Somatic Pain
2-Neuropathic Pain
3-Visceral Pain

Other Benefits

Adverse Effects
KB

- You see Mr. KB one week later, after his gabapentin has been increased to 600 mg q8hrs.
- He reports
  - Improved alertness
  - Decreased pain
  - Increased ability to carry out ADLs
  - He is now using 3 oxycodone tabs/24hrs on the average

And in the end….

- Always have an exit strategy

Questions?

References and Resources

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