Symptom Management and Approach to Care 1

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Program Details

- **Title:** Symptom Management and Approach to Care 1
- **Dates/Term of offering:** This activity was released on May 18, 2020 and is valid for one year. Requests for credit must be made no later than May 18, 2021.
- **Joint Providership:** This activity is jointly provided by Global Education Group and Hospice and Palliative Board Review.com.

- **Target Audience:** The educational design of this activity addresses the needs of Physicians, NPs, Nurses, and health care professionals interested in learning more about hospice and palliative medicine and those who want to earn continuing education credits and/or prepare for board certification in hospice and palliative medicine.

PROGRAM DETAILS

- **Program Overview:** Clinicians and health care professionals are unaware of best practices to be utilized when having goals of care and advanced care planning discussions with patients and family. As such, they do not know how to adequately counsel patients and families on appropriate goals of care and advanced care planning given the patient's disease trajectory and wishes.

- **Faculty:** Eric Bush, MD, RPh, MBA
- **Physician Accreditation Statement:**
- This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of Global Education Group (Global) and Hospice and Palliative Board Review.com. Global is accredited by the ACCME to provide continuing medical education for physicians.

PROGRAM DETAILS

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- **Instructions to Receive Credit:** In order to receive credit for this activity, the participant must score at least a 75% on the post quiz and submit a completed evaluation and credit application form.
- **Global Contact Information:** For information about the accreditation of this program, please contact Global at 303-395-1782 or cme@globaleducationgroup.com.
- **Fee Information:** There is a fee for this educational activity.

PROGRAM DETAILS

- **System Requirements:**
- **PC:** Microsoft Windows 2000 SE or above, Flash Player Plugin (v7.0.1.9 or greater), Internet Explorer (11.0 or greater), Chrome, Firefox, Adobe Acrobat Reader*
- **MAC:** MAC OS 10.2.8, Flash Player Plugin (v7.0.1.9 or greater,), Safari, Chrome, Adobe Acrobat Readers*, Internet Explorer is not supported on the Macintoch.

  *Required to view printable (PDF) version of the lesson.
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- **Lindsay Borvansky:** Nothing to disclose

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- **Andrea Funk:** Nothing to disclose
- **Liddy Knight:** Nothing to disclose
- **Disclosure of Conflicts of Interest (continued):**
- **Ashley Cann:** Nothing to disclose
- **Eric Bush:** Nothing to disclose
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applicable manufacturer’s product information, and comparison with recommendations of other authorities.

LEARNING OBJECTIVES

- Describe how to perform symptom management in the palliative and hospice setting.
- Describe how to counsel patients and caregivers on interventions in this setting and the applicable risk versus benefit for appropriate interventions.
- Describe how to perform triage and referral of eligible patients for palliative and hospice services.
- Describe how to counsel patients and families on appropriate utilization of hospice and palliative care services.
- Describe how to perform discussions differentiating between hospice and palliative care services with patients and family.

- Describe how to counsel patients and caregivers on differentiating between hospice and palliative care services and appropriate level of care for the patient and family given current best practice.

PALLIATIVE CARE AND SYMPTOM MANAGEMENT

PALLIATIVE CARE PERSPECTIVE

- Empathy: The ability to understand the feelings of another

PALLIATIVE CARE

- Care given to improve the quality of life of patients who have a serious, chronic or life-threatening disease.
- The goal of palliative care is to prevent or treat as early as possible the symptoms of a disease, side effects caused by treatment of a disease, and psychological, social, and spiritual problems related to a disease or its treatment.

- In short, symptom management, regardless of where the patient is in the disease process utilizing a biopsychosocial approach

