I have no actual or potential conflict of interest in relation to this presentation.
OBJECTIVES

- Review the foundations of pain management
- Gain an approach to the use of opioids including dosing, titration, route of administration, and troubleshooting common pitfalls and side effects
- Learn a mechanistic approach to the use of antiemetics
- Overview of the philosophy of palliative care, dispel common myths and when to consider a palliative care consult
NOTE

- Equivalencies (e.g. hydromorphone is 5 times stronger than morphine) in this presentation are approximations and vary from person to person.

- You will see slightly different equivalencies used in the literature.
HOW MUCH EQUIVALENT ORAL MORPHINE IS IN TWO OXYCOCET/PERCOCE?
TYPES OF PAIN

- Nociceptive pain
- Neuropathic pain
- Complex and multidimensional concept with strong social and psychological components ("Total body pain")
NOCICEPTIVE PAIN

Stimulation of intact nerve endings

- Mechanical
- Chemical

Two subtypes

- Somatic
  - Localized- may be deep
- Visceral
  - Poorly localized, colicky/intermittent
  - Radiates
NEUROPATHIC PAIN

Lesion/damage in PNS/CNS

Radiates

Positive symptoms
  • Burning, lancinating, shooting
  • Hyperalgesia, allodynia
  • Constant

Negative symptoms
  • Numb or wooden
TAKING A PAIN HISTORY

O- Onset

P- Provoking/palliating
  • What have you tried? Did it help?

Q- Quality/quantity

R- Radiating

S- Severity

T- Timing
  • Activity, meals, morning/evening
TAKING A PAIN HISTORY

Screen for those at risk of opioid dependency

Known risk factors include:

- family and personal history of substance abuse (prescription drugs, illegal drugs, alcohol)
- history of preadolescent sexual abuse (female)
- psychiatric history (ADD, OCD, bipolar, schizophrenia, depression)
Psychiatric history and good psychosocial history also helps to flag “total pain”
WHO PAIN LADDER
LEVEL 1: MILD PAIN

Acetaminophen

- Standard upper limit for those without liver dysfunction is 4 g/day (consider going lower)
- 2 g/day in those with stable liver disease
- Most frequent drug named in accidental overdose
- Perceived safety and in many OTC medications with multiple active ingredients

The dark side of acetaminophen

Few Canadians appreciate the potential dangers of the ingredient that made Tylenol famous, including death and serious liver damage.
LEVEL 1: MILD PAIN

NSAIDs:

- Good for inflammatory pain including bony metastases
- Poor choice in patients with renal dysfunction, history of GI ulcers/bleeds, or if anticipating long-term use
- Use the lowest possible dose for the shortest period of time; add PPI if using for over 1-2 weeks
- COX-2 may be lower risk in terms of GI side effects, but possible higher risk of cardiovascular events (MI, stroke)
LEVEL 1: MILD PAIN

Adjuvants
- including treating anticipatory or psychological pain which often includes non-pharmacological treatments such as biofeedback
- Agents targeting neuropathic pain (will discuss later)
OPIOIDS

- Weak: codeine, tramadol, tapentadol
- Strong: morphine, oxycodone, hydromorphone, fentanyl, etc.
- All exert their actions on mu-opioid receptors located both centrally and peripherally
OPIOID RECEPTORS

Mu
- Analgesia, euphoria, respiratory depression, reduced GI motility, dependence

Kappa
- Analgesia, sedation, dysphoria

Delta
- Analgesia, antidepressive effects, dependence
LEVEL 2: MILD TO MODERATE PAIN

Opioid for mild to moderate pain: e.g. codeine, tramadol

+-non-opioid

+-adjuvant
CODEINE

- Metabolized in the liver by CYP2D6
- Prodrug, converted to morphine (i.e. takes longer to work)
- Very constipating
- Up to 10% of population are poor metabolizers (e.g. T#3 no better than Tylenol alone)
- Up to 2% are extensive metabolizers (1.5x as potent)
CODEINE

