PALLIATIVE CARE: PAIN MANAGEMENT

PAIN MANAGEMENT STEPS

✓ ESAS

Link – www.palliative.org

Reference(s):


✓ Assess to determine the etiology of the pain

Reference(s):


✓ PPS
Link – www.victoriahospice.org/health-care-professionals/clinical-tools

✓ Consult with a palliative care expert when comfort goals are not being met

Pain Crisis:
- When all the patient can concentrate on is pain
- If pain has a sudden onset, acute, severe and is persistent
- Pain score 10/10 for or greater than 48 hours despite maximum use of prescribed breakthrough analgesia

OR
- Pain scores 10/10 for or greater than 24 hours with maximum use of prescribed breakthrough analgesia and or signs/symptoms of opioid toxicity

Management Strategy:
- Focus on pain diagnosis, differentiating reversible from intractable causes of pain
- Select opioid and monitor and treat adverse effects
- Titrate and rotate opioid and co-analgesics
- Consult experts to treat a pain crisis as quickly as possible to prevent unnecessary suffering
- Co-op the available institutional resources

Palliative Care Physicians:

London/Middlesex/Elgin/Huron/Perth: 519-685-8588
Dr. Megan Miller: pager #18838
Dr. Gil Schreier: pager #17221
Dr. Niven Shetty: pager #15848

Oxford:
Dr. Karen Fryer: pager 519 536-4635
**OPIOID DOSAGE**

- **There is no ceiling dose unless using a mixed analgesic such as Tylenol with codeine or oxycodone, which contain acetaminophen as well as an opioid; acetaminophen has a total daily intake limit of 2.6 gm (in the elderly or those with organ impairment) to 4.0 gm (healthy patient)**

Reference(s):

**Additional References for Opioid Dosage:**

**TITRATION OF OPIOIDS**

- **If pain is not managed, increase BT doses, using IR opioids (e.g., morphine, hydromorphone) until it is safe to **titrate the patch.**
Reference(s):


OPIOID ROTATION

✓ When rotating opioids, determine the equianalgesic dose and then decrease the dose of new drug by 30% to account for incomplete cross-tolerance.

Reference(s):


EQUIANALGESIC DOSE

✓ Remember incomplete cross-tolerance

Reference(s):

Methadone is used for analgesia. It has unusual pharmacodynamics and pharmacokinetics and multiple interactions with other drugs. Physicians require an exemption license to prescribe methadone for pain.

Reference(s):


Link- www.eperc.mcw.edu/ff_index.htm

FENTANYL PATCH

✓ ... opioid naïve


✓ Fentanyl does not have a short acting oral equivalent for BT pain.

Reference(s):

**Starting fentanyl:**

√ **Starting dose:** Starting dose: 60 - 134 mg oral morphine per day is approximately equal to fentanyl 25 mcg patch q 72h

Reference(s):


**ANALGESICS TO AVOID**

Reference(s):

**OPIOID OVERDOSE**

✓ Use **sedation scale** to determine level of sedation.

**Tool:**

<table>
<thead>
<tr>
<th>SEDATION SCALE</th>
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<tbody>
<tr>
<td><strong>S= Normal Sleep:</strong></td>
</tr>
<tr>
<td>(arouses from sleep to <strong>verbal stimuli</strong> or gentle touch)</td>
</tr>
<tr>
<td><strong>0=Awake and Alert</strong></td>
</tr>
<tr>
<td><strong>1= Mild:</strong></td>
</tr>
<tr>
<td>(arouses to <strong>verbal stimuli</strong> or gentle touch,</td>
</tr>
<tr>
<td>may drift off <strong>after</strong> conversation, obeys commands)</td>
</tr>
<tr>
<td><strong>2= Moderate:</strong></td>
</tr>
<tr>
<td>(arouses to <strong>physical stimuli/gentle shaking</strong>,</td>
</tr>
<tr>
<td>drifts off <strong>during</strong> conversation, slow to follow commands)</td>
</tr>
<tr>
<td><strong>3= Severe:</strong></td>
</tr>
<tr>
<td>(minimal <strong>verbal response</strong> to <strong>vigorous shaking/noxious stimuli</strong>,</td>
</tr>
<tr>
<td>does not obey commands)</td>
</tr>
</tbody>
</table>

✓ **Starting IV dosing:** dilute 0.4 mg/ml of naloxone... sedation level 3.