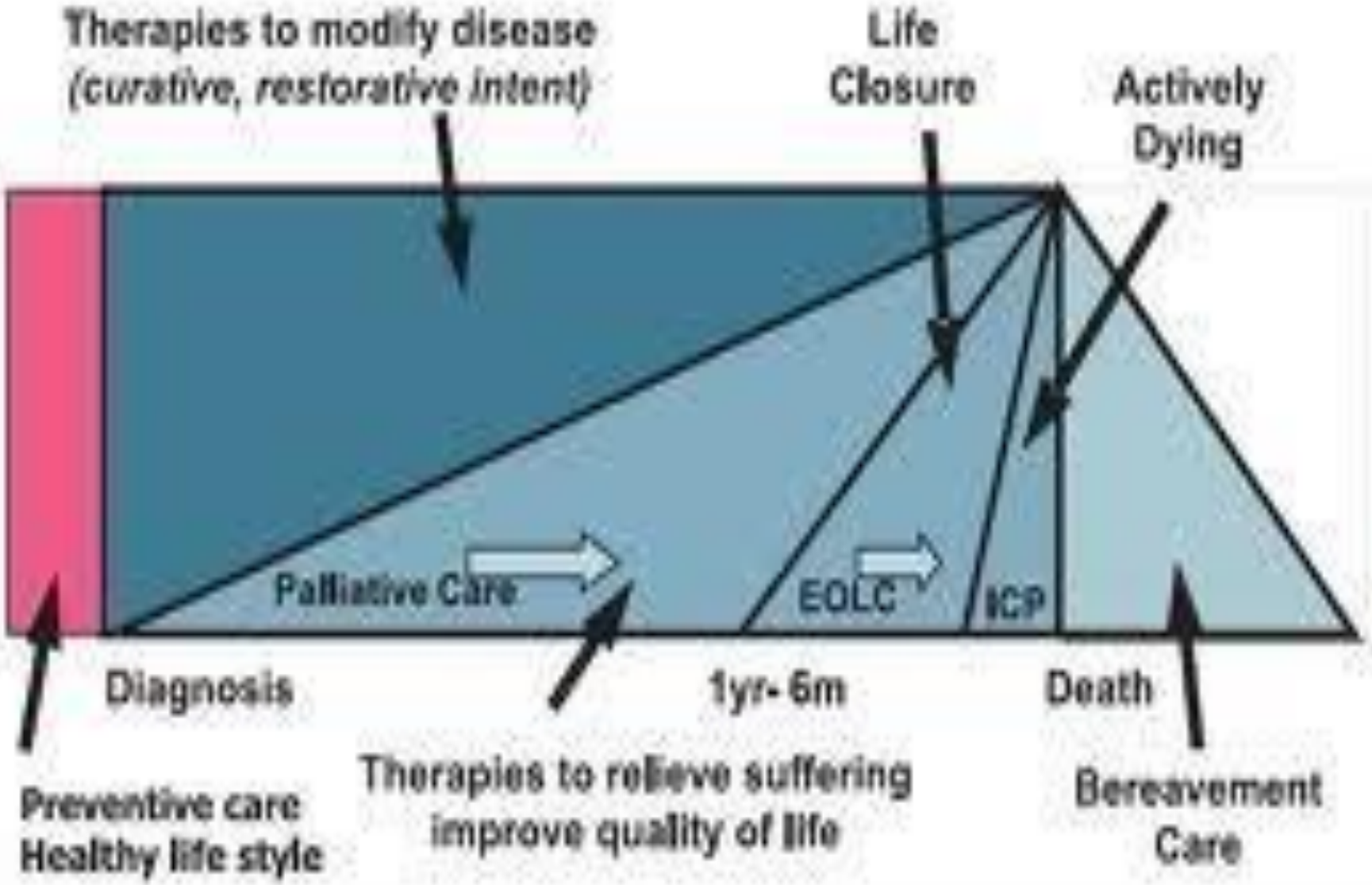
DIFFERENTIATION

- Hospice: If the disease follows the expected course, a prognosis of six months or less(patients often referred late)
- Palliative: Symptom focused care anywhere throughout the disease spectrum, can be delivered in conjunction with curative care

Why Palliative Care?

- Aggressive measures for control of pain and other distressing symptoms