- Unpredictable metabolism and perceived safety compared to stronger opioids = inadvertent overdoses – especially in children
- Hospital for Sick Children has taken codeine off its formulary
CODEINE

- Morphine 1 mg oral = Codeine 10 mg oral
- Tylenol #3/Lenoltec #3 = 325 mg acetaminophen, 30 mg codeine (=3 mg morphine equivalent)
- Why not just give morphine? (1/2 a 5 mg tablet = 2.5 mg)
- T#3s also have caffeine

**Bottom line:** There is no good reason to prescribe codeine, especially Tylenol #3
WHO PAIN LADDER

1. Pain
   - Non-opioid ± Adjuvant

2. Pain persisting or increasing
   - Non-opioid ± Adjuvant
   - Opioid, if needed ± Adjuvant

3. Pain or increasing or severe
   - Opioid for moderate to severe pain
   - Non-opioid
   - Adjuvant
   - Non-opioid ± Adjuvant

4. Freedom from cancer pain
   - Opioid for moderate to severe pain
   - Non-opioid
   - Adjuvant
   - Non-opioid ± Adjuvant

The image depicts the World Health Organization (WHO) pain ladder, which is a tiered approach to managing pain, starting from mild to severe levels. The ladder emphasizes the use of non-opioid and opioid medications, with the addition of adjuvants as needed.
LEVEL 3: MODERATE TO SEVERE PAIN

<table>
<thead>
<tr>
<th>OPIOID</th>
<th>ORAL TABLETS IR &amp; CR</th>
<th>ORAL SYRUP</th>
<th>TRANSDERMAL PATCH</th>
<th>PARENTERAL IV/SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORPHINE</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>OXYCODONE</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HYDROMORPHONINE</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>FENTANYL</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
MORPHINE AND HYDROMORPHONE

- Both are metabolized by the liver
- Morphine 5 mg = Hydromorphone 1 mg (i.e. hydromorphine is 5x stronger than morphine!)
- Drugs and metabolites are significantly renally cleared
- General thinking is that hydromorphone’s metabolites are less toxic but there is no good evidence to show this
MORPHINE AND HYDROMORPHONE

Both are available in various formulations

**Oral:** tablets and syrups, short and long (contin) acting

**Parenteral:**
- IV/SC is $2-3\times$ as strong as oral (e.g. morphine 2-3 mg PO= 1 mg IV/SC) and reaches peak effect **twice** as fast (30 minutes vs 60 minutes)

**PRN dosing:** Q1H – if pain is not better an hour after PRN – it won’t get much better
## STARTING DOSES FOR OPIOID NAÏVE PTS

*GENERALLY START WITH ONLY PRN*

<table>
<thead>
<tr>
<th></th>
<th>Moderate Pain</th>
<th>Severe Pain</th>
</tr>
</thead>
</table>
| Frail (elderly,  | 2.5 mg oral morphine  
| cachetic)        | 1 mg morphine IV/SC  
|                  | 0.5 mg oral hydromorphone  
|                  | 0.2 mg hydromorphone IV/SC | 5 mg oral morphine  
|                  |                                                    | 2 mg morphine IV/SC  
|                  |                                                    | 1 mg oral hydromorphone  
|                  |                                                    | 0.5 mg hydromorphone IV/SC |
| Robust           | 5 mg oral morphine  
|                  | 2 mg morphine IV/SC  
|                  | 1 mg oral hydromorphone  
|                  | 0.5 mg hydromorphone | 10 mg oral morphine  
|                  | 5 mg morphine IV/SC  
|                  | 2 mg oral hydromorphone  
|                  | 1 mg hydromorphone IV/SC |
MR. W, 88 Y.O MAN

- Type 2 diabetes, CAD and prior CABGx3, significant peripheral arterial disease
- Bed-ridden with significant dry gangrene of the toes
- Family brought him into hospital for uncontrolled pain, failure to cope
- Rates pain as 4/10, when moving around is 7/10
- Not a candidate for bypass and currently trying to decide on amputation
- Currently taking 1 g acetaminophen PO TID
- What would you prescribe for pain control?
MR. W, 88 Y.O MAN

