Pain Management: principles and practice

Dr. G.A. Spry

Beach Club Resort
7th March 2015
Objectives

- Assess pain as a symptom
- Principles of opioid prescribing
- Opioid dose conversions
- Common opioid side effects
- Introduction to advanced management of cancer pain
- Learn about resources available to assist in care
General Principles

- Pain is one of the major symptoms in cancer patients
- Occurs during active treatment, advanced and terminal phases of the disease
- Definition: IASP
  “an unpleasant sensory and emotional experience associated with actual or potential tissue injury or described in terms of such damage”
The problem

- Causes of pain in cancer patients are numerous and may be due to the cancer, the treatment or be unrelated
  - Examples: bone metastases, nerve injury or damage, compression, inflammation, spasm, necrosis, infection, hemorrhage, edema, swelling, infarction, ......
  - Prevalence of pain is 35% at the time of diagnosis and increases to 85% in advanced disease
  - 10-20% have pain that is more difficult or challenging to control
Etiology of pain

- Cancer related
  - Impingement, inflammation, erosion…
  - 60-90%
- Treatment related
  - Post-surgical pain syndromes
  - Chemotherapy - peripheral neuropathy, mucositis …
  - Radiation – fibrosis, necrosis, mucositis
  - 20%
- Unrelated
  - Previous pain – osteoporosis …
  - 15%
Pathophysiology

- Plasticity-constant state of change at the cellular and neurotransmitter level
  - Neurones may phenotypically change to transmit pain vs pressure
  - New sprouts or synapses
  - Increased receptors
  - Altered thresholds for firing
- Chemical mediators- inflammation, tissue damage
  - Prostaglandins, bradykinins, TNF, ..........
- Peripheral sensitization and central plasticity lead to perpetuation of pain and allodynia, hyperalgesia etc.

Key point: treat early and effectively or it gets more difficult!
Types of Pain

- **Nociceptive**: due to stimulation of nociceptors, afferent impulses propagated along spinothalamic pathways
  - **Somatic** - skin, bone, muscle, vessels, mucosa
  - **Visceral** - organs
    “Aching, squeezing, gnawing…”
- **Neuropathic**: due to compression, injury or dysfunction of nerves
  “Burning, numb, shooting, shock-like…”
Assessment
What questions do you want to ask?

- **P- position**  Location and radiation
- **Q- quality**  What is it like?
- **R- relief**  What makes it better?
- **S- severity**  How bad does it get?
- **T- timing**  Onset, duration etc
Pain Assessment …

- **Location**: localized, generalized, referred, superficial, deep…
- **Timing**: onset, duration, course, pattern
- **Intensity**: Average, least, worst.. Use a visual analogue pain scale
- **Quality**: aching, stabbing, throbbing, burning, numb…
- **Exacerbating/alleviating factors**: position, activity, weight bearing…
...Pain Assessment

- **Response to treatment:** What treatments have been used? Did they work? (Were they used properly?)
- **Other pains?** Average cancer patient has 3+ pains
- **Meaning:**
  - What does the pain mean to the patient and family?
  - Patients previous experiences with pain
  - Knowledge and preferences
- **How do you assess pain in delirious or demented patients?**
Management of pain

- Non-drug methods
- Analgesics – pharmacologic methods
- Adjuvants
- Cancer treatment (R/T etc)
- Surgical

**Goal:** best possible pain relief with the least side effects within a reasonable time frame
## Modified “WHO” Analgesic Ladder

<table>
<thead>
<tr>
<th>Mild Pain (1-3)</th>
<th>Moderate Pain (4-6)</th>
<th>Severe Pain (7-10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>Combined meds</td>
<td>Morphine</td>
</tr>
<tr>
<td>ASA</td>
<td>Codeine</td>
<td>Ketamine</td>
</tr>
<tr>
<td>NSAIDs</td>
<td>Oxycodone</td>
<td>Lidocaine</td>
</tr>
<tr>
<td>+/- Adjuvants</td>
<td>with acetaminophen</td>
<td>+/- adjuvants</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Methadone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Oxycodone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hydromorphone</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fentanyl</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+/- adjuvants</td>
<td></td>
</tr>
</tbody>
</table>
Principles of opioid use