- Better quality and often longer life, with neither quality or quantity achieved at the other's expense
- More goal centered
- Interdisciplinary team of caregivers, participating in holistic care of patient and family

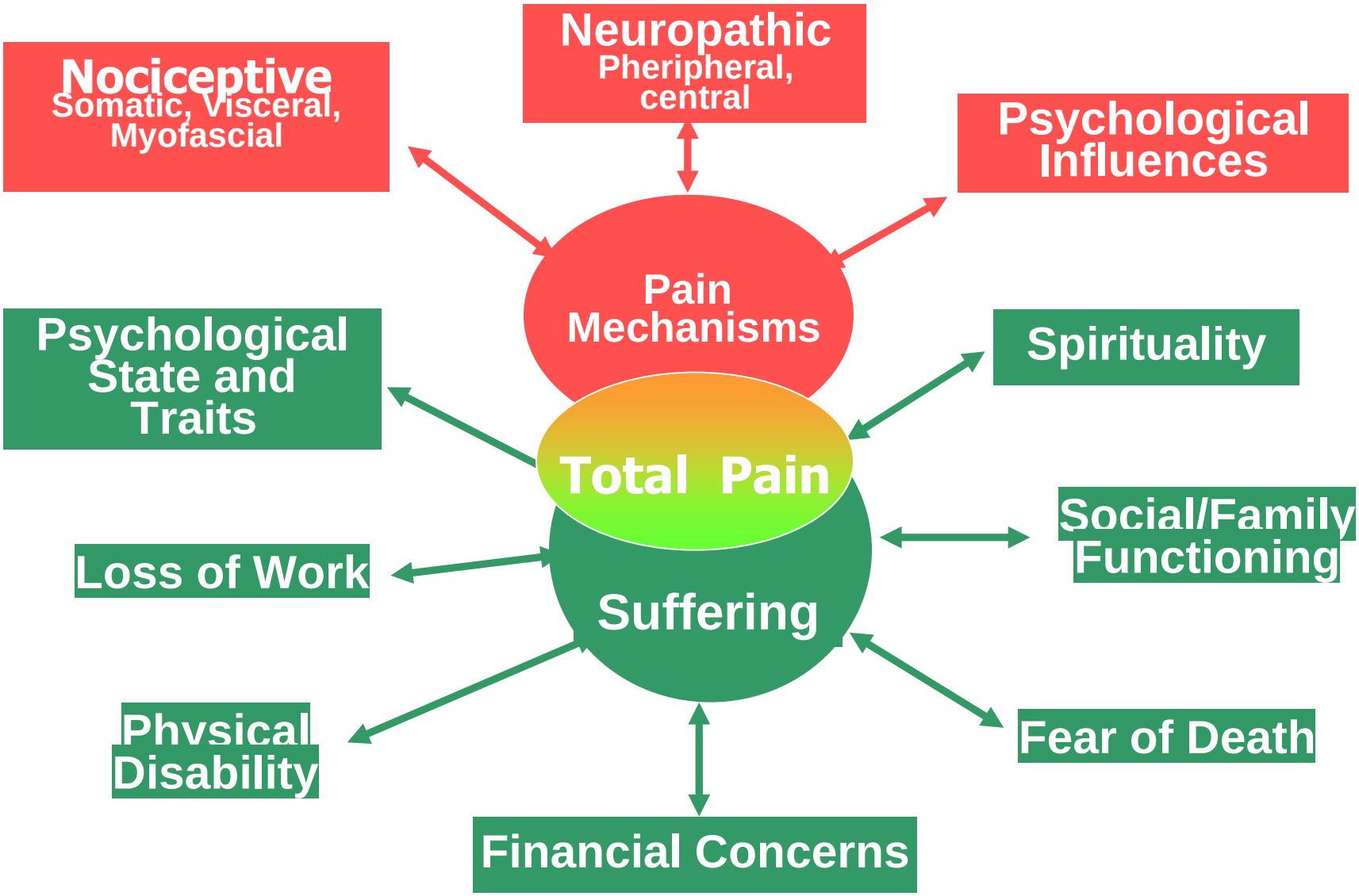
Modified from-
http://depts.washington.edu/pallcare/training/ppt.shtml



