

Managing End-of-Life Pain in Long Term Care

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Faculty/Presenter Disclosure

- **Faculty:** Dr. Vu Kiet Tran
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 - **Other:** Equity owner in LC Pharmacy

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- **This program has not received financial support**
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- **Potential for conflict(s) of interest:**
 - The speaker has no financial support from any organization

Mitigating Potential Bias

- There are no slides about LC Pharmacy or any of its products

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Mitigating Potential Bias

- None

Learning Objectives

By the end of this session, participants will become familiar with:

1. Changes in physiology of the geriatric patient as it relates to pain assessment
2. Framework for exploring goals of care
3. Medications commonly used for end-of-life pain
4. Managing end-of-life *acute vs. chronic* pain

Pain in LTC

- 60-70% of older patients living at home have self-reported pain
- Prevalence of pain in LTC: 40-86%
- Pain & symptom are often under-recognized
- Often under-treated
 - Individuals with dementia tend to receive fewer analgesics than non-cognitively impaired older people for the same indication

Pain in LTC

- At least 50% of pts with end-stage dementia experience pain
- Pain in dementia patients is poorly identified and managed

Physiologic changes

- The older patient has less capacity to adapt to challenges from internal and external environments
- Homeostatic mechanisms become less sensitive, slower, and less sustained
- Sooner or later, they are unable to deal with them effectively
- Loss of physiology reserve to cope with insults
- Small insults can cause a cascade of adverse effects (“domino effect”)
- Older patients have less capacity to adequately compensate for acute conditions

Blood pressure

- BP is not a good indicator for pain assessment
 - Systolic BP tends to rise steeply after age 50
 - Diastolic rises with age, but tends to stabilize after age 60
 - Hypotension is most of the time “relative hypotension”
 - Impacted by polypharmacy

Heart rate

- Heart rate is not a good indicator for pain assessment
 - Heart rate decreases as we get older
 - Reduced sensitivity to catecholamine
 - Conduction diseases
 - Impacted by medication
 - Chronotropic effect of drugs

Other Vital Signs

Respiration:

- Gradual decline in PaO₂, FEV₁ and FVC
- Lower lung defenses against inhaled matters (prone to aspiration pneumonia)

Temperature:

- Impairment in the body's ability to prevent fluctuations in the core body temperature
- A normal temperature is not a reassuring sign
- Prone to hypothermia
 - Decreased subcutaneous fat

Indicators of End-of-Life

- Unable to walk without assistance
- Urinary and fecal incontinence
- No consistently meaningful conversation
- Unable to perform ADLs
- Barthel score < 3
- Urinary tract infections
- Severe pressure sores
- Recurrent fever
- Weight loss
- Poor oral intake
- Aspiration pneumonia

Palliative Performance Scale (PPSv2)

- Several purposes: 1) communication re: functional status, 2) workload, 3) prognostic value

PPS Level	Ambulation	Activity & Evidence of Disease	Self-Care	Intake	Conscious Level
100%	Full	Normal activity & work No evidence of disease	Full	Normal	Full
90%	Full	Normal activity & work Some evidence of disease	Full	Normal	Full
80%	Full	Normal activity with Effort Some evidence of disease	Full	Normal or reduced	Full
70%	Reduced	Unable Normal Job/Work Significant disease	Full	Normal or reduced	Full
60%	Reduced	Unable hobby/house work Significant disease	Occasional assistance necessary	Normal or reduced	Full or Confusion
50%	Mainly Sit/Lie	Unable to do any work Extensive disease	Considerable assistance required	Normal or reduced	Full or Confusion
40%	Mainly in Bed	Unable to do most activity Extensive disease	Mainly assistance	Normal or reduced	Full or Drowsy +/- Confusion
30%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Normal or reduced	Full or Drowsy +/- Confusion
20%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Minimal to sips	Full or Drowsy +/- Confusion
10%	Totally Bed Bound	Unable to do any activity Extensive disease	Total Care	Mouth care only	Drowsy or Coma +/- Confusion
0%	Death	-	-	-	-

(Victoria Hospice Society, BC 2001)