- If you do the basics well, you can control 80 - 90 % of cancer pain
- This can be one of the most rewarding things you do for patients

- Drug
- Dose
- Route
- Timing
- Side effects
Principles of opioid use

- Keep it simple
- Oral route if possible, transdermal or subcutaneous next
- Regular doses “around the clock”
- Always prescribe a “prn” or breakthrough dose
- Manage side effects
- Use adjuvants
- Individualize dose by titration to good analgesia and acceptable side effects
Mild pain: non-opioid

- Acetaminophen
- Aspirin
- NSAIDS
- Acetaminophen with codeine
Moderate pain: low dose opioid (plus adjuvant)

- Morphine        5 – 100 q 4 h
- Hydromorphone   1 - 25   q 4 h
- Oxydone         5 – 75   q4 h
- Fentanyl        12.5 - 25 mcg/ hour
- Tramacet        1-2 q4h (max.8/day)
Severe pain: strong opioid

- Morphine 100-1000/ q 4 h
- Hydromorphone 20 - 200 q 4h
- Oxycodone 75-750 q4h
- Fentanyl 200 -500 mcg/hour
- Methadone 20 q8h and higher

- Other non-opioid adjuvants and analgesic medications
# Short Acting

<table>
<thead>
<tr>
<th>Medicine</th>
<th>Form and Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codeine</td>
<td>15, 30 mg tabs</td>
</tr>
<tr>
<td>MSIR</td>
<td>5, 10, 20, 30 tabs</td>
</tr>
<tr>
<td></td>
<td>10, 20, 30 supp</td>
</tr>
<tr>
<td>MOS</td>
<td>Up to 50mg/ml</td>
</tr>
<tr>
<td>MS injectable</td>
<td>10, 15, 20, 50 mg/ml</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>5, 10, 20 mg tab</td>
</tr>
<tr>
<td></td>
<td>10, 20 supp</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>1, 2, 4, 8 mg tab</td>
</tr>
<tr>
<td></td>
<td>2, 10, 20, 50 mg/ml</td>
</tr>
<tr>
<td></td>
<td>3mg supp</td>
</tr>
<tr>
<td>Methadone</td>
<td>Susp. any concentration</td>
</tr>
<tr>
<td></td>
<td>mg/ml</td>
</tr>
<tr>
<td></td>
<td>Tablets and suppositories</td>
</tr>
<tr>
<td>Fentanyl</td>
<td>50ug/ml</td>
</tr>
<tr>
<td>Sufentanil</td>
<td>50ug/ml</td>
</tr>
</tbody>
</table>
## Long Acting

<table>
<thead>
<tr>
<th>Medication</th>
<th>Doses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codeine Contin</td>
<td>50, 100, 150, 200</td>
</tr>
<tr>
<td>MS Contin</td>
<td>15, 30, 60, 100, 200</td>
</tr>
<tr>
<td>Meslon</td>
<td>10, 15, 30, 60, 100, 200</td>
</tr>
<tr>
<td>Oxycontin</td>
<td>10, 20, 40, 80</td>
</tr>
<tr>
<td>Hydromorph Contin</td>
<td>3, 4.5, 6, 9, 12, 18, 24, 30</td>
</tr>
<tr>
<td>Fentanyl patch</td>
<td>12, 25, 50, 75, 100</td>
</tr>
</tbody>
</table>
**Initial choice of drug and dose…**

- Starting dose depends on
  - Availability of drugs
  - Severity and type of pain
  - Drug history
  - Individual patient
  - Urgency

- Be familiar with several strong opioids

- It is not the first dose that matters, but how you adjust once you see the effect.
…Initial choice of drug and dose

- Using more than 4-6 tylenol #3/day? Switch to a stronger drug
- Morphine 5 - 10 mg orally or 2.5 - 5 mg sc every 4 hours and ½ - 1 dose prn
- Start higher if
  - severe pain
  - previous opioid use

- It is not the first dose that matters, but how you adjust once you see the effect.
Dose Levels & Thresholds

