Pallium Canada

WELCOME

Shortage of Palliative Medications During COVID: Options

Host and Moderator: Dr. José Pereira

Presenters:
Dr. Amit Arya
Dr. Edward Osborne
Patty Rice, BScPhm
Dr. James Downar
Dr. Susan MacDonald

The webinar will begin soon.
Please use the Q&A function to submit questions.

Housekeeping

- Your microphones are muted.
- Use the Q&A function at the bottom of your screen to submit questions. Please do not use the chat function for questions.
- This session is being recorded and will be emailed to webinar registrants tomorrow.

Presenters

Host

Dr. José Pereira MBChB, CFPC(PC), MSc, FCFP
Professor and Director, Division of Palliative Care, Department of Family Medicine, McMaster University, Hamilton, Canada
Scientific Officer, Pallium Canada

Presenters

Panelists

Dr. Amit Arya MD, CCFP(PC), FCFP
Palliative Care Physician, Division of Supportive & Palliative Care, William Osler Health System Lecturer, Division of Palliative Care, Department of Family & Community Medicine, University of Toronto Assistant Clinical Professor, Division of Palliative Care, Faculty of Health Sciences, McMaster University

Dr. James Downar, MDMC MHSc
Head, Division of Palliative Care, Department of Medicine, University of Ottawa
Attending Physician, Department of Critical Care, The Ottawa Hospital

Dr. Ed Osborne, MSc, MD, CCFP(PC), FCFP
Family Physician, Bowmanville, Ontario
Staff Physician, Lakeridge Health and Scarborough General.
Assistant Professor, University of Toronto Assistant Professor , Queen's University at Kingston Adjust Professor, Ontario Tech, Oshawa ON Palliative Care Lead, CE-LHIN and RCP Cancer Care Ontario

Dr. Susan MacDonald, MD, CCFP(PC) FCFP
Founder, Palliative Medicine
Associate Professor of Medicine and Family

Patty Rice, BScPhm.
Community pharmacist, Bowmanville Clinic Pharmacy

Declaration of conflicts

Pallium Canada

- Non-profit
- Funded mainly by Health Canada over the years in the form of a contribution program
- Generates funds to support operations and R&D from course registration fees and sales of the Pallium Palliative Pocketbook

Presenters

- Dr. Jose Pereira – Paid by Pallium Canada as Scientific Officer
- Dr. Amit Arya
- Dr. Edward Osborne
- Dr. James Downar
- Dr. Susan MacDonald
- Patty Rice

Learning objectives

Upon completing this webinar, you should be able to:

- List medications that are commonly used for palliation that may be in short supply during the COVID Pandemic;
- Describe alternative medication options for symptom management if commonly used medications are in short supply; and,
- Describe strategies to reduce the risk of medication supply problems (reduce medication wastage).