Types of pain

- Nociceptive (tissue injury)
- Neuropathic
 - Dysesthesia (unpleasant abnormal sensation)
 - Hyperalgesia (mildly painful stimuli perceived as very painful)
 - Allodynia (non-painful stimuli perceived as painful)
- Mixed

Several data points for pain

- Patient self-report
- Patient's facial expression
- Surrogate reports
- Presence of a painful condition
- ESAS
- DOLOPLUS 2
- Face scale
- PAINAD
- American Geriatric Society Pain Score

American Geriatric Society Pain Behaviors

Behaviors	
Facial Expressions	Slight frown, sad, frightened, grimacing, wrinkled forehead, closed or tightened eyes, any distorted expression, rapid blinking
Verbalization	Sighing, moaning, groaning, grunting, chanting, calling out, noisy breathing, asking for help
Body movements	Rigid, tense body posture, guarding, fidgeting, increased pacing, rocking, gait or mobility changes
Changes in interpersonal interactions	Aggressive, combative, resistive to care, decreased social interactions, disruptive, withdrawn, verbally abusive
Changes in activity patterns or routine	Refusing food, appetite change, increased rest, sudden cessation of common routines
Mental status changes	Crying, tears, confusion, irritability, distress

Edmonton Symptom Assessment System/Scale (ESAS)

Cancer Care Ontario

Action Cancer Ontario

Edmonton Symptom Assessment System:
(revised version) (ESAS-R)

Please circle the number that best describes how you feel NOW:

No Pain 0 1 2 3 4 5 6 7 8 9 10 Worst Possible Pain

No Tiredness 0 1 2 3 4 5 6 7 8 9 10 Worst Possible Tiredness
(Tiredness = lack of energy)

No Drowsiness 0 1 2 3 4 5 6 7 8 9 10 Worst Possible Drowsiness
(Drowsiness = feeling sleepy)

No Nausea 0 1 2 3 4 5 6 7 8 9 10 Worst Possible Nausea

No Lack of Appetite 0 1 2 3 4 5 6 7 8 9 10 Worst Possible Lack of Appetite

No Shortness of Breath 0 1 2 3 4 5 6 7 8 9 10 Worst Possible Shortness of Breath

No Depression 0 1 2 3 4 5 6 7 8 9 10 Worst Possible Depression
(Depression = feeling sad)

No Anxiety 0 1 2 3 4 5 6 7 8 9 10 Worst Possible Anxiety
(Anxiety = feeling nervous)

Best Wellbeing 0 1 2 3 4 5 6 7 8 9 10 Worst Possible Wellbeing
(Wellbeing = how you feel overall)

No _____ 0 1 2 3 4 5 6 7 8 9 10 Worst Possible
Other Problem *(for example constipation)* _____

PAINAD (Pain Assessment IN Advanced Dementia)

Behavior	0	1	2	Score
Breathing Independent of vocalization	<ul style="list-style-type: none"> • Normal 	<ul style="list-style-type: none"> • Occasional labored breathing • Short period of hyperventilation 	<ul style="list-style-type: none"> • Noisy labored breathing • Long period of hyperventilation • Cheyne-Stokes respirations 	
Negative vocalization	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Occasional moan or groan • Low-level speech with a negative or disapproving quality 	<ul style="list-style-type: none"> • Repeated troubled calling out • Loud moaning or groaning • Crying 	
Facial expression	<ul style="list-style-type: none"> • Smiling or inexpressive 	<ul style="list-style-type: none"> • Sad • Frightened • Frown 	<ul style="list-style-type: none"> • Facial grimacing 	
Body language	<ul style="list-style-type: none"> • Relaxed 	<ul style="list-style-type: none"> • Tense • Distressed pacing • Fidgeting 	<ul style="list-style-type: none"> • Rigid • Fists clenched • Knees pulled up • Pulling or pushing away • Striking out 	
Consolability	<ul style="list-style-type: none"> • No need to console 	<ul style="list-style-type: none"> • Distracted or reassured by voice or touch 	<ul style="list-style-type: none"> • Unable to console, distract, or reassure 	
TOTAL SCORE				

(Warden et al., 2003)