Basic concepts in palliative Care - Pain Mgmt

- Pain: An unpleasant sensation that can range from mild, localized discomfort to agony. Pain has both physical and emotional components

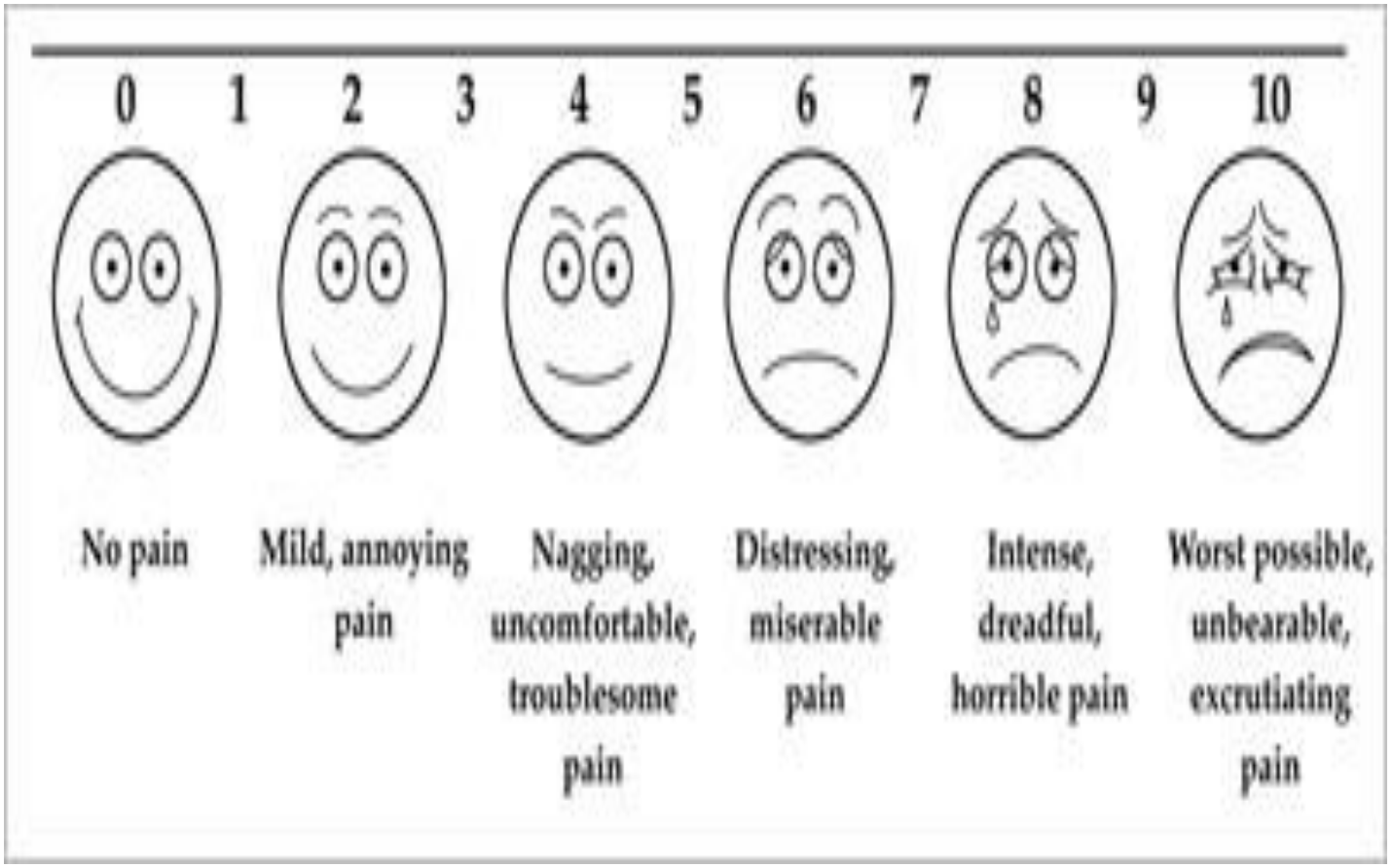
Nature of Pain


Nociceptive
Somatic, Visceral, Myofascial
Neuropathic
Pheripheral, central
Psychological Influences
Pain Mechanisms
Psychological State and Traits
Spirituality
Total Pain
Social/Family Functioning
Loss of Work
Suffering
Phvsical Disability
Fear of Death
Financial Concerns

Assessment

- Vital role of nursing in pain and symptom management
- Under appreciated resource
- Goal of assessment and appropriate pain management is to restore functionality

VAS w/Wong-Baker



PAIN ASSESSMENT (NON-VERBAL)

- CNVI/CNPI Pain Scale w/Move At rest

- Nonverbal vocalizations:* :*
- Facial grimaces/winces :* :*
- Bracing :* :* • Restlessness :* :*
- Rubbing :* :*
- Vocal complaints :* :*
- Pain score (0-12)=

FUNCTIONAL PAIN SCALE

- Functional Pain Scale-adapted from Gloth et al
- 0 No Pain

- 2 Tolerable (Doesn’t interfere with activities)
- 4 Tolerable (Interferes with some activities)
- 6 Intolerable (Able to use phone, TV, or read)
- 8 Intolerable (Unable to use phone, TV, or read)
- 10 Intolerable (Unable to verbally communicate)

Alberta Health Services

Covenant Health

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 *(Tiredness = lack of energy)*	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Tiredness
No Drowsiness *(Drowsiness = feeling sleepy)*	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Drowsiness
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 *(Depression = feeling sad)*	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Depression
No Anxiety *(Anxiety = feeling nervous)*	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Anxiety
Best Wellbeing *(Wellbeing = how you feel overall)*	0	1	2	3	4	5	6	7	8	9	10	Worst Possible Wellbeing
No _____ Other Problem *(for example constipation)*	0	1	2	3	4	5	6	7	8	9	10	Worst Possible _____