- Any of the following would be reasonable:

1. morphine 2.5 mg PO Q1H PRN or morphine 1 mg IV/SC Q1H (Q30min) PRN

2. hydromorphone 0.5 mg PO Q1H PRN or hydromorphone 0.2 mg IV/SC Q1H (Q30min) PRN

*I always give option of both – parenteral faster time to onset and good alternative if pt is n/v or agitated; oral is important if pt is likely to go home requiring opioids*
OXYCODONE

Only available in oral formulations (no parenteral), more expensive

In Ontario, only Percocet/Endocet/Oxycocet (325 mg acetaminophen, 5 mg oxycodone) has ODB coverage

Oxycodone alone and OxyNEO are not covered unless under EAP, physician has Palliative Care Facilitated Access or patient has private insurance

Oxycodone 1 mg = Morphine 2 mg (i.e. oxycodone is 2x as strong as morphine)
MR. W, 88 Y.O MAN

- Currently taking oxyNEO 30 mg PO Q12H
- You want to take him off long-acting and convert him to standing doses of immediate release
- How do you do this?
DURATION OF ACTION

- For morphine, hydromorphone, and oxycodone it is ~4-5 hours
- So to convert from CR to IR, calculate the total daily dose and then find the equivalent Q4H dose (divide by 6)
- oxyNEO 30 mg BID = 60 mg daily oxycodone = oxycodone 10 mg PO Q4H standing
- In renal or hepatic failure, increase to Q6-8H and start at a lower dose
MR. W, 88 Y.O MAN

- If taking oxyNEO 30 mg PO Q12H
- What do you prescribe as his breakthrough dose?
BREAKTHROUGH OPIOID DOSING

oxyNEO 30 mg PO Q12H

2 rules you can follow:
1. 10% of the total daily standing dose
   =6 mg oxycodone
   ➔ 5 mg oxycodone Q1H PRN
2. 50-100% of the equivalent Q4H dose
   =5-10 mg oxycodone Q1H PRN
   (pick a number – don’t leave a range)
TITRATION OF OPIOIDS

If a patient is using >4-6 breakthroughs a day, the base dose likely needs to be increased

2 rules:

1. Increase base dose by 25% of daily amount

2. Another rule is to calculate the total breakthroughs used in 24 hours and add it to the standing dose (not recommended)

*titrate up the standing dose of opioid not more frequently than every 24 hours*
<table>
<thead>
<tr>
<th>Opioid</th>
<th>PO Dose</th>
<th>IV/SC Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Codeine</td>
<td>100mg</td>
<td>--</td>
</tr>
<tr>
<td>Morphine</td>
<td>10mg</td>
<td>5mg</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>5mg</td>
<td>--</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>2mg</td>
<td>1mg</td>
</tr>
</tbody>
</table>
PAIN

Would you change anything about these medications?

Hydromorph contin 9 mg BID
Hydromorphone 1 mg PO Q1H PRN – taking 8-9 breakthrough/day
BREAKTHROUGH OPIOID DOSING

Hydromorph contin 9 mg PO BID

= 18 mg/24 hours

Going with Rule #1 (10% of total daily dose) =

18 mg x 10% = 1.8 mg = 2 mg

Breakthrough dose = hydromorphone 2 mg PO Q1H PRN

Going with Rule #2 (50-100% of the Q4H dose):

18 mg/6 = 3 mg PO Q4H

Breakthrough dose = hydromorphone 1.5-3 mg PO Q1H PRN
PARENTERAL BREAKTHROUGH DOSE FOR PT ON MORPHINE 10 MG PO Q4H STANDING

- Morphine 10 mg PO Q4H standing
  = MEDD (morphine equivalent daily dosing) is 60 mg PO
  = 30 mg IV/SC
- 10% is morphine 3 mg IV/SC Q1H PRN
Q4H STANDING DOSE OF PARENTERAL HYDROMORPHPHONE FOR A PT ON OXYNEO 40 MG Q12H