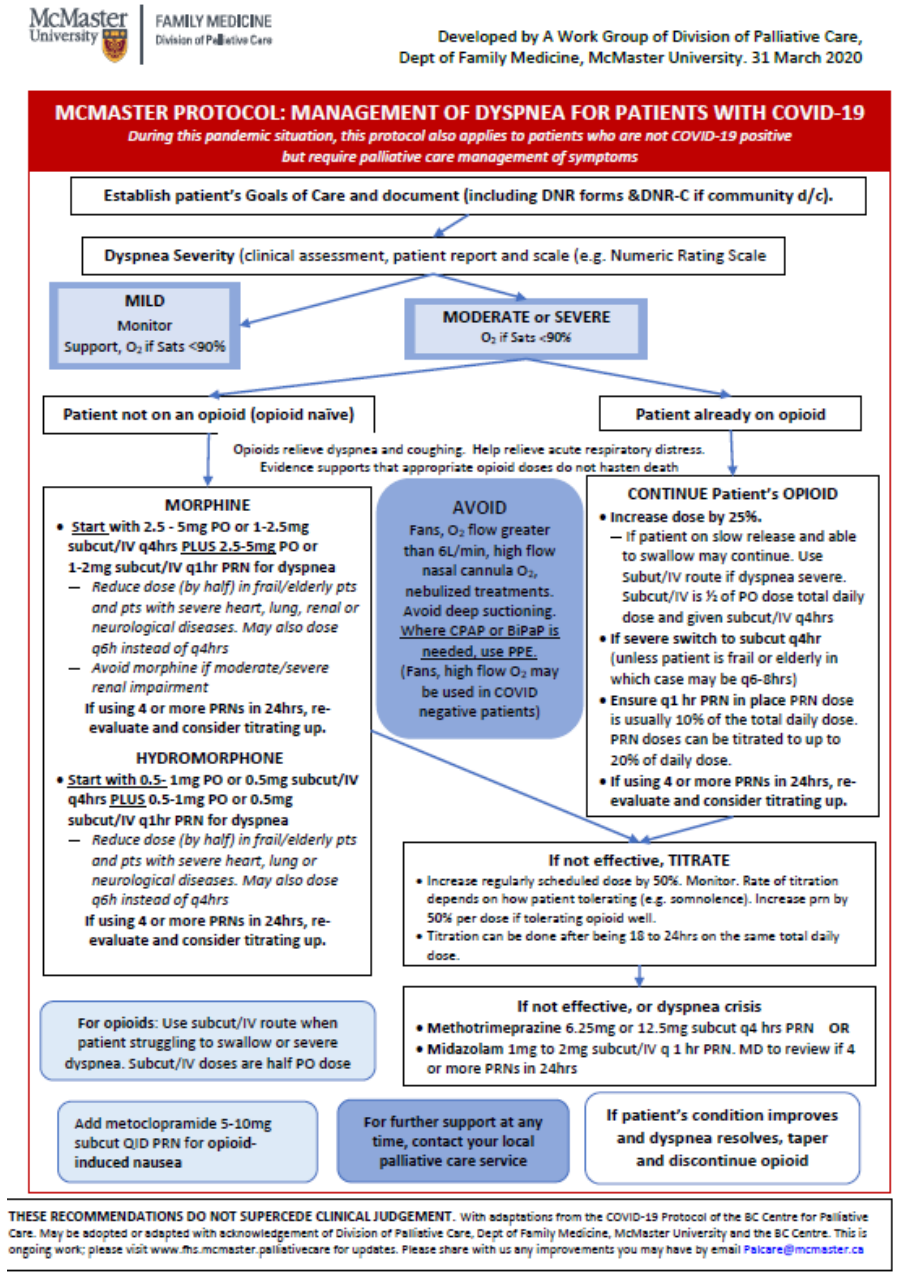
Outline

- Part 1: Context
- Part 2: Panel discussion (Questions to panelists)
- Part 3: Q & A (participants)
- Format: Panel discussion and brainstorming
- May inform “collective guidelines document”

Part 1: Context

Dyspnea in COVID-19

- Central role of **opioids** subcut or IV for managing moderate to severe breathlessness
- As adjuvants: **midazolam** or **methotrimeprazine**



Airway Secretions

UPPER AIRWAY SECRETIONS

- **If moderate to severe:**
  - **Scopolamine**: 0.4-0.6mg subcut q 4hrs PRN
    OR
  - **Glycopyrrolate**: 0.4mg subcut q 4hrs PRN

Timely management is important when the secretions start worsening. Select according to availability of medications.