Patient's Name _____

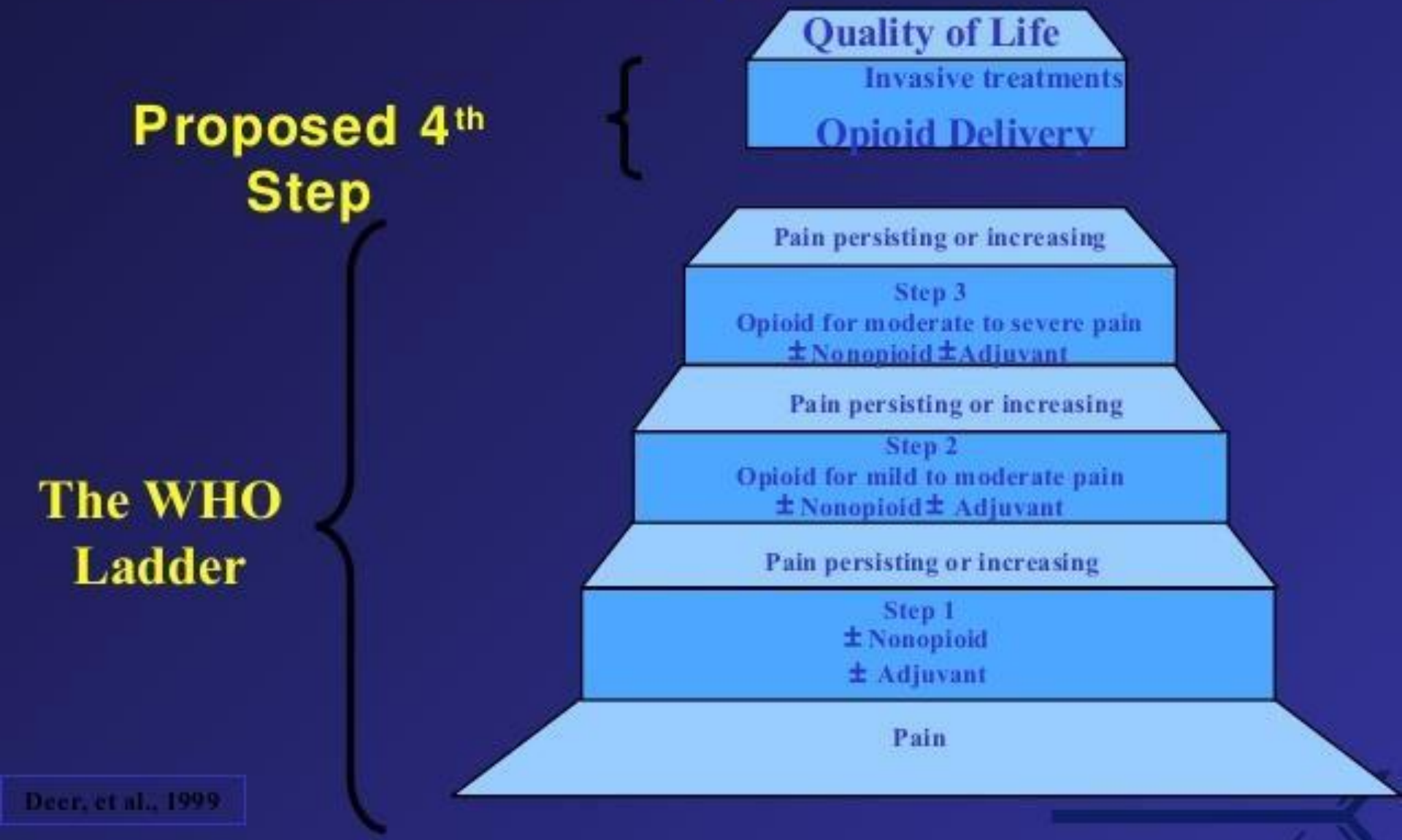
Date _____ Time _____

Completed by (check one):

- ☐ Patient
- ☐ Family caregiver
- ☐ Health care professional caregiver
- ☐ Caregiver-assisted

BODY DIAGRAM ON REVERSE SIDE

Modified WHO Analgesic Ladder



Deer, et al., 1999

POLYPHARMACY NIGHTMARE

Avoid the 31 Flavors of Baskin Robbins approach ***for all symptoms:***

- *Stick to the basics.* The basic principle is to titrate one agent to effectiveness or side effect, before introducing a second agent. Use 1 long acting and 1 short acting opiate.

- *Explore the possibilities:* Investigate etiology of pain. Consider complementary approaches. Use opioid sparing adjuvants.

CONCEPT

- DOME
- Daily Oral Morphine Equivalence
- Codeine and meperidine should be avoided

Opioid Prescribing and Equian				
Generic (Brand)	**Onset (O) and Duration (D)**		**Approximate Equianalgesic Dose**	
	Oral	**IV**	**Oral**	**IV**
Morphine (MSIR®) [CII]	O: 30-60 min D: 3-6 h	O: 5-10 min D: 3-6 h	30 mg	10 mg
Morphine extended release (MS Contin®) [CII]	O: 30-90 min D: 8-12 h	—	30 mg	10 mg
Hydromorphone (Dilaudid®) [CII]	O: 15-30 min D: 4-6 h	O: 15 min D: 4-6 h	7.5 mg	1.5 mg
Hydrocodone/APAP 325 mg (Norco 5, 7.5, 10®) [CII] Hycet (7.5 mg/325 mg per 15 mL)	O: 30-60 min D: 4-6 h	—	30 mg	—
Fentanyl [CII] (Sublimaze® Duragesic®) *Patch for opioid tolerant patients ONLY*	Transdermal O: 12-24 h D: 72 h per patch	O: immediate D: 30-60 min	—	100 mcg (0.1 mg)
Methadone (Dolophine®) [CII] *Opioid tolerant patients ONLY*	O: 30-60 min D: >8 h (chronic use)	—	Variable	Variable
Oxycodone 5, 15, 30 mg (Roxicodone®), Oxycodone 5, 7.5, 10 mg/ APAP 325 mg (Percocet®), ER=Oxycontin® [CII]	O: 10-15 min D: 4-6 h	—	20-30 mg	—
Tramadol (Ultram®) [CIV] ^	O: 1 h D: 3-6 h	—	300 mg	—

^ Not recommended in nursing mothers.

Equianalgesic Opioid Dosing

Drug	Equianalgesic Doses (mg)	
	Parenteral	Oral
Morphine	10	30
Buprenorphine	0.3	0.4 (sl)
Codeine	100	200
Fentanyl	0.1	NA
Hydrocodone	NA	30
Hydromorphone	1.5	7.5
Meperidine	100	300
Oxycodone	10*	20
Oxymorphone	1	10

Onset of Action

- IV opioids: 5-15 minutes
- Oral opioids: 45-60 minutes
- Transmucosal (fentanyl): 20-30 minutes

Methadone-Benefits

Mu agonist, synthetic opioid:

- Has two non-opiate analgesic receptor activities:
  - Prevents MAO reuptake in periaqueductal gray
  - Prevents N-methyl-d-aspartate (NMDA) receptors

- Lacks neuroactive metabolites
- High bioavailability (79 +/-11 hours)
- Long half life (30 +/- 16 hours)
- Highly lipophilic
- Fecal excretion-safe in ESRD
- Very inexpensive

METHADONE

When converting to Methadone:

- Assess the appropriateness of converting in the home
- Educate to side effects and responses

- Process takes 3-5 days to reach full therapeutic effect
- Breakthrough dosing with another opioid is imperative for transition
- Know the assessment findings that indicate overdose or under dosing

Methadone Precautions

- Lack of caregiver(s) to monitor the patient
- Very limited prognosis
- Increased risk of QT prolongation in patients with known bradycardia or heart failure, patients with

hypokalemia or those taking drugs which potentiate QT prolongation.