- oxyNEO 40 mg Q12H = 80 mg/24 hrs
- MEDD = 80 mg x 2 = 160 mg morphine PO in 24 hours
- 160/5 = 32 mg hydromorphone PO in 24 hours
- 32/2 = 16 mg hydromorphone IV/SC in 24 hours
- 16/6 = 2.67 mg = 2.5 mg hydromorphone IV/SC Q4H PRN
ROTATING OPIOIDS

- When rotating, ↓ equivalent dosage by 25-50% to take into account incomplete cross-tolerance

- So in previous example, oxyNEO 40 mg BID = 2.5 mg hydromorphone Q4H standing

  → decrease this *further* to 1.5 (or 2) mg Q4H IV/SC hydromorphone standing

- Tolerance and increasingly higher doses of opioids is common and expected and different from addiction
MR. S FEELS VERY ITCHY ON MORPHINE 20 MG PO Q4H STANDING. ROTATE HIM TO HYDROMORPHONE.
MR. S FEELS VERYITCHY ON
MORPHINE 20 MG PO Q4H
STANDING. ROTATE HIM TO
HYDROMORPHONE.

- Morphine 20 mg PO Q4H
- $20/5 = 4$ mg hydromorphone PO Q4H standing
- Reduce by 25-50% for incomplete cross-tolerance
- 2 or 3 mg hydromorphone PO Q4H standing – both are reasonable
When pt is on **stable** opioid regimen (parenteral or IR), then you can consider switching to contin/controlled release

- **Hydromorphone 2.5 mg PO Q4H standing**
- **You want to switch to hydromorph contin/hydromorphone CR**
CONTROLLED RELEASE

- Hydromorphone 2.5 mg PO Q4H standing
  = 2.5x6 = 15 mg daily hydromorphone
  = 15/2 = 7.5 mg hydromorphone PO Q12H

But, hydromorph contin/hydromorphone CR does not come in 7.5 mg – need to try 6 mg first, then 9 mg.
FENTANYL

- Transdermal patch is changed every 72 hours
- Patch conversion: fentanyl 25 mcg/hr = 50 mg PO
- MEDD – there is wide variability in literature
- No known active metabolites so considered safer in ESRD (but still proceed with caution!)
- Absorption can vary based on body habitus, fever, etc.
WHEN SHOULD A FENTANYL PATCH BE CONSIDERED?

- NOT in unstable pain!
- When pain is stable but:
  - There is concern around renal impairment
  - Patient has difficulty swallowing
  - Intolerable side effect profile of other opioids (sedation, constipation)
FENTANYL

- Parenteral (Subcut) and sublingual (using parenteral) very useful for incident pain, 12.5-25 mcg starting doses
- Onset of action for fentanyl is fast (5-10 minutes) and it is cleared quickly (30-40 minutes)
- There are 2 quick-acting buccal tablets (Abstral and Fentora) – don’t use them if you are not comfortable with opioids, not for opioid-naïve pts – starts at 100 mcg
HYDROMORPH CONTIN 18 MG PO Q12H TO FENTANYL PATCH
HYDROMORPH CONTIN 18 MG PO Q12H TO FENTANYL PATCH

- HMc 18 mg x 2 = 36 mg hydromorphone/24 hr
- MEDD = 36 x 5 = 180 mg PO morphine/24 hr
- 180/50 x 25* = 90 mcg/hr fentanyl

*this was because 25 mcg/hr fentanyl patch = 50 mg MEDD*

Dose reduce for incomplete cross-tolerance gives a range of 45-67.5 mcg/hr

So 50 mcg/hr patch is a good start (will likely need to increase)

For breakthrough, continue to use previous BT, e.g. hydromorphone 4 mg PO Q1H PRN
MISCELLANEOUS

- If a patient has ++GI pathology (e.g. previous resection, gut wall edema, etc.) be cautious around calculating equivalencies of controlled release opioids