Link- [http://palliative.info/resource_material/FlowchartExcessiveOpioids.pdf](http://palliative.info/resource_material/FlowchartExcessiveOpioids.pdf)

**Reference(s):**

COMMON OPIOID SIDE EFFECTS

√ Sedation

Reference(s):

MUST KNOW

√ Most patients over time do become physically dependent on opioids.

√ Opioid tolerance and physical dependence are physiological and do NOT equate with addiction.

Reference(s):

Opioid Addiction, Physical Dependence and Tolerance

- Addiction is a primary, chronic, neurobiological disease, with genetic, psychological, and environmental factors influencing its development and manifestations. It is characterized by behaviours that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving (American Psychiatric Association, 2001). True addictions need to be distinguished from pseudo-addiction caused by under-treatment of pain, behavioural/family/psychological dysfunction, and drug diversion with criminal intent.

- Physical dependence is a state of adaptation that often includes tolerance and is manifested by a drug class specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing drug level of the drug, and or administration of an antagonist (Jovey, 2008). This normal response often occurs with the persistent use of certain medications including beta blockers, corticosteroids, antidepressants and other medications not associated with addictive disorders. When no longer needed, drugs that induce physical dependence should be carefully tapered. Abruptly discontinuing an opioid may result in withdrawal
symptoms such as tachycardia, hypertension, diaphoresis, piloerection, nausea and vomiting, diarrhea, body aches, abdominal pain, psychosis, and/or hallucinations. If the dose is lowered too quickly and withdrawal symptoms occur, a transient increase in the opioid dose, treatment with clonidine, or a small dose of a benzodiazepine (for example lorazepam) may be necessary to settle distressing symptoms.

- **Pharmacological tolerance** is a state of adaptation in which exposure to a drug induces changes that result in a diminution of one or more of the drug’s effects over time. The region of the CNS where tolerance is thought to occur is anatomically and functionally separate from the brain pathways related to addiction (Jovey, 2008). When increasing doses of analgesic are required, suspect a worsening disease rather than pharmacologic tolerance. Tolerance to the side effects of opioid drugs varies. Tolerance to sedation and nausea usually develops within days or weeks but tolerance to constipation rarely develops (Gallagher, 2005).

People with histories of substance abuse can also develop significant pain; they deserve compassionate treatment of their pain when it occurs. Most will need to adhere to strict dosing protocols, and a contract between physician and person may become necessary. Physicians/health care providers who are unfamiliar with these situations may need the help of specialists in pain management and/or addiction medicine.


Link- www.eperc.mcw.edu/ff_index.htm
WOUNDS

✔ Morphine in intrasite gel for local analgesia

Reference(s):

INCIDENT PAIN/PROCEDURAL PAIN

✔ Fentanyl Injectable can be used sublingually for incident or procedural pain.

Link-  http://palliative.info/IncidentPain.htm

Reference(s):


ADJUVANT INTERVENTIONS FOR

Neuropathic Pain:

✔ Gabapentin: for starting dose and titration guidelines

Starting dose of Gabapentin:
100 mg. orally tid; titrate to effective dose (usually 2400 – 3600 mg. daily)
Reference(s):


✓ Pregabalin: indicated for diabetic peripheral neuropathy and postherpetic neuralgia

Reference(s):

✓ Methadone is used for analgesia. It has unusual pharmacokinetics and multiple interactions with other drugs.

Reference(s):


Link- www.eperc.mcw.edu/ff_index.htm
PALLIATIVE CARE: SYMPTOM MANAGEMENT

✓ G.I. PROTECTION

Reference(s):


NAUSEA (CONSIDER ETIOLOGY)

5HT3 antagonist:
✓ ondansetron * 4 – 8 mg po/subcut/ IV BID – TID (main indication for use in early radiation/chemo induced nausea & vomiting)

Reference(s):


✓ MOUTH CARE


Link - http://www.emedicine.com/derm/topic682.htm
**BOWEL ROUTINE** (daily dosing and prn)

√ Consider etiology of Constipation

Reference(s):


Link - [www.palliativesdrugs.com](http://www.palliativesdrugs.com) – search constipation

√ methylnaltrexone (MNTX)

Methylnaltrexone (MNTX) is a selective peripheral mu opioid antagonist.

