

Introduction To Pain Management In Palliative Care

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PALLIATIVE CARE: *World Health Organization Definition*

Palliative care is an **approach** that improves the quality of life of patients and their families facing the problem associated with life-threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.

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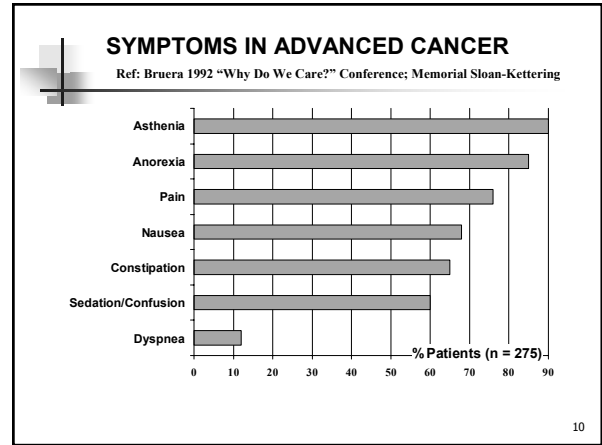
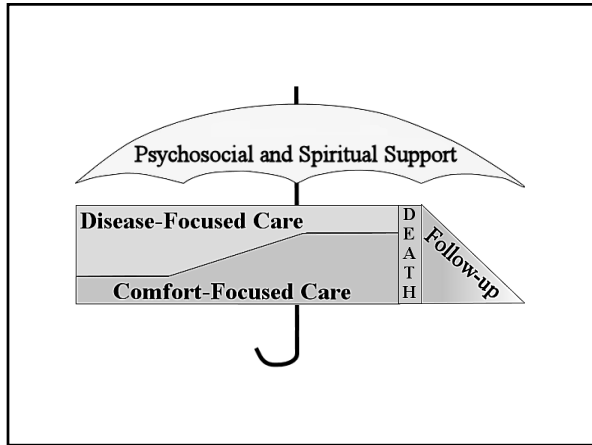
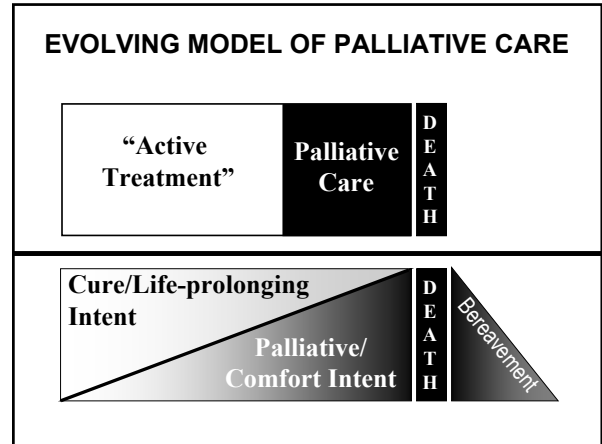
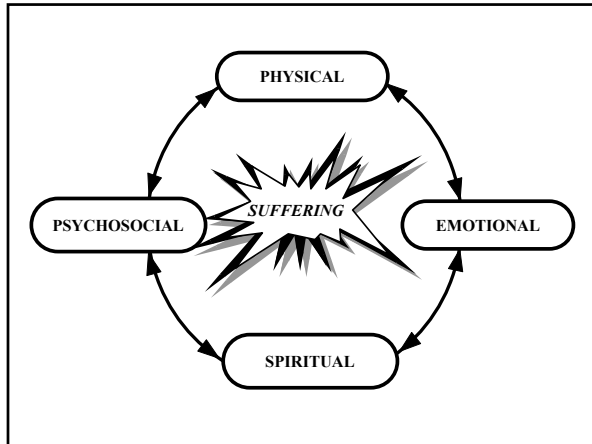


Palliative Care – Relevance In Context

Lifetime Risk of:

Heart disease:	1:2 men; 1:3 women (age 40+)
Cancer:	> 1:3
Alzheimer's:	1:2.5 – 1:5 by age 85
Diabetes:	1:5
Parkinson's	1:40
Death:	1:1