- E.g. someone on hydromorph contin 18 mg BID may only end up needing 25 mcg/hr fentanyl patch or a much lower parenteral dose because gut absorption was so poor

- If pt is very anxious, consider making PRN intervals longer (e.g. Q2H) to avoid toxicity as pt may be “chemically coping”

- Write ALL your calculations in the chart – especially if complicated – then double and triple check
OPIOIDS: SIDE EFFECTS

- Expected side effects: nausea +/- vomiting, mild mental fog and fatigue, anticholinergic side effects such as dry mouth
- Most tend to improve after a few days except constipation
CONSTIPATION AND OPIOIDS

- Docusate is NOT helpful for opioid-induced constipation
- Start with Senna TT OD or BID → can up to 3-4 T BID
- Add on an osmotic agent:
  - Lactulose 15-30 cc OD-BID (on ODB)
  - or PEG3350 (Lax-a-day, Restoralax – Not on ODB)
- Other: suppositories, enemas, methylnaltrexone SQ
OPIOID-INDUCED NEUROTOXICITY

Myoclonus
Somnolence
Confusion/delirium
Hyperalgesia
Seizures

- Cut back on the dose (25-50%)
- IV fluids
- Look for underlying cause (e.g. AKI, infection)
- Rotate to another opioid
NEUROPATHIC PAIN

- Consider if characteristics include shooting or burning pain, hyperalgesia, allodynia
- Also consider if pain is not responding well to opioids
- First line adjuvants: TCAs, gabapentin/pregabalin, SNRIs (duloxetine, venlafaxine)
TRICYCLIC ANTIDEPRESSANTS

Cheap, once daily

Secondary amines better tolerated
- Nortryptiline
- Desipramine

Risks
- Anticholinergic side effects
- MI risk
- Suicide potential

Moderately effective for DN and post-herpetic neuralgia in multiple RCTs
- ~50% receive mild-mod benefit

Start at 25mg, increase by 25mg/d every week
SNRIS

Duloxetine beneficial in 3 RCTs of DN
- Few side effects
- Nausea
- Start at 30mg/d, inc to 60mg/d after 1 week

Venlafaxine effective in many types of neuropathy
- Start at 37.5 or 75mg daily, increase by 75mg/d per week
GABAPENTINOIDS

Gabapentin

- Effective in many types of NP
- Some vertigo/ataxia, somnolence
- Start 300-900/d, titrate up to 1.8-3.6g/d

Pregabalin

- Effective in DN, PHN mostly
- Start 50 mg QHS/BID, titrate to 150-300mg BID
- Easier to titrate, similar tolerability, ?faster
- Both pregab and gabapentin need dose adjustment for renal failure
NAUSEA
### Anti-dopamine Agents

<table>
<thead>
<tr>
<th>Central</th>
<th>Peripheral (i.e. prokinetic)</th>
<th>Mixed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prochlorpromazine (Stemetil)</td>
<td>Domperidone</td>
<td>Metoclopramide (Maxeran)</td>
</tr>
<tr>
<td>Haloperidol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methotrimeprazine (Nozinan)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olanzapine</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Irene’s Super Simplistic Algorithm

Treat the underlying issues (constipation, anxiety, pain, reflux etc)

Is it from chemo or radiation?

- yes
  - Ondansetron 4-8 mg PO/IV/SC Q8H
  - Metoclopramide 10 mg PO/IV/SC Q6H PRN

- no

Do they have a complete mechanical bowel obstruction?