DOS

Side effect threshold

Proper dose

Pain relief threshold

Inadequate dose

Excessive dose

Time

DOS

DOS

DOS

DOS
A Pain free interval

B Pt waits until ‘needs’ to take again

C Pt waits after asking until received

D Pt waits for absorption

E Total interval in Pain
Regular Dosing

A. Dosing interval based on 1/2 life
B. As one dose falls, the next rises
C. Peak effect remains below side effect threshold
A. Neither regular dose nor BTDs provide relief
B. BTDs provide only temporary relief
C. Full pain relief - no BTDs needed
Oral & Parenteral Dosing

A. Longer duration of action with PO
B. Earlier onset of action & higher peak with parenteral
Breakthrough dosing

- Exacerbations of pain over the baseline pain
- Incident pain
- End-of-dose failure
- Use 1/2 - 1 of the q4h dose or 10% of the daily dose
- Frequency? Every 1/2 - 1 hour as needed
- No limit
# Equianalgesic Conversion Table for Chronic Opioid Dosing (not acute dosing)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Oral (PO)</th>
<th>Parenteral (SC, IV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>10 mg</td>
<td>5 mg*</td>
</tr>
<tr>
<td>Codeine</td>
<td>100 mg</td>
<td>65 mg</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>2 mg</td>
<td>1 mg*</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>5.0-7.5 mg</td>
<td>---</td>
</tr>
<tr>
<td>Methadone</td>
<td>1 mg but highly variable ratio &amp; complex**</td>
<td>Not readily available (rectal=po.)</td>
</tr>
<tr>
<td>Fentanyl patch</td>
<td>1/3-1/2 of total oral morphine daily dose ***</td>
<td></td>
</tr>
</tbody>
</table>

* Common ratio PO:SC is 2:1, but some pts may be 3:1

** Rotation is complex, with delayed accumulation. Ratio varies from 5:1 at low doses to 10:1 or up to 20:1. Must be individualized

*** Eg: 100 mg oral morphine/24 hours = 37-50 mcg patch

NB. Due to incomplete cross-tolerance of most opioids, one should consider reducing the equivalent amount of the new drug by 25% and titrate from there.
Route and timing

- Oral: q 4h (SR q 12 or q 8h)
- Subcutaneous: q 4 h
- Intravenous: q 2-3 h
- Rectal: q 4 h
- Transdermal: q 2-3 days
Dose titration

- Start with q 4 h
- Increase as needed, using the number of breakthrough doses as a guide
- Once approximate dose is known, convert to q 12 h
- Always provide for “breakthrough” doses q½ to 1h.
- No limit on the breakthrough doses – that is how you recalculate the new regular dose!
- If unstable/not well controlled, revert back to short acting, titrate, once stable convert back to long-acting
The right dose is....

- The dose that works!
- No ceiling or limit (in theory)
- The right drug in the right dose at the right time.
Memorize:

1. Morphine : dilaudid  5:1
2. Oral : sc/iv         2:1
3. Q4h and q12h (occas. q8h)
4. Prn = x ½ of the 4 hour dose
5. IR to SR = arithmetic!
Duragesic Patch

- Fentanyl is synthetic
  - cogener of meperidine
  - useful in true opiate allergy
- Lipophilic & high bioavailability, rate of absorption by surface area
- Steady in ~17 hrs (so not for acute or uncontrolled pain)
- Maybe less likely to cause nausea/constipation
- Useful for stable moderate pain esp when compliance is an issue
- Conversion: 1/3-1/2 the 24 hour oral morphine (mg) in mcg/hour
Use of Narcan (naloxone)

- **Very rarely** need to give
  - Is it really opioid overdose?
  - Is it necessary or can you just wait…
  - What are normal respiratory rates during sleep?

- **Procedure**
  - If IV available
    - Dilute 0.4mg/ml amp in 9 ml Saline
    - Give 1 ml/min IV until effective
  - If no IV, or until set up
    - Give 0.1 or 0.2mg SC
  - Note total dose given to obtain effect
  - Duration of action short
  - Repeat prn
Fentanyl patch

- Don’t use in opioid naïve
- Don’t use if pain unstable
Switching between PO & SC

The SC dose is \( \frac{1}{2} \) of PO dose, based on the immediate release form of the drug.