Goals of care at End of Life

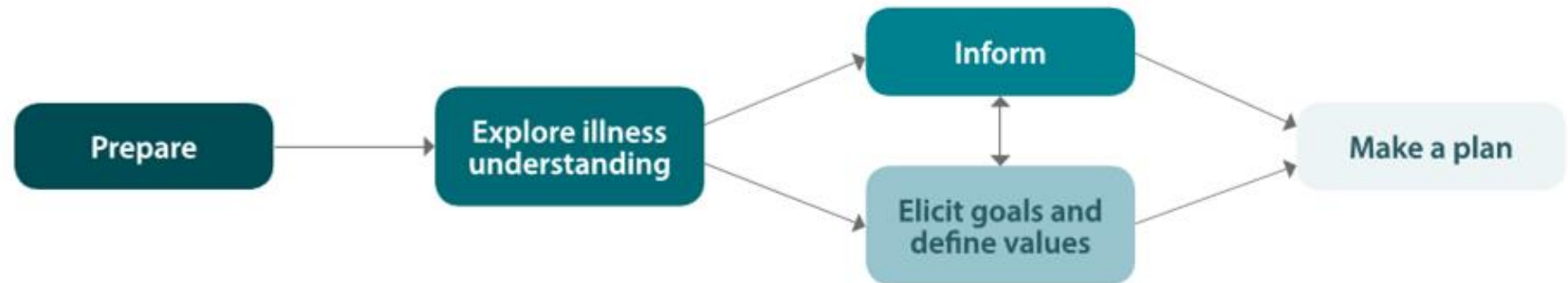
Triggers

- Progression of underlying disease (dementia, cancer, etc.)
- Signs of organ failure
- Multiple transfers to hospital
- General signs of imminent death
- Family request for palliative/end of life supports

Goals of Care: How to Start

Approaches to Goals of Care Discussions

Resource for healthcare providers



(Ontario Palliative Care Network)

Goals of Care: Communication Pearls

When Sharing Medical Information:

- Speak slowly, pause frequently
- Speak in plain English (no medical words)
- Check frequently for understanding
- Provide time for processing
- Ask them to repeat back what they heard

When Responding to Emotions:

Do:

- ✓ Allow them to happen
- ✓ Acknowledge them
- ✓ Respond openly and honestly
- ✓ Use silence
- ✓ Use "I wish" statements

Do Not:

- ✗ Move on until the emotions settle
- ✗ Offer premature or empty reassurances
- ✗ Backpedal

Common Causes of Pain at End of Life

- Pre-existing medical condition
 - Musculoskeletal disorders (arthritis, spinal disease, fractures)
 - Neuropathy
- End stage organ failure
- Malignancy
 - Tumor effects, bone metastases
- Acute events
 - Ischemic limb, GI bleed
- Contractures/positioning/inactivity
- Constipation/urinary retention
- Pressure ulcers

Pain Medications at end of life

- Opioids
 - morphine and hydromorphone
- Steroids
 - dexamethasone
- Anesthetics
 - ketamine

Opioids

- natural vs. semi-synthetic vs. synthetic
- act on opioid receptors on nerve cells found all over body (brain, spinal cord, gut, etc.)
- **hydromorphone** or **morphine** most common
 - *hydromorphone preferred to morphine in elderly and severe renal impairment
- used for moderate to severe pain and/or dyspnea
- Administer orally or subcutaneously when unable to swallow or pain crisis

Opioid Side Effects

- nausea and vomiting
- dry mouth
- constipation (*must have laxative order)
- Somnolence
- Understand side effects vs. toxicity (dose dependent)
- Neurotoxicity is on a spectrum
 - Sleepy → confusion/agitation → myoclonus → respiratory depression → loss of consciousness

Opioids myths and misconceptions

- addiction
- hasten death or euthanasia
- sedation
- “last dose” that killed the patient
- “allergies” to opioids

Opioids - Starting and Titrating

- Start with short acting formulation
 1. Safest to start with PRN, make available q1h
 2. After 24h of PRN use, can start scheduled doses at q4h or q6h (for renally impaired)
 - Note: opioid half life = 4 hr; ~ 5 half lives or 20 h to reach steady state
 3. Add breakthrough q1h prn, 10% of total daily dose
 4. Titrate up dose by taking into account total daily dose plus prn doses