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- ### CHALLENGE- Alleviate Suffering for a Condition Which:
- Ultimately will affect every one of us:
 - Large numbers
 - We have our own "death issues" as care providers
 - Only approximately 10% of Canadians have access to specialty care
 - Few physicians or nurses have even basic training
 - Clinicians don't intuitively know when they need advice... They don't know what they don't know
 - The process & outcome are *expected* to be terrible... after all, it is death
 - *How can you tell when something inherently horrible goes badly?*
 - Has a tremendous impact on those close to the individual... "collateral suffering"
 - No chance of feedback from patient "after the fact"

- ### Effective care of the dying involves:
1. Adequate knowledge base
 2. Attitude / Behaviour / Philosophy
 - Active, aggressive management of suffering
 - Team approach
 - Recognizing death as a natural closure of life
 - Broadening your concept of "successful" care

Cancer Pain Management: An Overview

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Pain

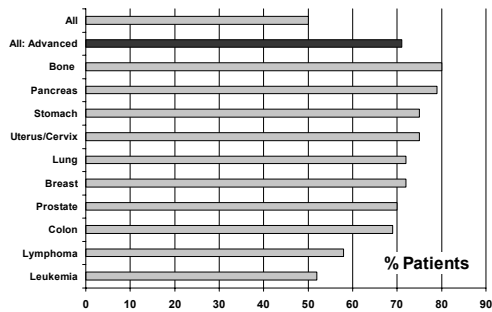
An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.

International Association for the Study of Pain

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PREVALENCE OF CANCER PAIN

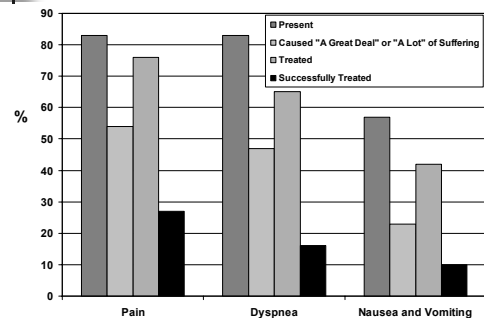
From Portenoy; *Cancer* 63:2298, 1989



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Symptoms At The End of Life in Children With Cancer

Wolfe J. et al, *NEJM* 2000; 342(5) p 326-333



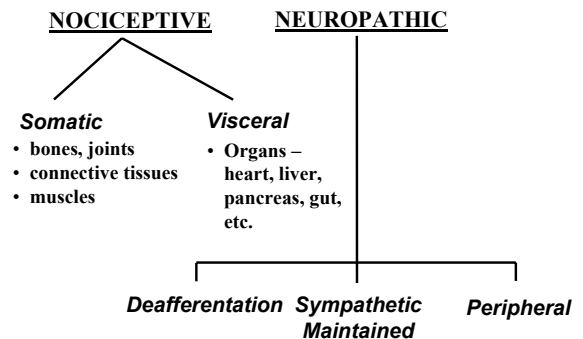
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Approach To Pain Control in Palliative Care

1. Thorough assessment by skilled and knowledgeable clinician
 - History
 - Physical Examination
2. Pause here - discuss with patient/family the goals of care, hopes, expectations, anticipated course of illness. This will influence consideration of investigations and interventions
3. Investigations – X-Ray, CT, MRI, etc - *if they will affect approach to care*
4. Treatments – pharmacological and non-pharmacological; interventional analgesia (e.g.. Spinal)
5. Ongoing reassessment and review of options, goals, expectations, etc.

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TYPES OF PAIN

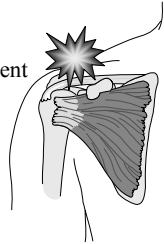


Somatic Pain

- Aching, often constant
- May be dull or sharp
- Often worse with movement
- Well localized

Eg/

- Bone & soft tissue
- chest wall



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- bone is the most common site of tumour metastases

Primary Tumour	Bone Mets %
Breast	50 – 85
Prostate	60 – 85
Lung	64
Bladder	42
Kidney, Thyroid	28 - 60

Mundy GR. In: *Bone Remodeling and Its Disorders*. 1995:104-107.