**FROM**

- MSIR 30mg PO q4h
- Dilaudid 10mg SC q4h
- MS Contin 180mg bid

**TO Alternate**

- Morphine 15mg SC
- Dilaudid 20mg PO
- MSIR 30mg SC
## Breakthrough Dose - BTD

An immediate release form of drug equal to **either** $\frac{1}{2}$ of the equivalent q4h dose or 10% of 24hr dose [but practical!!]

### Regular dose

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSIR 240mg PO q4h</td>
<td></td>
</tr>
<tr>
<td>Dilaudid 12mg SC q4h</td>
<td></td>
</tr>
<tr>
<td>MS Contin 270mg bid</td>
<td></td>
</tr>
<tr>
<td>Duragesic 100ug/hour q72h</td>
<td></td>
</tr>
</tbody>
</table>

### BTD

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSIR 120mg PO</td>
<td></td>
</tr>
<tr>
<td>MSIR 144mg PO [140mg]</td>
<td></td>
</tr>
<tr>
<td>Dilaudid 6mg SC</td>
<td></td>
</tr>
<tr>
<td>Dilaudid 7.2mg SC [6 or 8mg]</td>
<td></td>
</tr>
<tr>
<td>MSIR 45mg PO</td>
<td></td>
</tr>
<tr>
<td>MSIR 54mg PO [50mg]</td>
<td></td>
</tr>
<tr>
<td>MSIR 20mg PO</td>
<td></td>
</tr>
</tbody>
</table>
Immediate to Sustained

Conversion is based on the total daily dose of immediate release & divided accordingly

FROM

MSIR 30mg PO q4h

Dilaudid 12mg PO q4h

TO Long-Acting

MEslon 90mg bid or 60mg tid

Hydromorph Contin 36mg bid or 24mg tid
# Equianalgesic Switching

The process of switching between opioids using standard potency differences

<table>
<thead>
<tr>
<th>FROM</th>
<th>TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSIR 120mg PO q4h</td>
<td>Dilaudid PO 24mg PO q4h</td>
</tr>
<tr>
<td>Codeine 60mg PO q4h</td>
<td>MSIR PO 6mg PO q4h</td>
</tr>
<tr>
<td>Oxycodone 15mg PO q4h</td>
<td>Dilaudid SC 2mg-3mg SC q4h</td>
</tr>
</tbody>
</table>
Opioid Rotation in Cancer

- Reasons to switch
  - Tolerance or ceiling limit (eg Tyl 3)
  - Unacceptable adverse effects
  - Paradoxical pain - opioid neurotoxicity
  - Rare true allergy

- 80% require 1 switch
- 44% require 2 or more switches
- 20% require 3 or more switches

Foley & Houde, J Clin Oncol 16/10, 1998
Side effects

- Nausea: haloperidol, metoclopramide
- Sedation: wait, reduce dose, methylphenidate
- Constipation: softener and stimulant. Relistor.
- Delerium or hallucinations: change opioid
- Pruritis: antihistamine, change opioid
- Neurotoxicity: change opioid, benzodiazepines
- Dysphoria: change opioid
- Respiratory depression: rare
Barriers to use of opioids...

- Society
  - Availability (country or pharmacy)
  - Regulatory
  - Low priority
Barriers to the use of opioids

- **Physician**
  - Not available
  - Inadequate assessment
  - Inadequate knowledge about use or side effects
  - Fears and misconceptions
Barriers to use of opioids

- Nurses
  - Inadequate knowledge and assessment
  - Fears and misconceptions
  - Inadequate orders
Barriers..

- Patients and families
  - “Save it for severe pain”
  - Fear of addiction
  - Fear of side effects
  - Fear of tolerance
Tolerance, dependence and addiction

- **Tolerance:** a change in the dose-response relationship induced by exposure to the drug and manifested as a need for higher doses. It occurs quickly for some side effects like respiratory depression. May develop slowly for analgesia, but usually the need for higher doses is increased pain.

