

Module 3. Palliative Pain Management

PALLIUM

Module 3
PALLIATIVE PAIN MANAGEMENT

"Pain is a more terrible lord of mankind
than death itself".
Albert Schweitzer. Physician

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Module Outline

- Section 1 Deciding on a Prescription
- Section 2 Theory Burst
- Section 3 Case Discussion

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Case 1, Scene 1

Write a prescription (on the cards provided) for Fred, the patient in Case 1. Do this as best you can and in the same way as you would write a prescription in real life or suggest a treatment to a physician.

List any other treatments that you think may be useful for this patient at this time.

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Case 1, Scene 1

Fred is a 68-year-old wheat farmer who was diagnosed one year ago with prostate cancer, after presenting with an elevated PSA level. A bone scan, at the time, revealed several sites of metastatic disease in his vertebral column (T4, T5, T10, L2-4) in addition to a mass in his prostate. He opted to undergo a bilateral orchidectomy. At the time he had no pain.

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Case 1, Scene 1 (continued)

He now presents with pain in his lower back and left hip. The pain in his lower back is constant while the pain in his hip is associated with movement and weight bearing. The pain started a few weeks ago. He ascribes the pain to a stumble he took while working. He rates the pain in his back as 7/10 (where 0 is no pain and 10 is the worst possible pain imaginable) and the pain in his hip at 6/10. The pain does not radiate. He has been taking extra strength acetaminophen (1 to 2 tablets 3 to 4 times a day), with minimal effect.

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Case 1, Scene 1 (continued)

Fred's medical history includes mild osteoarthritis and hypertension (which is managed by means of a thiazide diuretic). He also has Type 2 diabetes, which has developed in the past four years. This is well controlled by diet alone. He occasionally takes a "sleeping pill" (lorazepam) to sleep.

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Case 1, Scene 1 (continued)

Fred is married and lives with his wife. She has recently had a hip replacement. She is being treated by her family physician for depression. They have two adult children who both live in town. He describes no problems with his marriage but, given the recent drought, expresses concerns about the farm and their financial situation. More recently he has been taking lorazepam on a regular basis. He gave up smoking 30 years previously.

He admits to occasional alcohol binges (CAGE 2/4) but denies any other substance abuse.

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Prescription and Treatment


On the cards provided, write a prescription, as best you can, for Fred's pain and any other associated medications you think are necessary. Write it as though it is the original script that he would present at his pharmacy (i.e. name of drugs, doses and schedule. You do not have to list the amounts to be dispensed).

List any other treatment that you would consider for Fred at this time.

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Prevalence of Pain in Advanced Illness



- Pain is the cause of much suffering
- Cancer
 - 80% – 90% of patients
 - Often multiple pains
 - Often multiple causes of pain
- AIDS
 - 35% – 55% of patients
 - Neuropathic pain common
- End-stage heart disease
 - Up to 60% of patients
- ALS/MS
 - 35%-60%
 - Neuropathic pain

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Pain Assessment

- Clinicians underestimate pain
- Hear what the patient is saying and how he or she is saying it
- Many patients experience several pain syndromes at the same time
- Pain is a multidimensional experience

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Pain Assessment

The goal of assessment is to:

- Characterize the pains
- Identify their mechanisms and causes
- Assess their impact on the patient's functioning and QOL
- Identify any interactions between pain and other symptoms
- Develop individualized strategies to manage the patients

When pain does not respond to usual therapy, reevaluate the patient for causes that may have been missed and consider total pain.

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Assessment Use a Pain Scale

Simple Descriptive Pain Intensity Scale

No Pain Mild Pain Moderate Pain Severe Pain

Numeric Rating Scale (NRS)

0 1 2 3 4 5 6 7 8 9 10

No Pain Worst Possible Pain

Visual Analog Scale (VAS) 100mm long

No Pain Worst Possible Pain

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Classification of Pain

- **Nociceptive pain**
 - tissue damage (two types)
 - Somatic
e.g. metastatic bone pain
 - Visceral
e.g. liver capsule pain
e.g. colic from malignant bowel obstruction
- **Neuropathic**
 - nerve damage
 - Peripheral or central
 - Dysesthetic (burning)
 - Lancing

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Assessing pain Investigations may be useful (Part 1)



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Assessing pain

Investigations may be useful (Part 2)



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Basic Principles of Cancer Pain Management

The right dose of opioid is the one that achieves the best analgesia with the fewest side effects.

- By the cause of the pain(s)
- By the clock
- By the ladder
- By the mouth
- For breakthrough pain
- For the individual
- Adjuvant therapies as needed
- Prevent side effects

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World Health Organization Pain Ladder Cancer Pain Management



Step 1: Non-opioid +/- Adjuvant

Step 2: Opioid for mild to moderate pain +/- Non-opioid +/- Adjuvant

Step 3: Opioid for moderate to severe pain +/- Non-opioid +/- Adjuvant

Step 4 ?