Special Considerations in Bone Pain

- Spinal cord compression in vertebral mets:
Pain = earliest feature
- Risk of pathological fracture
Indications for prophylactic surgery in large, weight-bearing bones
 - Cortical Lesions
 - Destruction of > 50% of the cortical width
 - Axial length of lesion > diameter of the bone
 - > 2 – 3 cm lesion
 - Medullary lesions
 - Lesion > 50% of the medulla
 - Pain unrelieved by radiotherapy

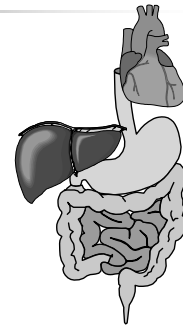
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Visceral Pain

- Constant or crampy
- Aching
- Poorly localized
- Referred

Eg/

- CA pancreas
- Liver capsule distension
- Bowel obstruction



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FEATURES OF NEUROPATHIC PAIN

COMPONENT	DESCRIPTORS	EXAMPLES
<p>Steady, Dysesthetic</p>	<ul style="list-style-type: none"> ▪ Burning, Tingling ▪ Constant, Aching ▪ Squeezing, Itching ▪ Allodynia ▪ Hypersthesia 	<ul style="list-style-type: none"> ▪ Diabetic neuropathy ▪ Post-herpetic neuropathy
<p>Paroxysmal, Neuralgic</p>	<ul style="list-style-type: none"> ▪ Stabbing ▪ Shock-like, electric ▪ Shooting ▪ Lancinating 	<ul style="list-style-type: none"> ▪ trigeminal neuralgia ▪ may be a component of any neuropathic pain

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Pain Assessment

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PAIN ASSESSMENT

- Description: severity, quality, location, temporal features, frequency, aggravating & alleviating factors
- Previous history
- Context: social, cultural, emotional, spiritual factors
- *Meaning*
- Interventions: what has been tried?

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Assessment of Bone Pain

- History:**
- Continuous, localized, dull pain
 - Increases with local pressure
 - Incident pain
- Physical:**
- Local tenderness
 - Neuro assessment, especially in vertebral mets (spinal cord compression)
- Investigations:**
- Plain Xrays: specific but not sensitive
 - Bone scan: sensitive (except myeloma); False (+)ve rate 40 – 50%
 - CT/MRI – when suspect spinal cord compression, or results of other investig. neg.

Medication(s) Taken

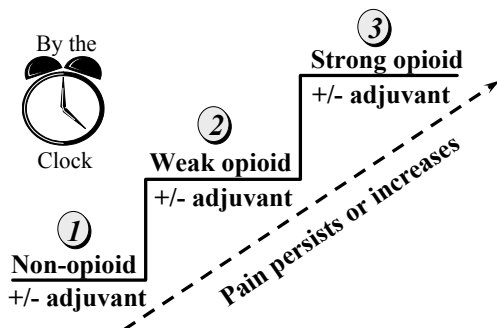
- Dose
- Route
- Frequency
- Duration
- Efficacy
- Side effects

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Pain Treatment

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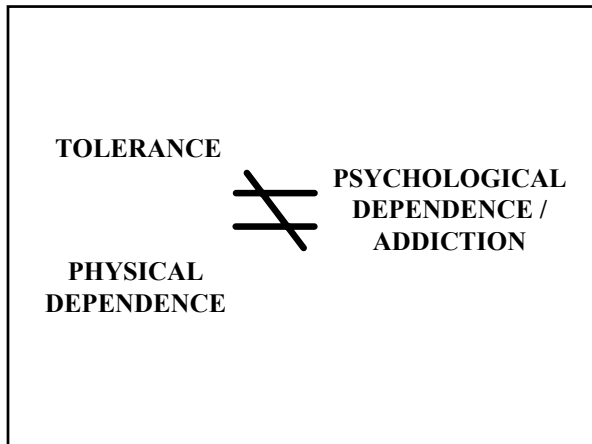
W.H.O. ANALGESIC LADDER