- Does not cross blood brain barriers
- No change in pain levels
- No opioid withdrawal symptoms

Contraindications to use:

- Bowel obstruction
- Studies on MNTX excluded patients with ostomies

For further information: 1-800-461-8844 or [www.wyeth.ca](http://www.wyeth.ca)

**COMPLETE BOWEL OBSTRUCTION**

√ venting Gastronomy Tubes

Reference(s):


√ HICCUPS (note - chlorpromazine causes orthostatic hypotension)

Reference(s):


DYSPNEA

First Line:

✓ Oxygen for ODB criteria

Reference(s):

Renewal requires qualifying oximetry strip (≤88% for ≥2 minutes), may also require supporting letter from physician, renewal for 90 days again. If person is still requiring oxygen, renewal is required again after 9 months.

Second Line:

✓ Recent studies have indicated

Reference(s):

✓ Titration of opioid using pain management principles

Reference(s):
RNAO Nursing Best Practice Guidelines, Assessment and Management of Pain, www.rnao.org/Storage/29/2351_BPG_Pain_and_Supp.pdf%20.%20 By right clicking on the left side of the page, you may choose "pages" - this will provide thumbnail pages for the entire document. Highlight the thumbnail of the desired page to view or print it.

Recommendation 30

Ensure that the timing of analgesics is appropriate according to personal characteristics of the individual, pharmacology (i.e. Duration of action, peak-effect and half-life) and route of the drug. (Grade of Recommendation=B)
Recommendation 31
Recognize that opioids should be administered on a regular time schedule according to the duration of action and depending on the expectation regarding the duration of severe pain. (Grade of Recommendation = A)
- If severe pain is expected for 48 hours post-operatively, routine administration may be needed for that period of time. Late in the post-operative course, analgesics may be effective given on an “as needed” basis.
- In chronic cancer pain, opioids are administered on an “around-the-clock” basis, according to their duration of action.
- Long-acting opioids are more appropriate when dose requirements are stable.

Recommendation 32
Use principles of dose titration specific to the type of pain to reach the analgesic dose that relieves pain with a minimum of side effects, according to: (Grade of Recommendation = B)
- cause of the pain;
- individual’s response to therapy;
- clinical condition;
- concomitant drug use;
- onset and peak effect;
- duration of the analgesic effect;
- age; and
- known pharmacokinetics and pharmacodynamics of the drugs administered. Doses are usually increased every 24 hours for persons with chronic pain on immediate release preparations, and every 48 hours for persons on controlled release opioids. The exception to this is transdermal fentanyl, which can be adjusted every 3 days.

Recommendation 33
Promptly treat pain that occurs between regular doses of analgesic (breakthrough pain) using the following principles: (Grade of Recommendation = C)
- Breakthrough doses of analgesic in the post-operative situation are dependent on the routine dose of analgesic, the individual’s respiratory rate, and the type surgery and are usually administered as bolus medications through PCA pumps.
Breakthrough doses of analgesic should be administered to the person on an “as needed” basis according to the peak effect of the drug (po/pr = q1hr; SC/IM-q30 min; IV – q 10-15 min).
- It is most effective to use the same opioid for breakthrough pain as that being given for “around-the-clock” dosing.
- Individuals with chronic pain should have:
  - An immediate release opioid available for pain (breakthrough pain) that occurs between the regular administration times of the “around-the-clock” medication.
  - Breakthrough doses of analgesic for continuous cancer pain should be calculated as 10-15 per cent of the total 24-hour dose of the routine “around-the-clock” analgesic.
  - Breakthrough analgesic doses should be adjusted when the regular “around-the-clock” medication is increased.
  - Adjustment to the “around-the-clock” dose is necessary if more than 2-3 doses of breakthrough analgesic are required in a 24-hour period, and pain is not controlled.