Opioids - Starting and Titrating

- continue oral as long as swallow intact, then SC route via butterfly
- lowest dose to achieve analgesic response

Usual starting dose in adult	Consider lower dose in frail elderly
morphine (15mg/ml) 2.5mg SC q1h prn	morphine (15mg/ml) 1.5mg SC q1h prn
hydromorphone (2mg/ml) 0.5-1mg SC q1h prn	hydromorphone (2mg/ml) 0.25-0.5mg SC q1h prn

Opioids Equianalgesic Doses

- calculate morphine equivalent to change opioid

Medication	Oral Dose	SC/IV dose	Convert to morphine equivalent
Codeine	100mg	-	codeine: morphine = 10:1
Morphine	10mg	5mg	
Oxycodone	5mg	-	oxycodone: morphine = 1:2
Hydromorphone	2mg	1mg	hydromorphone: morphine = 1:5

**Oral to SC
2:1**

Opioid Rotation

Why rotate from one opioid to another:

- increasing side effects without adequate analgesia
- change to opioid that can be given SC (e.g. oxycodone PO to morphine SC)

How to rotate:

- account for cross tolerance (to avoid overdosing)
- reduce total daily dose by 25-50% before converting to another opioid

* in cases of toxicity, may consider +/- hydration

A Note on Fentanyl patch

Common Question: Why not a fentanyl patch?

- Oral/IV/SC Fentanyl is fast acting
- As a patch it is long acting, 72h to get to steady state
- difficult to titrate
- avoid for opioid naive patient
- appropriate for chronic high stable pain
- inappropriate for acutely changing pain

- fentanyl SC pump (can be done though unlikely in LTC)

Steroids

- anti-inflammatory effects
 - high risk of renal, GI, CV side effects in frail patients
 - useful in pain related to bone and spinal mets (+/- cord compression), liver capsular pain involving cancer, pain flare post radiation
 - other indications: bowel obstruction, neuro sx from brain mets, appetite and energy
-
- dexamethasone 4mg-16mg PO/SC/IV daily (in morning)
 - many side effects - short term use
 - Consider PPI if able to swallow

Anesthetics

- Ketamine, typically use as a dissociative anesthetic for procedures
- At sub-dissociative doses, it can be useful as analgesic
- Useful in individuals where opioids are contraindicated, or in cases of severe neuropathic pain unresponsive to opioids
- Various methods, no one standard:
 - continuous IV or SC infusion at 0.15-0.2 mg/kg/hr
 - one time dose of 0.3-0.5mg (sub-dissociative levels) IV or IM over 5-15 mins

Scenario 1

- 84 year old female with history of atrial fibrillation, coronary artery disease, hypertension, thrombosis in bilateral legs
- develops ischemic leg, toes turn blue then mottled
- becomes unresponsive

Scenario 1

How to assess pain:

- Face scale, Geriatric Society Pain Behaviours

How to initiate analgesics for opioid naive person:

- morphine 2.5mg SC q1h prn

OR

- hydromorphone 0.5-1mg SC q1h prn

Scenario 2

- 91 year old male with dementia, recent recurrence of prostate cancer to bone
 - approaching end of life: cachetic, eating little over last 2 weeks now no intake, cannot swallow, sleeping all the time, bed bound at baseline
 - also has coccyx pressure ulcer
 - Signs of AKI, elevated Cr
 - Goals for full comfort care
-
- on long standing oxycodone CR 10mg bid + oxy IR 5mg q2h prn for back pain (uses 2 breakthroughs per day)

1. What is PPS?
2. How to assess pain?
3. Order: hydromorphone 1.1mg SC q6h + 0.5mg SC q1h prn

Scenario 3

- 75 year old female end stage COPD and severe back pain (chronic)
- comfortable on regime of hydromorphone 2mg SC q4h with use of 1.2mg SC q1h prn for pain with repositioning

How else can we manage pain?

- consider continuous ambulatory delivery device (CADD)
- Process for ordering pump in community
 - Script to pharmacy (Calea) and LHIN
 - Delivery to home, RN sets up and monitors use daily, family and patient taught to use bolus

Questions?