STRONG OPIOIDS

- most commonly use:
 - morphine
 - Hydromorphone (Dilaudid®)
 - transdermal fentanyl (Duragesic®)
 - oxycodone
 - Methadone
- DO NOT use meperidine (Demerol®) long-term
 - active metabolite *normeperidine* → seizures

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TOLERANCE

A *normal* physiological phenomenon in which increasing doses are required to produce the same effect

Inturrisi C, Hanks G. *Oxford Textbook of Palliative Medicine* 1993: Chapter 4.2.3

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PHYSICAL DEPENDENCE

A *normal* physiological phenomenon in which a withdrawal syndrome occurs when an opioid is abruptly discontinued or an opioid antagonist is administered

Inturrisi C, Hanks G. *Oxford Textbook of Palliative Medicine* 1993: Chapter 4.2.3

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PSYCHOLOGICAL DEPENDENCE and ADDICTION

A pattern of drug use characterized by a continued craving for an opioid which is manifest as compulsive drug-seeking behaviour leading to an overwhelming involvement in the use and procurement of the drug

Inturrisi C, Hanks G. *Oxford Textbook of Palliative Medicine* 1993: Chapter 4.2.3

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Changing Route Of Administration In Chronic Opioid Dosing

po / sublingual / rectal routes

↓

reduce by 1/2

SQ / IV / IM routes

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Using Opioids for Breakthrough Pain

- Patient must feel in control, empowered
- Use aggressive dose and interval

Patient Taking Short-Acting Opioids:

- 50 - 100% of the q4h dose given q1h prn

Patient Taking Long-Acting Opioids:

- 10 - 20% of total daily dose given q1h prn with short-acting opioid preparation

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Management of Bone Pain

Pharmacologic treatment

- Acetaminophen
- Opioids
- NSAIDs – be aware of adverse effects!
- Corticosteroids (not with NSAIDs)
- Bisphosphonates: pamidronate (Aredia®), clodronate (Bonefos®), zoledronate (Zometa®)

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Management of Bone Pain *ctd*

Radiation treatment

- Single (800 cGy) or Multiple fx (200 cGy x 3-5)
- Effective immediately
- Maximal effect 4 - 6 wks
- 60-80% pts get relief
- Strontium-89

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Treatment of Neuropathic Pain

Pharmacologic treatment

- Opioids
- Steroids
- Anticonvulsants - *gabapentin*
- TCAs (for dysesthetic pain, esp. if depression)
- NMDA receptor antagonists: ketamine, methadone
- Anesthetics

Radiation therapy

Interventional treatment

- Spinal analgesia
- Nerve blocks

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ADJUVANT DRUGS

- primary indication usually other than pain
- analgesic in some painful conditions
- enhance analgesia of opioids
- other roles:
 - treat opioid side effects
 - treat symptoms associated with pain

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CORTICOSTEROIDS AS ADJUVANTS

- ↓ inflammation
 - ↓ edema
 - ↓ spontaneous nerve depolarization
- } ↓ tumor mass effects

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CORTICOSTEROIDS: ADVERSE EFFECTS

IMMEDIATE	LONG-TERM
<ul style="list-style-type: none"> ■ Psychiatric ■ Hyperglycemia ■ ↑ risk of GI bleed <ul style="list-style-type: none"> ➢ gastritis ➢ aggravation of existing lesion (ulcer, tumor) ■ Immunosuppression 	<ul style="list-style-type: none"> ■ Proximal myopathy often < 15 days ■ Cushing's syndrome ■ Osteoporosis ■ Aseptic / avascular necrosis of bone

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DEXAMETHASONE

- minimal mineralocorticoid effects
- po/iv/sq/?sublingual routes
- perhaps can be given once/day; often given more frequently
- If an acute course is discontinued within 2 wks, adrenal suppression not likely

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Complementary / Alternative Therapies

- Acupuncture
- Cognitive/behavioral therapy
- Meditation/relaxation
- Guided imagery
- Herbal preparations
- Magnets
- Therapeutic massage

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Opioid Side Effects

- Constipation
- Nausea/vomiting
- Urinary retention
- Itch/rash
- Dry mouth
- Respiratory depression
- Drug interactions
- Neurotoxicity: delirium, myoclonus → seizures