- **Physical dependence:** body becomes accustomed to the medication, so abrupt discontinuation may lead to a withdrawal syndrome (restless, agitated, fever, sweats, tachycardia, cramps etc.)

- **Addiction:** psychopathological compulsion to use a substance. Compulsive use, loss of control, continued use despite harm. Extremely small risk for cancer patients taking properly prescribed medications

- **Pseudoaddiction:** drug-seeking behaviour caused by unrelieved pain. Usually iatrogenic because of undertreatment of pain.
Mrs H.

- 82 y.o. woman with bladder cancer Dx 2003, surgery 2005
- Recurrence 2006
  - Mets to bones (pelvis, hip) and liver
  - Palliative R/T August - no relief
- Ongoing severe pain
Mrs H.

Admission medications:
- Oxycontin 20 mg 6 tablets q 8h
- Oxycodone 20 mg prn
- Metoclopramide 10 tid
- Prednisone 5 mg qd
- Colace
- Senokot
- Gabapentin 300 hs
- Warfarin (for post-op DVT 2005)
Mrs H.

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  - Metoclopramide 10 tid
  - Prednisone 5 mg qd
  - Colace
  - Senokot
  - Gabapentin 300 hs
  - Warfarin (for post-op DVT 2005)

- What is wrong with this?
- Can you make it better?
…Mrs H.

- Should be taking Oxycontin 6 x 20 q8h…..
- Patient had Oxycontin 10 and 20 mg as well as Oxy IR 5 and 20 mg.
- ? Medication mixup
- ? Compliance

- Home Nursing called at 4:30 pm Sunday
- Severe pain 10/10
…Mrs H. multiple problems….

1. BCCA instructions too complex
   - “Mrs H and her husband were somewhat overwhelmed by the amount of info…”

2. Oxycodone dose mixup at home
   1. Too many strengths and pills
   3. Husband not understanding instructions for prn’s (wouldn’t listen to the Home care nurse)

4. Oxycontin vs oxycodone mixup on medical floor

5. Meds too complex (doesn’t need warfarin)
Mrs H...

6. Possible spinal cord comp. urgent MRI ordered
7. Toxicity from gabapentin, changed to pregabalin: toxicity on that too.
8. Opioid neurotoxicity on higher doses of Oxycodone (twitching, hyperalgesia etc) at doses of 300 q12h
9. Rotated to methadone 20 then 30 mg po q 8h
10. Stable, discharged to Eagle Park
Adjuvants

- Medications that augment the analgesic efficacy or manage the side effects
Adjuvants: Bone pain

- NSAIDS
- Steroids
- Bisphosphonates eg: pamidronate, zoledronic acid,
- Radiation
…Adjuvants: Neuropathic pain

- Antidepressants
  - amitriptiline, desiprimine…

- Anticonvulsants
  - Gabapentin, pregabalin
  - carbamazepine
  - phenytoin
Adjuvants: other

- Lidocaine
- Ketamine
- Capsaicin
- Benzodiazepines
- THC derivatives
Advanced Analgesia coming your way.....

- Methadone
  - Very good
  - Cheap
  - Low side effects
  - Tricky to initiate, conversion uncertain
    - Usually done as an inpatient (call us)
  - College very cooperative
….Advanced

- Ketamine
  - Oral or sc
  - Easy to use
  - Low doses (20-50 q8h)
  - Few side effects
  - Add to the opioid
Lidocaine infusions

- Quite effective
- Safe (low doses)
  - Bolus or continuous
- Inpatient or outpatient clinic
- Effect can last weeks
Interventional

- Intrathecal
- Nerve blocks eg celiac plexus
- Vertebroplasty
Assistance for patients and caregivers

1. Home Nursing
2. Family Doctors and on-call groups
3. 1-800 nurse line
4. Palliative care unit
   - Nurses 24/7
   - PC Doc on-call
Assistance for Doctors

1. Use the available home nursing resources
2. Symptom management resource book
3. Your call group (let them know)
4. Call and discuss the case with PC Doc
   1. Monday to Friday morning at NRGH
   2. Palliative Doc on call 24/7
5. Refer for inpatient assessment and care
   1. Through ER
   2. Direct admit (call Pall MD)
Home Nursing is your best ally!