- no
  - Metoclopramide 10 mg PO/IV/SC Q6H
  - Or Haldol 0.5 mg PO/SC Q8-12H

- yes
  - That’s a complete lecture unto itself
  - +/- Ondansetron (PRN)
Drugs for preventing postoperative nausea and vomiting (Review)

Carlisle J, Stevenson CA

Main results

We included 737 studies involving 103,237 people. Compared to placebo, eight drugs prevented postoperative nausea and vomiting: droperidol, metoclopramide, ondansetron, tropisetron, dolasetron, dexamethasone, cyclizine and granisetron. Publication bias makes evidence for differences among these drugs unreliable. The relative risks (RR) versus placebo varied between 0.60 and 0.80, depending upon the drug and outcome. Evidence for side effects was sparse: droperidol was sedative (RR 1.32) and headache was more common after ondansetron (RR 1.16).
Notes about treating nausea

- Metoclopramide is a good first choice most of the time: acts both peripherally and centrally
- Needs dose reduction in renal impairment
- Main side effects/risks related to basal ganglia – EPS, Parkinsonism, akathisia
- Domperidone better in Parkinsonism – watch QTc
- If one anti-emetic doesn’t work, add another that hits a different receptor
- Lots of other Rx possibilities: dexamethasone, cannabinoids, etc.
Figure 1 Diagram of the neural mechanisms controlling vomiting.

Abbreviations refer to receptor types: ACh_m=muscarinic cholinergic; α_2=α_2-adrenergic; D_2=dopamine type 2; GABA=gamma-aminobutyric acid; 5HT, 5HT_3, 5HT_2=5-hydroxytryptamine (serotonin) type undefined, type 2, type 3; H_1=histamine type 1; NK_1=neurokinin 1. Anti-emetics act as antagonists at these receptors, whereas the central anti-emetic effects of clonidine and opioids are agonistic.
DISPELLING MYTHS IN PALLIATIVE CARE

- What is Palliative care?
- Palliative Care ≠ hastening death/withdrawal of care/End of Life Care
- Opioids and the Principle of Double Effect
WHAT IS PALLIATIVE CARE?

Medical care for people with life-threatening illness and their families

Patients and families define it as being focused on improving quality of life

Appropriate at any age, for any diagnosis, at any stage in a serious illness, and provided together with curative and life-prolonging treatments

TRADITIONAL MODEL OF PALLIATIVE CARE
CONTEMPORARY MODEL OF PALLIATIVE CARE

Source: Journal of Hospice & Palliative Nursing © 2004 Lippincott Williams & Wilkins
# PALLIATIVE CARE MODELS

<table>
<thead>
<tr>
<th>Quality Improves</th>
<th>Costs Reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Symptoms</td>
<td>• Hospital costs decrease</td>
</tr>
<tr>
<td>• Quality of Life</td>
<td>• Need for hospital, ICU, ED decreased</td>
</tr>
<tr>
<td>• Length of Life</td>
<td>• 30 day readmissions decreased</td>
</tr>
<tr>
<td>• Family satisfaction</td>
<td>• Hospital mortality decreased</td>
</tr>
<tr>
<td>• Family bereavement outcomes</td>
<td></td>
</tr>
<tr>
<td>• MD satisfaction</td>
<td></td>
</tr>
<tr>
<td>• Care matched to patient-centred goals</td>
<td></td>
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</tbody>
</table>

Early Palliative Care for Patients with Metastatic Non–Small-Cell Lung Cancer

RESULTS
Of the 151 patients who underwent randomization, 27 died by 12 weeks and 107 (86% of the remaining patients) completed assessments. Patients assigned to early palliative care had a better quality of life than did patients assigned to standard care (mean score on the FACT-L scale [in which scores range from 0 to 136, with higher scores indicating better quality of life], 98.0 vs. 91.5; P=0.03). In addition, fewer patients in the palliative care group than in the standard care group had depressive symptoms (16% vs. 38%, P=0.01). Despite the fact that fewer patients in the early palliative care group than in the standard care group received aggressive end-of-life care (33% vs. 54%, P=0.05), median survival was longer among patients receiving early palliative care (11.6 months vs. 8.9 months, P=0.02).

CONCLUSIONS
Among patients with metastatic non–small-cell lung cancer, early palliative care led to significant improvements in both quality of life and mood. As compared with patients receiving standard care, patients receiving early palliative care had less aggressive care at the end of life but longer survival. (Funded by an American Society of Clinical Oncology Career Development Award and philanthropic gifts; ClinicalTrials.gov number, NCT01038271.)
There is no intervention in and of itself that is or is not palliative.