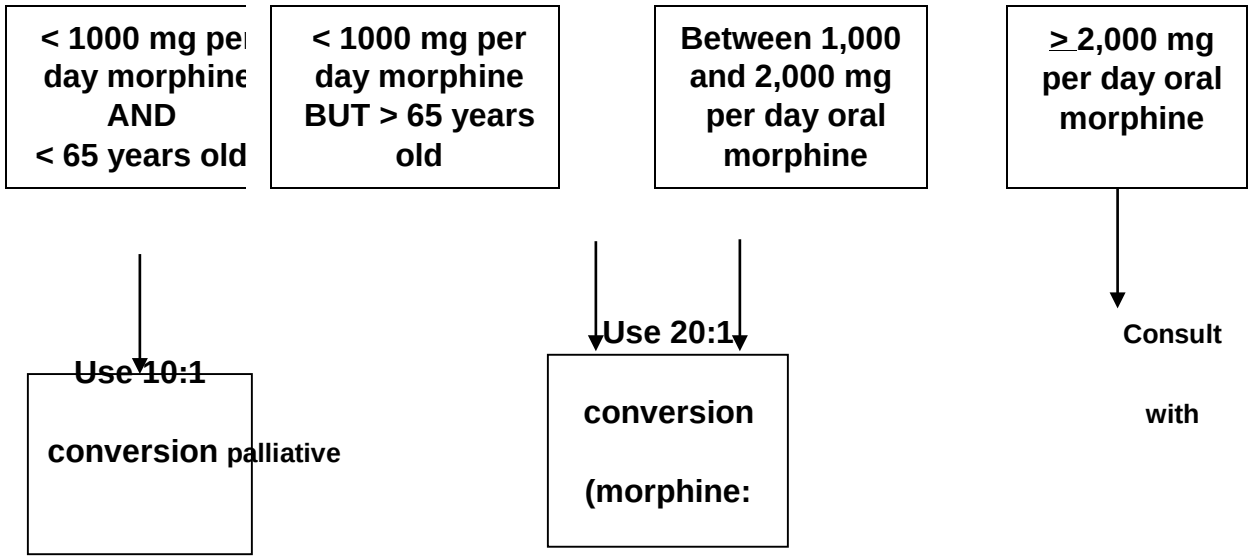
- Patients with OSA, hypercarbia.

METHADONE DOSES

- Initial dose for opioid naïve patients: 1-2.5mg at bedtime or twice a day
- Use their previous opioid or morphine for breakthrough pain

- With careful oversight, can use methadone for breakthrough(rare) in case of allergies etc..
- IV Methadone is twice as potent as oral

CONVERSION FROM MORPHINE TO METHADONE



(morphine: care/pain

methadone)

methadone)specialist

prior to use

FENTANYL PATCH

It isn't for everyone:

- Generally not for beginners. Patient must be opioid tolerant to the minimum equivalent of Morphine 50-65 mg/day, to be able to tolerate 25 mcg of Transdermal Fentanyl . No they can't be cut in half or use prn.
- Need a little fat for the patch. It's a lipophilic agent requiring adequate adipose tissue to facilitate absorption into fatty subcutaneous molecules.
- Not good for a quickie. It takes 12-24 hours for onset of action, not appropriate for acute or emergent pain management.
- Keep it cool. Fever/External heat (102-104^{o}) can increase absorption
- Generally, doubling the strength of the patch will give you the DOME(Daily Oral Morphine Equivalents). For example, a 25 mcg patch will provide approximately 50***mg*** of oral morphine equivalents per day(please see fentanyl patch manufacturing info/package insert for exact dosing prior to prescribing).

OPIOIDS ARE INCREASED BUT NO PAIN RELIEF IS IN SITE.....

What type of pain is the patient experiencing?