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Opioid-Induced Neurotoxicity (OIN)

- Potentially fatal neuropsychiatric syndrome of:
 - Cognitive dysfunction
 - Delirium
 - Hallucinations
 - Myoclonus/seizures
 - Hyperalgesia / allodynia
- Increasing incidence – practitioners more comfortable and aggressive with opioids
- NMDA receptor involved
- Early recognition is critical

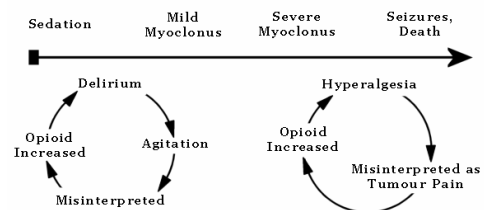
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OIN: Recognition

- Myoclonus – twitching of large muscle groups
- Delirium
- Rapidly escalating dose requirement
- Pain “doesn’t make sense”; not consistent with recent pattern or known disease

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“Vicious Circle” Leading To OIN



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OIN: Treatment

- Switch opioid (rotation) or reduce opioid dose; usually much lower than expected doses of alternate opioid required... often use *prn* initially
- Hydration
- Benzodiazepines for neuromuscular excitation

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The Management of Incident Pain in Palliative Care

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What is Incident Pain?

Pain occurring as a direct and immediate consequence of a movement or activity

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Circumstances In Which Incident Pain Often Occurs

- Bone metastases
- Neuropathic pain
- Intra-abd. disease aggravated by respiration
 - » “incident” = breathing
 - » ruptured viscus, peritonitis, liver hemorrhage
- Skin ulcer: dressing change, debridement
- Disimpaction
- Catheterization

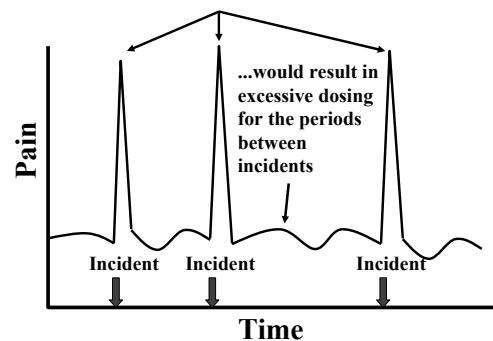
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Barriers to Managing Incident Pain

- common opioids outlast painful stimulus
- opioid dose for incident pain may far exceed that needed for background pain control
- may be little warning of incident
- effective premedication before activity is time consuming

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Having a steady level of enough opioid to treat the peaks of incident pain...



Considerations In Managing Incident Pain

- usually predictable
- stimulus is usually brief
- frequency of incidents may vary from several per minute to once per day or less.

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Approach to Incident Pain

- treat underlying problem
 - radiation Tx, chemotherapy
 - Bisphosphonates (bone pain)
 - orthopedic intervention
 - nerve blocks
- ideal analgesic:
 - easily administered
 - rapid onset
 - short-duration of action
 - in patient's control

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Fentanyl and Sufentanil

- synthetic μ agonist opioids
- highly lipid soluble \rightarrow
 - transmucosal absorption
 - rapid redistribution, including in / out of CSF
- fentanyl \approx 100x stronger than morphine
- sufentanil \approx 1000x stronger than morphine

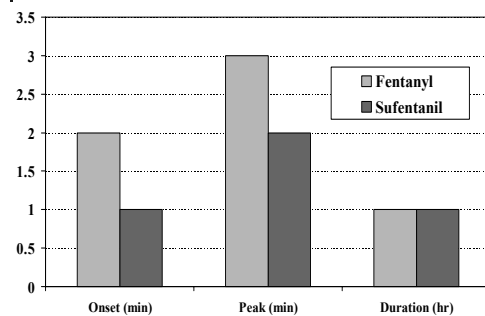
10 mg morphine

\approx 10 μ g sufentanil

\approx 100 μ g fentanyl

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Comparison of Fentanyl and Sufentanil



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INCIDENT PAIN PROTOCOL

Step #	Medication (50 μ g/ml)	# Micrograms Sublingually
1	Fentanyl	50
2	Sufentanil	25
3	Sufentanil	50
4	Sufentanil	100

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INCIDENT PAIN PROTOCOL ctd...