It is the intent of the intervention that dictates whether it is palliative (e.g., it is not to reverse the underlying condition, but to improve quality of life).

Surgery can be palliative.

Medications: e.g., reasonable to keep beta-blocker if pt can take and they have a history of tachyarrhythmia; stop statin for 2o prevention if life expectancy <1 year.
OPIOIDS AND RESPIRATORY DEPRESSION

- Highest risk is inappropriate dosing in opioid naïve patients
- Use the starting doses and titration guidelines outlined – if in any doubt, “start low, go slow”
Dyspnea “derives from interactions among multiple physiological, psychological, social, and environmental factors, and may induce secondary physiological and behavioral responses”

It is a subjective sensation

First line should always be to optimize or reverse underlying issues

Opioids are first line treatment for dyspnea refractory to condition-specific treatments → reduces the sensation of breathlessness
Comprehensive Approach to Management of Refractory Dyspnea in Advanced COPD

Initiate & Optimize Opioid Therapies:
Short- and Long-Acting Agents

Initiate & Optimize Non-Pharmacologic Therapies:
Exercise, Pursed-Lip Breathing, Walking Aids, Chest Wall Vibration, NMES

Initiate & Optimize Pharmacologic Therapies:
SABD, LAAC, ICS/LABA, PDE\textsubscript{4} Inhibitors, Theophylline, O\textsubscript{2} in Hypoxemic Patients

Magnitude of Dyspnea
Exclude Contributing Causes

Regular Follow-up And Reassessment

End of Life Care

DO OPIOIDS CAUSE RESPIRATORY DEPRESSION AND HASTEN DEATH?
Opioids used in appropriate doses do not cause respiratory depression in patients who have dyspnea from advanced disease

Respiratory depression is defined as a rise in arterial carbon dioxide (PaCO₂) and a decrease in arterial oxygen (PaO₂), as well as a decrease in respiratory rate. A study involving 27 patients given opioids for dyspnea from advanced disease showed no significant rise in PaCO₂ or fall in PaO₂. All patients had significant relief of dyspnea and a reduction in their respiratory rate.² Opioids reduce the work of breathing — hence the decreased respiratory rate — but do not affect alveolar ventilation. Results of other small retrospective studies support this.

References
1. ... ². ... ³. ... ⁴. ... ⁵. ... ⁶. ... ⁷. ... ⁸. ... ⁹. ... ¹⁰. ... ¹¹. ... ¹². ... ¹³. ... ¹⁴. ... ¹⁵. ... ¹⁶. ... ¹⁷. ... ¹⁸. ... ¹⁹. ... ²⁰. ... ²¹. ... ²². ... ²³. ... ²⁴. ...

Competing Interests: Romayne Gallagher has received honoraria for educational events on palliative care and pain management sponsored by PharmaCare.

This article has been peer reviewed.

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CMAJ 2011;183:E726–E730

A list of resources for opioid prescribing, including a downloadable palliative opioid prescribing tool, is available at Appendix 1 (www.cma.ca/knowyourmedications.11193

CMAJ, July 12, 2011. 183(10)
682 people have colonoscopies
Randomized into 2 groups

Group 1:
Regular colonoscopy

Group 2:
2 minute interval at the end of the procedure where scope is still

Patients in group 2:
- Experienced final moments as less painful
- Rated the entire experience as less painful
- Rated the procedure as less aversive
- Slightly more likely to return for next c-scope

FINAL MOMENTS MATTER....
BECOMING COMFORTABLE WITH EOL CARE....

• You should never have to say “there’s nothing more I/we can do”
• Help you with avoiding burnout

Feeling helpless

Feeling like a failure
THE FATHER OF PALLIATIVE CARE IN NORTH AMERICA:

Balfour Mount: Urologist & Surgical Oncologist
QUESTIONS?

Thanks!

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