**SEVERE PROGRESSIVE DYSPNEA**

Reference(s):

**Protocol for sedation for intractable symptoms at the end of life may have to be enacted**

Reference(s):

**Sedation for intractable symptoms:**
This process involves pharmacological interventions aimed to induce/maintain sedation, in order to palliate refractory symptoms in the terminally ill.
The purpose of sedation is to reduce patient awareness of distressing symptom(s).
Inducing sedation could conceivably shorten life by reducing airway protective mechanisms.
For the physician therefore, the ethical principle of “double-effect” operates in this situation. Here the primary intent (relief of distress from refractory symptoms) outweighs a foreseen potentially negative outcome (potential shortening of life).
Despite the emotive debate concerning the underlying ethical principles, most situations where the need arises in clinical practice present relatively straightforward indications.

Types of pharmacological sedation and clinical indications:

**Maintenance**
Agitated delirium uncontrolled on less sedating neuroleptics, e.g., haloperidol
Dyspnea uncontrolled on maximal standard therapy.
Any refractory symptom that is uncontrolled using best standard care.

**Specific Emergencies**
Seizure/acute stridor/massive bleeding. Sedation order written as prn.
Use a rapid onset, short-acting benzodiazepine, e.g., midazolam or lorazepam

Questions that need to be answered prior to initiating sedation:

Q: Has a thorough assessment been conducted to identify and treat reversible problems?
Q: Have appropriate consultations been made with palliative care and other specialists?
Q: Have non-pharmacological approaches been maximized, e.g., distraction or relaxation techniques in the case of anxiety/dyspnea?
Q: Have other pharmacological treatments been maximized, e.g., appropriate titration of opioids in the case of dyspnea or appropriate dosing of neuroleptics for delirium?
Q: Have the goals of sedation been explained to and discussed with the patient and/or family?
Q: Has a consensus been reached as a result of the discussions? (Conference)
Q: Has temporary sedation been considered? Consider, if necessary, in the event of potentially reversible delirium, and while awaiting the outcome of interventions aimed at reversal.
Suggested agents for inducing/maintaining pharmacological sedation:

**Methotrimeprazine** (can be tried prior to midazolam)
6.25mg sc q8 hourly (h) and q 1h prn for breakthrough (BT) agitation.
If necessary, increase dose to 12.5 or 25mg sc q8h and q1h prn for BT
If ineffective, or deeper sedation needed, proceed to **midazolam**

**Midazolam**
(short-acting, hence given as infusion except for seizures, stridor or bleeding)
In some situations (severe agitation) a **loading dose** of 2.5mg sc is given
Start infusion at 1mg/hour sc, **titrate** to keep patient sleepy/sedated
The infusion can be titrated up/down every 5-10 minutes as needed.
For seizure activity, a massive bleed, or acute stridor give 5mg im stat (im route -faster absorption) Preloaded syringes last 30 days approx.

**Less commonly used agents** include chlorpromazine (iv or pr) and propofol (iv).
Midazolam has rapid onset of effect, ease of titration, and reversal (short half-life), if indicated.

Please consult palliative care physicians as needed, especially if indications are not straightforward.

Palliative Care Tips - Edited by Doreen Oneschuk MD. Tertiary Palliative Care Unit, Grey Nuns Community Hospital. Original Contributor: Peter Lawlor, MD - Issue #21 June 2002.


**Reference(s):**


Link - www.palliativecareswo.ca – search bisphosphonates

DELIRIUM

✓ Hyperactive and hypoactive (may masquerade as depression; look for disordered thinking)

Reference(s):


✓ ACUTE SEIZURE CONTROL - if patient is actively seizing

Reference(s):


Link - www.palliativecareswo.ca - search for midazolam, phenobarbitol, anticonvulsants
MYOCLONIC JERKING (can be due to opioid toxicity)

Reference(s):


INTRACTABLE SYMPTOMS AT END OF LIFE

Criteria for sedation for intractable symptoms
* See Severe Progressive Dyspnea
Developed by: Palliative Care Expert Committee

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