ARDS AND PULMONARY EDEMA

- **Furosemide:** 20mg - 40 subcut/IV q2hrs PRN

Cough

- **If on opioids already, titrate (see Dyspnea protocol)**

- **If not on opioids:**
  - **<u>If moderate:</u>**
    - Dextromethorphan 10mg-20mg PO q 4-6 hrs PRN
    - Hydrocodone 5mg PO q 4-6hrs PRN
    - Normethadone antitussive 15 drops PO QHS or BID

  - **<u>If severe:</u>**

    Start opioid
    - Morphine 1 to 2.5 mg subcut/IV q4hrs (SC dose is ½ of oral dose)

      Or
    - Hydromorphone 0.25 – 0.5 mg subcut/IV Q4H (SC dose is ½ of oral dose)
    - For any opioid, reduce the dose by half and consider q6hrly dosing if patient is frail, elderly or has advanced comorbid illness.
    - If moderate to severe renal impairment, use hydromorphone instead of morphine.

Delirium & Agitation

- **1st line : Haloperidol** 0.5mg to 1mg subcut/IV q 4 hrs PRN
  Higher doses may be needed in severe agitation (2.5mg)
  If 4 or more PRNs in 24 hrs, provide regular dosing schedule of q 4h or q6 h, or consider 2nd line*

- **2nd line: Methotrimeprazine** (more sedating): 6.25mg to 12.5mg subcut q 4hrs PRN
  If 4 or more PRNs in 24 hrs, provide regular dosing schedule of q 4h or q6 h,
  OR
- **Midazolam** 1mg to 2mg subcut/IV q 1hr PRN (may be higher if severe agitation)

If intractable, consider palliative sedation

- May in some cases consider going straight to the methotrimeprazine or even midazolam, especially if severe. Low-dose haloperidol is not recommended in some subspecialty guidelines (e.g. ICU) and in LTC actively discouraged
- *Haloperidol can be useful for delirium and nausea. Avoid though giving two different anti-dopamine agents at the same time to reduce EPS risk

Nausea & Vomiting

Options (coverage varies across provinces):

- **Metoclopramide** 5mg -10mg subcut q4hrs PRN (PO if not severe)
- **Ondansetron** 4mg - 8mg subcut/IV TID PRN (PO if not severe)
- **Haloperidol** 0.5mg - 1mg PO or subcut q4hrs* PRN (PO if not severe)*

*Haloperidol can be useful for delirium and nausea. Avoid giving two different anti-dopamine agents at the same time to reduce EPS risk

Pain

- **Mild: Acetaminophen**
- **Moderate: weak opioid**
- **If Severe: regular opioid plus PRN**

If opioid naive

- Morphine 2.5-5 mg subcut/IV q 2 hrs prn OR
- Hydromorphone 0.5-1 mg subcut/IV q 2 hrs prn

If on opioid (opioid tolerant)

- **Switch to subcut/IV** route, may need to increase dose by about 20% to 25%, and ensure q4hrly and PRN dosing (refer to opioid equianalgesia and conversion tables for equivalent subcut/IV dosing)

- For use of opioids, refer to the LEAP Online Pain Module, or Pallium Palliative Pocketbook or https://palliativeezguide.ca/ for guidelines

Anxiety

- **Lorazepam** 0.5mg to 1mg PO or SL q2hrs PRN.
- **Clonazepam** 0.25mg to 0.5mg po q8hrs PRN (longer acting)

Palliative Sedation

Treatment options

- Usually, methotrimeprazine or midazolam by continuous infusion are considered 1st line options.
- In Pandemic situation, several options should be available in case of drugand infusion pump shortages.
- Four options are provided here, starting with the options of first choice (to spare midazolam and to take into account possible shortages with infusion equipment).
- Options with * denote those that are also more amenable to palliative sedation in a home setting

Option 1: Methotrimeprazine (Nozinan™)*

- Administer a stat dose of methotrimeprazine 25mg subcut STAT (12.5mg in frail, elderly patients).
- Then follow up with methotrimeprazine 12.5-25mg subcut q4hrs or q6hrs. Add a PRN order of midazolam 2.5mg or 5mg subcut or IV q30 min PRN (contact the MD if 4 or more PRNs are needed in a 24 hr period to re-evaluate and adjust).
- If above ineffective, or drug not available, consider Step 2.