- Our primary duty is to provide the best care possible to our patients. This is achieved by teamwork.
- Many palliative care patients are best managed at home (or choose to be at home)
- You can’t do it alone…
- Nurses can coordinate care
  - Help keep patients at home
  - Monitor clinical situation and meds and keep you UTD
  - Help you manage your patients better
  - Ease your workload
  - Take their calls while the nurse is in the home!
Summary so far…

- Ask about pain and other symptoms
- Treat early and aggressively. Severe pain is an emergency
- The right drug, in the right dose at the right time.
- Use all available resources
Case example: Alan

- 38 y.o. man with cancer of the pancreas. Inoperable, extensive local spread and liver metastases
- Married, supportive wife, 2 sons age 12 and 14. Good extended family support.
- Problem: severe pain
Alan: Pain assessment

- Epigastric, through to back, RUQ
- Severe deep ache
- No exacerbating or alleviating factors
- 8/10, constant
- Current medications not helping
  - Acetaminophen with codeine
  - Morphine 5 mg tablets as needed – causing nausea and constipation so not really using
Approach to difficult pain

1. Are you limited by side effects or is the drug not working?
2. Aggressively increase opioids
3. Use alternative medications
Incremental Titration

Second increment too high, causing excess sedation

Subsequent adjustments to seek full pain relief with minimal sedation

Michael Downing, Victoria Hospice Society
Decremental Titration or ‘Stacking’

A Used *intentionally* in acute severe pain to bring immediate pain relief with expected concomitant sedation

B Subsequent adjustments once pain crisis settled

Michael Downing, Victoria Hospice Society
Management:
Day 1: admission orders

- metoclopramide 10 mg q6h sc for nausea
- Morphine 10 mg s.c. every 4 hours and 5 mg s.c. prn
- Docusate sodium and Senokot for laxatives
Day 2: Reassess after 24 hours

- Morphine 10 mg sc every 4 hours and 6 breakthrough doses of 5 mg
- Pain 4/10
- Nausea better, tolerating morphine well

- Alan says the morphine is only lasting 3 hours. What do you do?
- Calculate new doses
New morphine doses

- 10 mg sc q4h regular doses = 60 mg/24hours
- 5 mg sc x 6 extra doses = 30 mg/24hours

90mg total

90mg/6 doses in 24 hours = 15 mg q4h sc

but.......his pain is still 4/10

Order: morphine 20 mg/sc q4h, prn =10 mg
Day 3: Reassess

- Morphine 20 mg sc q 4h. 2 prn doses, pain is now 2/10
- Total morphine used is $6 \times 20 = 120$
  
  \[ \text{plus } 2 \text{ prn } x 10 = 20 \]
  
  140 mg s.c. /24h

- Change to oral (conversion is 1:2)
  - $140 \times 2 = 280$ mg po in 24 hours so order morphine SR 140 mg po q 12h

- Change metoclopramide to oral, titrate laxatives
- Fine tune analgesics over the next few days
Day 21

- After a few weeks Alan needs higher doses. Why does he need more?

- His disease is progressing
Day 28

- Alan is now taking 300 mg SR morphine every 12 hours. The pain is controlled fairly well, but he still uses 2 or 3 prn/day.
- He is drowsy and can’t stay awake to watch hockey games or talk to his family and may be a little confused at times.
- What can you do?
Options:

- **Drowsy/sedated options include:**
  - Review all meds
  - Recent increase in morphine? Wait a few days
  - Reduce dose? No he still has pain
  - Change opioid? Probably won’t help.
  - Add a psychostimulant

- **Constipation**
  - Increase laxatives
  - Add different laxatives
Day 28....

- Pain is severe despite increased morphine. Confusion is starting.
- Options?
  1. What is the context? Goals of care?
  2. Change opioid (side effects may improve)
  3. Add a different medication
Day 30

- Ketamine 20 mg po tid was started, increased to 30 tid.
- Excellent pain relief
- Morphine reduced
- Confusion cleared