- Somatic, Myofascial, Neuropathic
- Has the pain changed in quality-important in differentiating acute on chronic
- Total body pain
- Emotional suffering/depression-pay attention to pt affect
- Anxiety

PCA Pitfalls

Your patient is getting sleepier and sleepier:

- Is the patient opioid naïve and receiving basal and bolus dosing at the start?
- Is someone other than the patient using the bolus button?
- Is the prescriber increasing the basal rate in response to the patient's persistent complaints of pain?
- PCA to oral
- Does the patient need a long-acting opioid?
- Will prn dosing only provide adequate coverage?
- The pump is off-when should the new regimen start?
- The bolus button becomes a Xbox(Nintendo etc) game(anxiety)*Attempts verses Doses received*
- Continuous opioid infusions even at end of life should only be started once patient has "failed" appropriate titration of ATC parenteral opiates

Important Definitions

- Addiction-characterized by *aberrant behaviors*
- Physical Dependence-need for a substance to function
- Tolerance-requiring increased dose of substance to experience expected effects
- Opioid Naïve-<30mg DOME
- High Dose Opiates->90mg DOME

Sabotaging Side Effects

CNS: drowsiness, confusion, hallucination

- The dose of opioid is excessive
- The pain is not opioid responsive

- Conversion from one opioid to another was done incorrectly
- Other concomitant sedatives being prescribed(most commonly benzos)

Respiratory Depression

- Excessive opioid dose in naïve patient
- Can occur if dosing persists in face of sedation

CASE 1

- 43 YO M WITH 1 YR C/O “DYSPNEA”(2012-2013)
- NON-SMOKER
- FORMER MILITARY
- LEFT CW PAIN

- MARRIED, 1 ADULT SON W/SPECIAL NEEDS
- ER CT SHOWED LT LUNG MASS
- VATS COMPLETED PATH C/W STAGE 4 NSCLC
- PAIN 8/10 “SHARP,STABBING”
- WHERE DO WE GO FROM HERE

CASE 1 (CONTINUED)

- Gabapentin+IV Ketorolac+IV Hydromorphone Immediate Postop
- Chemo/RT
- Convert to po dilaudid prn btp prior to d/c, continue and titrate gabapentin,venlafaxine added for depression
- Patient continues to f/u oupt pall care(5yrs later), remains on gabapentin,venlafaxine, “medical marijuana” & crizotinib with good qol

CASE 2

- 72 yo F consulted for acute on chronic LBP
- Initial admit for CHF exacerbation, deconditioning
- Pt with long h/o chronic LBP, s/p spinal cord stim placed at JHU ~5yrs ago
- Given gabapentin at hs and po oxycodone/acetaminophen prn
- Little improvement in pain
- Extremely flat affect

CASE 2 (CONTINUED)

- Pt queried wrt depression

- Dgtr died earlier this month from CA
- Son died almost exactly 1 yr previously from AMI
- Pt w/insight into somatization of depressive features/normal grief process
- Declined additional anti-depressant tx
- Opted to embrace current coping skills (religion, denial)
- Dx-Unresolved/complicated grief

CASE 3

- 52 yo m physician w/widely metastatic prostate ca
- Chemo 1 wk PTA
- Severe pain,dyspnea
- Seen on bipap in ICU,teenage son at bedside

- Taking Oxycontin 80mg po q6h atc with Oxy IR 30mg po q4h prn for BTP

CASE 3 (CONTINUED)

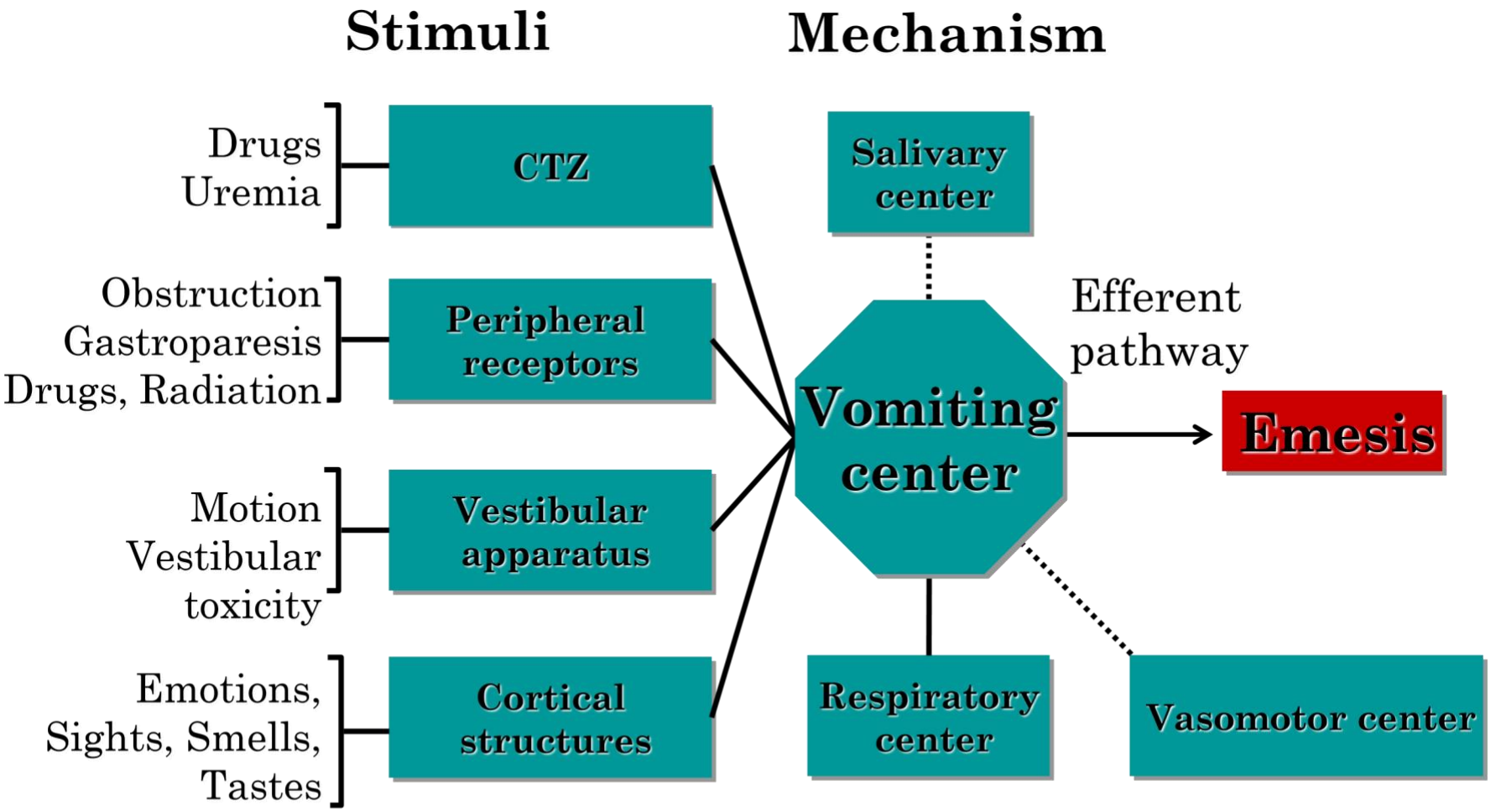
"Physician know thy self"