Increasing Pain

Address psychosocial and spiritual issues; consider adjuvant therapies

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Examples of Opioids

■ Give examples of the following:

- A weak opioid
- A strong opioid
- Opioids you should **not** use in the management of chronic pain

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Prescribing Opioids

■ Weak opioids

- Codeine
- Percocet®, Percodan®, Oxycocet®
- Oxycodone limited by presence of aspirin or acetaminophen

■ Strong opioids

- Morphine, hydromorphone, oxycodone, fentanyl, methadone

■ Do NOT use:

- Meperidine
- Butorphanol, pentazocine, propoxyphene

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Is any one opioid "better" than another?

Currently, there is no evidence to support the following assertions:

- "Codeine causes more constipation than other opioids"
- "Hydromorphone is better for elderly patients or patients with renal impairment"
- "Oxycodone or hydromorphone causes less confusion than morphine"
- "Fentanyl causes less nausea than other opioids"
- "Methadone is better for neuropathic pain than other opioids"
- "Oxycodone has a special role in bone pain or arthritis-type pain"

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Differences Between Opioids

There exists wide inter- and intra-individual variability in responses (both analgesic and adverse effects) to various opioids.

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Opioid Myths

Many patients harbor fears about opioids.
List some of these.

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Opioid Myths

Many patients harbor fears about opioids.

- "It means the end is near"
- "Opioids cause addiction"
- "Opioids will lose their effectiveness over time, leaving nothing to treat severe pain 'at the end'"
- "Opioids will make me a zombie or take away my mental capacity"
- "They will stop my breathing"
- "They will shorten my life"

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Common opioid-related adverse effects

List opioid-related adverse effects:

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-
-

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Common Opioid Adverse Effects

Common side effects:

- Constipation (requires ongoing laxatives)
- Nausea
 - Usually resolves after a few days
 - Metoclopramide or domperidone in the first few days
- Somnolence (usually resolves after a few days)

Less common side effects:

- Opioid neurotoxicity
- Sweating, dry mouth, pruritis – very uncommon (especially with appropriate dosing)
- Respiratory depression

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Opioid Neurotoxicity

- Clinical Presentation
 - Myoclonus, hallucinations, cognitive impairment, delirium, severe somnolence, dysesthesia, allodynia
- Mechanism unclear
 - Opioid metabolites
 - morphine, hydromorphone, oxycodone
 - Opioids themselves
 - Opioid receptors not involved

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Opioid Neurotoxicity (continued)

- Increased risk
 - Renal impairment, high doses
- Management strategies
 - Switching opioid (opioid rotation)
 - Decreasing opioid dose (if pain is well controlled)
 - Hydration

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Management of Opioid Neurotoxicity Strategies

Exclude other causes for symptoms. The main strategies are:

- Hydration
- Opioid dose reduction
- Opioid switching
- Change route of administration (e.g. intraspinal/intrathecal/epidural)

Symptomatic management with other drugs (e.g. baclofen, benzodiazepines, anticonvulsants) may be useful for intractable cases but may compound problems such as delirium.

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Opioid Formulations

Short-acting formulations	Long-acting formulations
for <ul style="list-style-type: none">■ Opioid-naïve patients■ Pain crises	<ul style="list-style-type: none">■ Reserve for stable situations■ Add short-acting opioids for breakthrough pain

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Opioid Formulations in Canada				PALLIUM
Opioid	Short-acting (immediate release)			Long acting (controlled-release)
	Oral	SC/IV	Other	
Codeine	Codeine, Tylenol #1,2,3,4 (tabs and liquid)	SC/IV		CodeinContin [®]
Morphine	morphine, MS [®] (tabs and liquid)	SC/IV	PR sups.	MSContin [®] , M-Eslon [®] , Kadian [®]
Hydromorphone	Hydromorphone Dilaudid [®] (tabs and liquid)	SC/IV		HydromorphContin [®]
Oxycodone	OxyIR [®] , Supeodol [®]			OxyContin [®]
Fentanyl		SC/IV/SL		Duragesic Patches [®]
Methadone	methadone, Metadon [®] (Tabs and capsules)		PR sups.	

