End of Life Care & Pain Management

ROSE MACKLIN, PHARM.D. BCPS
- PARTNERS IN HOME CARE
  HOME HEALTH/HOSPICE PHARMACIST
- UNIVERSITY OF MONTANA
  ADJUNCT CLINICAL PROFESSOR

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Disclosure Statement

I have no relevant financial relationship(s) with ineligible companies to disclose.

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Learning Objectives

At the conclusion of this presentation, pharmacists will be able to:

1. Recommend one opioid patch appropriate for use and another patch not recommended for pain management at the end of life
2. Explain the safe use and disposal of controlled medications in the home

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Causes of Death in USA

Number of deaths for leading causes of death

- Heart disease: 695,547
- Cancer: 605,213
- COVID-19: 416,893
- Accidents (unintentional injuries): 224,935
- Stroke (cerebrovascular diseases): 162,890
- Chronic lower respiratory diseases: 142,342
- Alzheimer's disease: 119,399
- Diabetes: 103,294
- Chronic liver disease and cirrhosis : 56,585
- Nephritis, nephrotic syndrome, and nephrosis: 54,358

Source: Mortality in the United States, 2021, data table for figure 4

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General Guidelines: Days to Weeks

LOC	▪ Sleeps more in the day, awake more at night. Emotionally withdrawn (difficult to engage in conversation and daily events.)
ADL	▪ Becoming weaker and requiring more assistance w/ ADL. Safety now a factor in need for 24 hr caregiver.
INTAKE	▪ Poor appetite. Drinking fluids fairly well. ▪ Breakfast best meal of the day usually and only meal at times.
VITAL SIGNS	▪ VS generally stable. HR may increase at rest. Pt DOE due to increasing weakness.

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General Guidelines: Hours to Days

LOC	▪ Somnolent, forgetful, and/or confused. Emotional withdrawal, possible near-death awareness and restlessness
ADL	▪ Bedfast usually but can sometimes still get up to BSC w/ assist. Total assist w/ bath and ambulation. May be incontinent or have urinary retention.
INTAKE	▪ Usually not eating solids. Occasional soft or liquids tolerated. Becoming dehydrated.
VITAL SIGNS	▪ Febrile, Tachycardic, Cheyne-Stokes resp. pattern when asleep. May have peripheral edema and/or pulmonary congestion.

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General Guidelines:
Moments to Hours

LOC	▪ **Usually unresponsive but possible moaning responses occur**
ADL	▪ **Bedfast, total care**
INTAKE	▪ **NPO , may wet lips and do oral care for comfort. Pt now therapeutically dehydrated preventing pulmonary congestion.**
VITAL SIGNS	▪ **Febrile, Tachycardic, Respirations become agonal (FISH out of WATER)** ▪ **Mottling, cool extremities**

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Prevalence of Symptoms

Last 4 weeks

- Fatigue 58%
- Pain 54%
- Weakness 43%
- Sleepiness 24%
- Confusion 24%
- Anxiety 21%
- Dyspnea 17%
- Nausea 12%
- Anorexia 10%

Last 48 hours of life

- Dyspnea
- Restlessness
- Urinary incontinence or retention
- Pain
- Noisy/moist breathing
- Nausea/vomiting
- Confusion/Delirium
- Twitching

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Deprescribing

- If non-adherent taking a medication, assess reasons why
- Assess each medication for ongoing indication and need.
  - If preventive indication (e.g. bisphosphonate for osteoporosis), assess risk vs benefits of discontinuing. Able to discontinue or need to taper?
  - If medication was stopped, would it cause harm (worsening disease state short term or rebound symptoms)?
  - Patient's perspective on medication and consent?
- Assess if dosage reduction of maintenance medications is indicated
  - Blood pressure drop: reduce or stop antihypertensive or diuretics
  - Weight loss and/or poor appetite: reduce insulins, anti-diabetic medications, etc.
  - Increased somnolence or confusion: reduce/stop medications with anticholinergic or CNS effects.
- If possible, use once to twice daily medication regimens.
- Focus on medications with current benefit and for symptom management.