- fentanyl or sufentanil is administered SL 10 min. prior to anticipated activity
- repeat q 10min x 2 additional doses if needed
- increase to next step if 3 total doses not effective
- physician order required to increase to next step if within an hour of last dose
- the Incident Pain Protocol may be used up to q 1h prn

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Palliative Info - Microsoft Internet Explorer

Address: http://palliative.info/

Teaching Material

- Manitoba
- Jan Anderson Modules
- Cancer Pain In Children - WHOIASP (PowerPoint)
- StopPain.org Topics in Pain Management - A Slide Compendium
- University of Ottawa Institute of Palliative Care downloads

Local (Winnipeg) Guidelines, Policies, and Protocols

- Incident Pain and Incident Dyspnea Protocol**
A protocol for the sublingual use of fentanyl and sufentanil in the management of incident pain and dyspnea (that which comes on as a result of an action or activity).
- Analgesia and Dyspnea Protocol
- Medication Kits for Use in the Home (All are PDFs)**
 - Palliative Care Medication Mini Kit - Draft Guidelines
 - Emergency Palliative Care Symptom Management Kit (ESMCK) (Competencies "Big Kit") - Draft Guidelines
 - Comparative description of the two kits
- Subcutaneous Medication Infusion Policy - Winnipeg (686 KB)
- Guidelines for Estimating Progress
- Flowchart: Nursing Management of Suspected Narcotization
- Clinical Guideline: Anticipating and Preparing For Predictable Clinical Challenges in The Medical Care Of The Terminally Ill Person Wanting To Die At Home
Here's the same document in Microsoft Word format

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Steps of the Incident Pain and Incident Dyspnea Protocol

Step	Medication	# micrograms SL (50 microg/ml)
1	Fentanyl	50
2	Sufentanil	25
3	Sufentanil	50
4	Sufentanil	100 *

* A dose of 100 micrograms requires 2 ml of the 50 micrograms/ml preparation, which is a rather large volume to be absorbed transmucosally at once. It is recommended that it be given in two portions of 1 ml (50 micrograms) each, 10 - 15 minutes apart. The planned activity (dressing change, moving the patient, etc) should wait until 10 - 15 minutes after the second portion.

Application of the Incident Pain and Incident Dyspnea Protocol

- The short acting opioid (fentanyl or sufentanil) is administered sublingually 10-15 minutes prior to anticipated activity. (See Incident Pain and Incident Dyspnea Protocol Table for dose) The patient is asked to try to hold the liquid under the tongue for about 10 minutes if possible without swallowing it.
- If the initial dose appears to be insufficient, that same dose may be repeated up to two further doses, at 10-15 minute intervals. If a given dose is sufficient, the patient will typically appear drowsy 10 - 15 minutes following the dose. If this is not the case, or if the patient experiences discomfort during the planned activity, then repeat doses may be given up to a total of three as stated above.
- Progression to the next step on the Incident Pain and Incident Dyspnea Protocol is undertaken at the discretion of the Registered Nurse who has the approval to use the Protocol, or the physician. All increases or decreases of doses MUST be written on the Physician's Order Sheet by the Registered Nurse or physician. Increasing to the next step of the Incident Pain and Incident Dyspnea Protocol is undertaken if the maximum number of doses (three) is required to achieve comfort, or is insufficient to achieve comfort with activity. Increasing to the next step of the Incident Pain and Incident Dyspnea Protocol cannot be done within one hour of the last dose of fentanyl or sufentanil on the most recent implementation, except after contacting the physician if the maximum number of doses (three) has been given, and the patient remains in discomfort with activity that must be undertaken presently, the physician should be contacted for consideration of immediately proceeding to the next step of the Incident Pain and Incident Dyspnea Protocol.
- The Incident Pain and Incident Dyspnea Protocol may be used up to q 1hr.