Option 2: Lorazepam subcut or IV* (not usual option but in time of midazolam shortage, may be used)

- Start with STAT dose of 1-2mg subcut/IV (or 1mg to 4mg sublingual)
- Then titrate with 0.5mg to 2mg subcut/IV q 2 hrs PRN until desired level of sedation achieved.
- Then provide maintenance dose: Usual maintenance dose is 1mg to 4mg subcut/IV q 2-4 hrs (or 1mg to 8mg sublingual).

Palliative Sedation

Option 3: Midazolam subcut intermittent injections*

- Administer midazolam 2.5mg or 5mg subcut or IV STAT.
- Then continue with midazolam 2.5mg or 5mg subcut or IV q4hrs. Add a PRN order of midazolam 1 – 5mg subcut or IV q30 min to q 60 min PRN.
- If ineffective, consider Step 3 (preferred) or Step 4 (if Step 3 not available).

**Midazolam may be in short supply, requires frequent administration if PRN only, and requires infusion pump availability if continuous infusion. Midazolam infusions take considerable pharmacy time to prepare (which may not be possible in a pandemic

Option 4: Midazolam by continuous infusion.**

- Administer a loading dose of midazolam: 2.5mg or 5mg subcut or IV stat.
- Then start a continuous infusion of midazolam at 0.5mg to 1mg/hour subcut or IV by infusion pump.
- Titrate up (or down) every 30 to 60 minutes if needed until the required level of sedation is achieved. The usual dose required is between 1-5mg/hr. Higher doses may be required in select cases.
- If titration required to achieve desired goal (comfort), increase the dose of midazolam in increments of 0.5mg or 1mg/hr. If crises occur, may give a bolus doses of midazolam 2.5mg or 5mg subcut or IV q 30 minutes PRN.
- If doses of greater than 8-10 mg/hr are required, reassess and consider adding methotrimeprazine or phenobarbital

Palliative Sedation

<u>2nd Line</u>:
Add to options 1, 2 or 3 if these are ineffective: Phenobarbital

- Add phenobarbital to methotrimeprazine or midazolam patient is already receiving. Administer 60mg, 90mg or 120mg subcut or IV stat (depending on the severity of the situation)
- Then start phenobarbital 60mg subcut BID. Long-half life though does not allow for rapid titration (only increase dose every day or 2, not sooner)

- **In case medications for options 1 to 4 not available, consider phenobarbital or one of the following (not usually used in normal non-pandemic circumstances):**
- **Chlorpromazine PR:**
  - Injectable no longer available in Canada. 100mg tabs usually available. Would need to crush the tablets, place them in gelatin capsules (as commercial suppository not available) and administer rectally (PR).
  - Stat dose of 12.5 – 25mg PR
  - Then follow with maintenance dose of 12.5 – 50mg PR q4 – 6 hrs (starting at lower dose and titrating up to effect)
- **Haloperidol:**
  - Not necessarily sedating, hence not usually used. Risk of significant adverse effects. Higher doses increase risk for EPS
  - 1 – 2mg subcut q4 – 6 hrs (but higher dose may be required – ideally not to exceed 10mg/24 hrs)

Part 2: Panel discussion (questions)

Questions to panelists

Question 1:

What shortages are you seeing or hearing about in your various jurisdictions and settings?

Dr. Arya (Brampton, Ontario):

Potentially Limited medications

- Midazolam. Running short due to ICU use
- Methotrimeprazine….shortage already
- Phenobarbital…if increase use, may run out
- Lorazepam…if increase use, may run out depending on route of admin (PO, SL, Subcut, IV)
- Haloperidol…increase use for nausea and agitation may limit but consider route of admin (PO, Subcut, IV)
- Glycopyrolate could be an issue
- Atropine drops are low

Questions to panelists

Question 2:

What other options could be considered if medications run short –for each of the following symptoms, medications or treatments?