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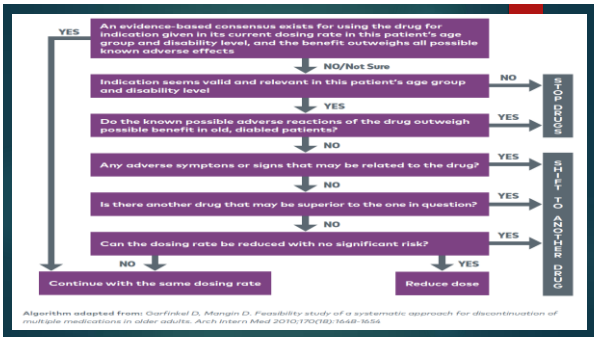

Algorithm adapted from: Garfinkel D, Mangin D. Feasibility study of a systematic approach for discontinuation of multiple medications in older adults. Arch Intern Med 2010;170(18):1648-1654

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Pain Management Overview

1. Thorough review of H&P, pain assessment with physical exam
   - Often multiple sites and etiologies of pain
     - Example case: 68 yo woman with breast cancer tumor pain, surgery or radiation site pain, liver capsule stretch from metastasis, pre-existing bilateral knee osteoarthritis, coccyx pressure ulcer, urinary discomfort from foley catheter, and anxiety/insomnia worsening pain perception
   - Acute and chronic pain
   - Inflammatory and neuropathic components common
2. Establish patient goals of care
3. Offer both drug and non-drug treatment options
4. Institute medication and care plan changes
   - Stepwise process: nonopioids with escalation to incremental doses of opioids and adjuvant agents
   - Long-acting analgesics with short-acting agents PRN pain
   - Address psychosocial aspects worsening pain, if present
5. Reassess for efficacy and side effects
6. Repeat: dynamic process!

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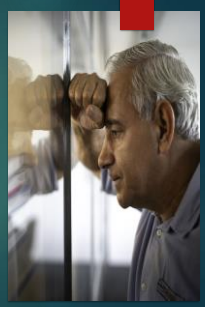
Psychological Component

- Anxiety and depression frequently accompany pain, and addressing this is pivotal to alleviating "total pain."
- Apart from physical noxious stimuli, other factors that can affect individuals at the end of life, as elucidated by the concept of total pain, include emotional discomfort, interpersonal conflicts, and the nonacceptance of one's own death. The emotional discomfort and interpersonal conflicts go hand in hand in causing suffering at the end of life.
- Offer social work and chaplain support.

https://www.nia.nih.gov/health/end-life/providing-care-and-comfort-end-life



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Opioid Use

- Choice of opioids
  - Prior opioid use
  - Allergy assessment
  - Avoid buprenorphine
  - Renal failure: avoid morphine
- Chronic pain: start with short-acting opioid and then add in long-acting agent based on total daily morphine equivalents (at least 50 MME).
- Routes of administration: anticipate NPO status
  - Topical (Fentanyl patch)
  - Sublingual: concentrate oral opioids (morphine or oxycodone 20 mg/ml soln)
  - Subcutaneous: preferred unless already have IV access (inj. Morphine, hydromorphone)
- Drug shortages: need to convert to an alternative agent

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CII Law & Hospice

- CS 1306.11 A signed prescription for a Schedule II substance for a patient enrolled in a hospice care program can be faxed to the pharmacy.
- CS 1306.13. CII partial fills allowed for hospice "terminally ill" patient
  - For each partial filling, the dispensing pharmacist shall record on the back of the prescription (or on another appropriate record, uniformly maintained, and readily retrievable) the date of the partial filling, quantity dispensed, remaining quantity authorized to be dispensed, and the identification of the dispensing pharmacist.
- CII Rx is valid for a period of 60 days from the date of issue

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PARTNERS HOSPICE & PALLIATIVE CARE SERVICES

Conversion Charts for Equianalgesic Dosing and Conversions

Opioid Conversion Tables

Conversion between morphine and various narcotic agents

Narcotic agents	MS:agent (oral route)
Meperidine	1:10
Codeine	1:3
Hydrocodone	1:1
Oxycodone	1.5:1
Hydromorphone	5:1
Methadone The morphine-to-methadone conversion ratio increases as the previous dose of morphine increases	<90 mg MS 4:1 91-300 mg MS 8:1 301-600 mg MS 12:1

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Ratio for converting between oral and parenteral dosing within a ***single narcotic agent***

Drug	Oral	Parenteral
Morphine	3	1
Meperidine	3	1
Methadone	2 (acute) or 1 (chronic)	1
Hydromorphone	5	1

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Titration of Long-Acting Opioid Case

Hellen is using Fentanyl 50 mcg/hr patch q72hrs x 2 weeks. She is experiencing break-through pain, requiring Oxycodone 10 mg, 1 tab po q4hrs (6 tabs/24hrs) & still rates pain 6/10. Pt is having trouble swallowing pills at end of life. NKDA

Convert to 24 hr po morphine mg equivalents (MME):

Fentanyl 50 mcg/hr = 120 mg

Oxycodone 10 mg x 6 x 1.5 = 90 mg

210 mg/24 hrs

Increase Fentanyl patch by 75% of PRN dose: 67.5mg MME ≈ 25 mcg/hr Fentanyl patch

New Fentanyl patch is 75 mcg/hr, 1 patch TD q72 hrs.