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Pharmacokinetics of Opioids		PALLIUM
■ Onset of pain relief		
– Oral opioids	15–30 min	
– SC opioids	5–10 min	
– IV opioids	3–5 min	
■ Duration of pain relief		
– Short-acting oral opioids	3–5 hours	
– Long-acting oral opioids	8–12 hours	
– Fentanyl patches	48–72 hours	
– IV or SC opioids	2–4 hours	
– IV/SC fentanyl	40 minutes	
■ Half-life of transdermal fentanyl		
– 12–24 hours		

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Opioid Metabolism	PALLIUM
■ Active metabolites	
– Codeine to morphine	
– Morphine: M-3-G, M-6-G, normorphine	
– Hydromorphone: norhydromorphone, H-3-G	
– Oxycodone: oxymorphone	

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Opioid Metabolism

- Non-active metabolites
 - At least not analgesically active
 - Whether or not neurotoxic inactive has not been conclusively demonstrated
 - Fentanyl, alfentanil, sufentanil, methadone
- Most metabolites accumulate with renal impairment
- Fentanyl and methadone: Mainly liver metabolism and limited renal elimination

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Initiating Opioids: Starting Doses

■ Morphine	5 mg q4hr PO
■ Hydromorphone	1 mg q4hr PO
■ Oxycodone	2.5 mg q4hr PO

- Add breakthrough dose (q 1-3 hrs prn)
- Consider smaller doses in frail, elderly patients

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Administering Opioids

Which routes are available for administering opioids?

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Routes of Opioid Administration

- Preferred route – oral
- When unable to swallow: SC, IV, TD
- Seldom used (only in special situations):
 - SL (breakthrough pain, fentanyl or sufentanyl)
 - Intraspinial (epidural or intrathecal)
- Do NOT use IM

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Breakthrough Dose

The breakthrough dose should be approximately 10% of the total daily opioid dose given q1hr – q3hrs prn

- May need to titrate dose according to patient needs: 5% to 25% of total daily opioid dose
- Generally use the same opioid as being used for regular regimen (except with fentanyl patches)

There is increasing interest in using fentanyl or sufentanyl SL or SC for pain control.

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Titration of the Dose of Opioid

Increase the dose by 25-50% if the patient is not achieving adequate pain control.

Take into account number of breakthrough doses taken.

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Opioid Dose Conversion Ratios		
	PO	SC
Morphine	10 mg	5 mg
Codeine	100 mg	50 mg
Hydromorphone	2 mg	1 mg
Oxycodone	5mg- 7.5mg	3 mg
Methadone	1mg*	-
Fentanyl**	-	50 microgms

* Ratio changes according to dose of previous opioid
** See manufacturer's Tables

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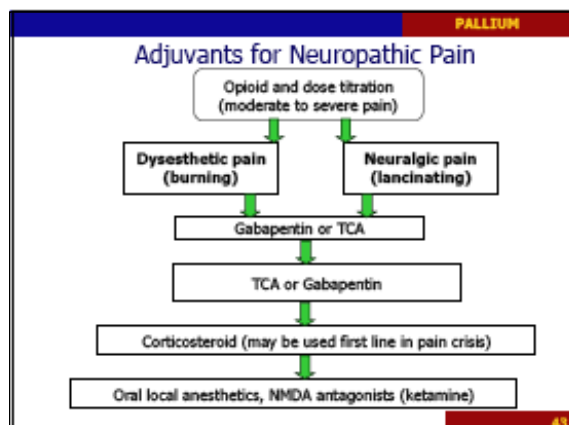
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Adjuvants for Bone Pain	
■ NSAIDs	<ul style="list-style-type: none">- Limited use in severe pain- Renal and gastro-intestinal side effects- Limitations of Cox-2 specific NSAIDs recently noted
■ Steroids	<ul style="list-style-type: none">- Useful in pain crises
■ Radiotherapy	<ul style="list-style-type: none">- 75% to 85% response rate (decreased pain)- Few side effects with palliative therapy- Response within 1 to 2 weeks (maximum response up to 4 weeks later)- Duration of analgesia is several months

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Adjuvants for Bone Pain (continued)	
■ Bisphosphonates	<ul style="list-style-type: none">- Reduction of skeletal events (good evidence)- Management of more acute pain with parenteral infusion (some controversy)
■ Surgery	<ul style="list-style-type: none">- impending or pathological fracture

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Adjuvants for Visceral Pain

- Liver metastases or malignant bowel obstruction
- Corticosteroids (Dexamethasone 2-8 mg OD to BID)
- Colic
 - Hyoscine Butyl Bromide SC
 - Octreotide

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Role of Cannabinoids

Confirmed effectiveness

- Chemotherapy and radiotherapy induced nausea – although other drugs such as ondansetron and granisetron may be more effective and cause fewer side effects
- Appetite stimulation in patients with cancer and AIDS

Controversial

- Chronic cancer pain management
- THC receptors (CB1 and CB2) receptors present in body but clinical role of these unclear
- No randomized controlled trials in the cancer population
- THCs may help for spasm-related pain in multiple sclerosis
- THC is not a panacea for total suffering

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Pain Management – Take Home Points

- Comprehensive assessment required
- Individualize pain management
- Constant pain needs regular medication
- Titrate opioids to the best analgesia with fewest side effects
- Use adjuvant medications and treatments when necessary
- Educate the patient and family
- Recognize the concept of total suffering and total pain