SYMPTOM OR PROBLEM	USUAL MEDICATIONS	ALTERNATIVE MEDICATIONS? Types and routes
Delirium or agitation	• Haloperidol PO or Subcut • Methotrimeprazine PO or subcut • Midazolam subcut or IV	• Olanzapine? Route? • Other atypical? Route?
Palliative sedation	• Methotrimeprazine subcut • Midazolam subcut or IV • Phenobarbital subcut	• Lorazepam IV • Chlorpromazine? • …?

ICU medications of possible interest

- Propofol (Diprivan)
  - IV/IO administration (!) – Start with small bolus (10-20mg), repeat q1min PRN
  - Maintenance infusion- 0.6-2.0 mg/kg/h – standard concentration/volume
  - Societal perception
- Dexmedetomidine (Precedex)
  - 0.2-1.0 mcg/kg/h CSCI – Start at 0.2-0.4, titrate 0.1 increments q1h
  - Need to prepare higher concentration (20 mcg/ml)
- Propranolol
  - Can give 1mg IV bolus (slow), start 20mg PO q6-8h (needs PO route)
  - Maintenance 90-240mg/d in 3-4 divided doses

- BUT: Midazolam/benzos are **not** recommended for sedation in the ICU. Best plan- leave Dex/propofol for ICU, leave midazolam for PC

Bodnar. J Pain Pall Care Pharm 2019;33.
Shiotsuka et al. Front Med 2017 doi: 10.3389/fmed.2017.00044
Hofherr et al. J Palliat Med 2020
Devlin et al. Crit Care Med 2018

SYMPTOM OR PROBLEM	USUAL MEDICATIONS	ALTERNATIVE MEDICATIONS? Types and routes
Airway secretions	• Scopolamine • Glycopyrrolate	• Atropine drops? • ..?
Pulmonary edema	• Furosemide	• ?

Cough	• Mild to moderate
	  ○ Dextromethorphan
	  ○ Hydrocodone
	  ○ Normethadone antitussive
	• Severe
	  ○ Opioids (morphine, hydromorphone)
		• ?

SYMPTOM OR PROBLEM	USUAL MEDICATIONS	ALTERNATIVE MEDICATIONS? Types and routes
Pain	• Morphine, hydromorphone	• Fentanyl • Methadone (but only PO available)
Nausea vomiting	• Metoclopramide • Ondansetron • Haloperidol • Methotrimeprazine.	• ?
Other …..	• ..	

Questions to panelists

Question 3:

What strategies do you think should be put in place, locally, regionally and provincially, to reduce the risk of medication shortages and wastage?

Dr. Arya
First, don't waste them!

- Medications are a precious resource

- Look carefully at all the prescriptions you write
  - What is *absolutely* needed- keep it simple!
  - What is *possibly* needed
  - What quantity is required for possibly needed meds (can you provide a few days worth for a crisis and give another prescription once you know the medication is really required?
  - We need to change how we dispense palliative medicine kits
  - Consider bridging quicker to longer acting medications for COVID-19 end-of-life care

Dr. Arya
First, don’t waste them!

- Small quantities but frequent refills
- Don’t end up with lots of unused medications in a deceased patient’s home
- Everything could be potentially run short depending on how long the pandemic lasts
- Need to regularly communicate with pharmacies in hospital, community

Part 3: Q and A

Conclusions

- Some key medications used in palliative care are either already in short supply or at risk to run out.
  - Some commonalities across Canadian jurisdictions
  - Some region by region, and setting by setting
- Strategies are needed to ensure their supply and also to reduce wastage (may require some provincial interventions)
  - We are all stewards .. Medications to be used judiciously (e.g. Emergency kits)
- Some options exist for the management of some symptoms if usual drugs are short or not available

Wrap up

- Thank you to all.
- We would appreciate your feedback. You will receive a link to evaluate the webinar.
- This session is being recorded and will be emailed to webinar registrants tomorrow or available here: www.pallium.ca/pallium-canadas-covid-19-response-resources
- Monitor provincial websites for resources on this topic coming down the pipeline

THANK YOU

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