PRN pain med: D/C oxycodone & switch to morphine liquid SL: 10 mg oxycodone = 15 mg morphine, may use 75% to account for incomplete cross-tolerance: 11 mg morphine → 10 mg. Start morphine 20 mg/ml oral soln, 0.5 mls SL every 4 hrs. PRN pain.

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Dose Titration

Level of urgency:

- Acute and/or severe symptom crisis
  - Titrate medications and remain with patient until comfortable
  - May need to get first symptom under control so can further assess an underlying cause
- Chronic, gradually worsening pain

Tips to titrating medication doses:

- When will dose start to take effect for initial assessment? Time of onset
- When can I expect to see full effect to assess if working or need to give a 2nd dose? Peak effect
- What time-frame do I need to watch for side effects/stacking effect? Duration of action
- Augment with non-medication interventions

Goals of therapy:

- Pain: ≤ 4/10 or patient pain goal
- Improved function, if possible
- Tolerable side effect profile

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Acute on Chronic Pain Case

Sam is a 79 yo man on hospice with prostate cancer with bone mets. His wife calls to report that Sam fell in the bathroom and is in significant pain. On arrival, Sam lying on the bathroom floor with a pillow under his head, left hip and leg causing 10/10 pain. A large hematoma noted on left hip. No obvious signs of breakage on exam. He has been taking Hydrocodone/APAP 7.5/325 mg, 1 tab four times daily with good pain control prior to fall. NKDA. Pt has liquid morphine 20 mg/ml oral soln per standing orders (0.125-1 ml po/sl every 2 hrs PRN pain) in home too. Wife gave him a Hydrocodone/APAP prior to your arrival about 50 min ago.

1. Which opioid would you give next and why? Now or need to wait?
2. When to reassess? Next dose if pain still not <4/10?
3. What side effects would you monitor/educate family about with repetitive doses needed?
4. Once effective dose is calculated, should pt be on scheduled or PRN dose only?

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Caring for the SUD Patient on Hospice

The hospice team offers physical, emotional and spiritual support to patients and their families. We help manage all care needs, emphasizing symptom management but also disease state management. In order to ensure good outcomes, it's important that we both follow the provider's prescribed care plan which is tailored exclusively for each patient.

I _____, agree to the following expectations:
(Patient's Full Name)

1. I understand that my hospice nurse will develop a care plan with me for my conditions and symptoms.
2. I agree to appoint a primary caregiver_____ who needs to be present for home visits to help oversee my care and communicate needs and my status with the hospice nurse, when I am no longer able to self-manage my care.
3. I agree to allow hospice to manage my medications, including medication set up, ordering weekly supply, delivery, and placing controlled medications (pain medications, anxiety medications) in a locked box at my home.
4. I agree to safeguard my medications and use them only as directed.
5. I agree to only getting pain medications from hospice doctor.
6. I agree to not ask for early refills of controlled medications.

Failure to keep the above contract would result in discharge from hospice services for cause.

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Med Storage & Disposal

- **Storage**
  - Room temp or refrigeration?
  - Lock box, medisets, old vs current medication bottles
  - Out of sight of others & out of reach of children & pets
- **Disposal**
  - Hospice DEA regulation: nurse can assist patient/family member in wasting medications at time of death or if medication has expired.
  - Patients encouraged to waste unused medications when no longer needed.
  - Waste in the home preferred
    - Coffee grounds, kitty litter or other household waste in ziplock bag → landfill
    - Drug disposal products (e.g., Deterra®, DisposeRx, Element® MDS)
    - Avoid flushing down sink or toilet
  - Provide information on local drop-off locations and/or take-back events.

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CONTROLLED SUBSTANCE DISPOSAL RECORD

Patient: _____ DOB: _____
Patient Address: _____ Program: _____
Date of Destruction: _____ Time: _____

Medications should be wasted in accordance with PHC policy and original form will be placed in patient's chart.

MEDICATION	Strength	Dosage Form & Route	Amount Wasted	DISP*

Signature of Person Wasting Above Meds: _____

Signature of Witness: _____

* DISPOSITION
1. Wasted following policy: T (Trash mixed in kitty litter or other solid waste) or F (Flushed down toilet or sink)
2. Medication retained by family for destruction

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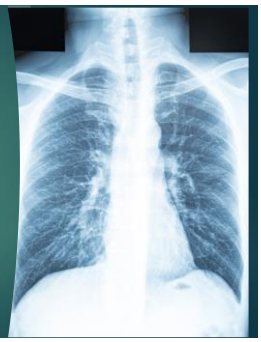
Dyspnea

- 50-90% of dying patients
- Subjective feeling of air hunger or shortness of breath, demand feels greater than supply.
- Dyspnea ≠ tachypnea, low 02 saturations
- Feared symptom by patients
- Anxiety increases RR & HR which worsens dyspnea
- May have periods of apnea (up to 2 minutes), rapid shallow breathing, agonal breathing



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Causes of Dyspnea

Lung
COPD, asthma, lung cancer/mets, pulmonary edema, PE, pneumonia, atelectasis, fibrosis, pneumothorax, thick secretions

Cardiovascular
CHF, MI, SVCS, anemia
Arrhythmias, pericarditis

Neurological
Brain mets or increased ICP, anxiety/panic, depression

Other
Ascites, abdominal cancer, pain,
Sepsis, uremia, metabolic acidosis
Morbid obesity
Broken ribs

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Disease-Based Approach

- Assess for underlying cause, may be multifactorial
- **Treat reversible causes as able**
  - Hypoxia: oxygen (caution in CO2 retainers)
  - Bronchospasm/wheezing: beta-2 agonists and anti-muscarinics
  - COPD exacerbation, lung cancer, pneumonitis, brain mets: steroids
  - Atrial fibrillation/angina: beta blockers, non-dihydropyridines CCBs
  - Fluid overload, ascites: diuretics
  - Infection/pneumonia: oral antibiotics
  - Anxiety/depression: SSRI, SNRIs, buspirone

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Symptom-Based Approach

- **Opioids**
  - Mechanisms of action
  - Morphine is drug of choice
  - Dosing: start low 2.5 mg po/sl q2-4hrs prn
  - Titrate to effect
  - Monitor for side effects, RR, O2 sats
  - Routes of administration: po, sl, pr, sq, iv, nebulized
- **Benzodiazepines**
  - Add if anxiety component
  - Lorazepam (Ativan) 0.5-2 mg PO/SL q6hrs PRN
  - Start low, go slow, additive sedation with opioids
- **Cough suppressants**
  - Opioids, dextromethorphan, benzonatate

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Dyspnea: Non-Drug Interventions

- Breaking up tasks, pacing yourself
- Pursed-lip breathing
- Fan blowing on face
- Keep patient's room cool
- Raise head of bed
- Position on side
- Open windows/doors for circulation
- Limit allergens & smoke
- Oxygen if hypoxia
- Humidified air
- Paracentesis for ascites
- Relaxed environment
- Cognitive-behavioral therapy
- Anxiety-reduction techniques

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Secretions & Death Rattle

Moaning/grunting: tongue relaxes in airway (25% of pts)

Death Rattle

- Causes a rattling or gurgling respiratory noise, due to a patient's inability to cough effectively or to swallow and clear secretions from oropharynx.
- Occurs in last hours to days of life (35% of pts)
- Likely to occur in heart failure, pneumonia, brain and lung cancers or prolonged dying phase.
- Distressing for some family members and staff. Patient has impaired consciousness, so impact is unclear.
- A differential diagnosis: cardiac failure, respiratory infections or gastro-intestinal obstruction.

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Common Causes of Death Rattle

- **Nasopharyngeal/saliver**y – thin secretion
  - Inability to swallow, muscle coordination
  - More likely to respond to anticholinergic therapy.
- **Bronchial** – thick respiratory secretions, pulmonary edema, pleural effusion
  - Unable to expectorate, muscle/airway strength and coordination

	Rattle Intensity Score
0	Not audible
1	Only audible near patient
2	Clearly audible at the end of patients bed in a quiet room
3	Clearly audible at a distance of about 9.5m in a quiet room

*Medications are most effective when started at a rattle score of **1***

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Medication Options

Medication	Starting Dose	Route	Frequency	Max dose/24 hours	Onset
Glycopyrrolate	0.2 mg	IV, SQ	Q4-8 hrs PRN	4 doses	1 min
Scopolamine (Hyoscine HBr)	1 mg/3 days	Topical	Every 72 hours	1 patch	~ 8 hours (24 h to steady state)
Hyoscyamine (Levsin)	0.125 mg	PO/SL	Q3hrs PRN		30 min
Atropine	0.5 mg	SQ, IV	Q4hrs PRN	3 mg	1 min
Atropine ophthalmic soln.	2 drops	SL	Q3hrs PRN	-	15 min

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Non-Medication Options

- Repositioning patient
  - Elevate head of bed
  - Turn patient on side
- Reduce visual impact of secretions
  - Wash cloth placed under mouth
  - Bubble syringe secretions at mouth opening
  - Keep lips wiped and clean
- Reassurance & education of family and staff

- Suction: not recommended as may be ineffective and cause agitation
- Preventative measure: avoid IV hydration at end of life.

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