- Establish goals of care("break the ice if needed")
- Do not take hope away but be realistic
- Discuss risks and benefits(we ALL have them)
- Establish a clear plan and objectives
- Calculate DOME as a starting point(convert to hydromorphone PCA Basal 1mg/hr,bolus 0.5mg q6min)
- Use adjuvants(Dexamethasone 8mg IV BID)
- Know the therapeutic index prior to making changes
- Use adjuvants aggressively when possible

NAUSEA

- Definition-stomach distress with a distaste for food and an urge to vomit

Nausea & Vomiting



Tortorice and O'Connell. *Pharmacotherapy*. 1990;10(2):129-145; Andrews. *Br J Anaesth*. 1992;69 (suppl 1):2S-19S; Grahame-Smith. In: *Nausea and Vomiting: Mechanisms and Treatment*. Berlin, Germany: Springer-Verlag; 1986:1-8.

ANTI-EMETIC THERAPY

- CTZ
- Serotonin antagonists *5-HT3*
- (Ondansteron, granisetron)
- Peripheral and Cortical
- Corticosteroid
- Benzodiazepine
- Lorazepam
- *S/E sedation*
- Butyrophenone
- Haloperidol
- *S/E tardive dyskinesia, arrthymias, hypotension*
- Dopamine antagonist
- *D2*
- Metoclopramide
- *S/E seizures, tardive dyskinesia*
- Cannabinoid
- *Blocks VC*
- Dronabinol /Nabilone
- *S/E alt sensorium, anxiety, mood disturbance*
- Anti-convulsant
- *Taste related nausea*
- Clonazepam
- *S/E drowsiness, ataxia*
- Anti-histamine
- Meclizine,scopolamine
- *S/E tachycardia, dry mouth*

ASHP. *Am J Health Syst Pharm*. 1999;56:729-764; Kovac. *Drug Saf*. 2003;26:227-259; Gralla et al. *J Clin Oncol*. 1999;17:29712994.

COMPLEMENTARY THERAPIES

- Acupressure bands("Sea Bands")
- Acupuncture
- Avoid triggers
- Environment
- Music toning
- Relaxation, imagery, diversion therapy
- Meditation
- Hypnosis
- Psychosocial support

CASE 4

- 38 yo M with Stage III Laryngeal CA
- Recent completion of cisplatin
- Undergoing RT
- Persistent N/V
- Has PEG tube
- No recent BM's
- Where do we go from here?

CASE 4 (CONTINUED)

- Metoclopramide 5mg IV q6h ATC with titration upward to 10mg IV q6h ATC

- Nausea improved, now w/emesis without preceding nausea, scopolamine patch added
- MRI brain ordered-negative for CNS/cerebellar mets
- 2nd scopolamine patch added, & reglan titrated up to 10mg IV q4h ATC with adequate symptom controlsubsequent med conversion to liquid via PEG and d/c home

CONSTIPATION

- Constipation is defined as having a bowel movement fewer than three times per week

BACK-UP ON THE GI BELTWAY: CONSTIPATION

- Opioids, anticholinergics, antispasmotics, antidepressants, antipsychotics, antiemetics, aluminum antacids, diuretics, iron, vinca alkaloids
- Hypercalcemia, hypokalemia
- Dehydration, polyuria, fever,
- Radiation fibrosis
- Intracolonic or pelvic tumor
- Inadequate fluid & fiber

- Lack of privacy & bowel training
- Autonomic neuropathy/failure
- Bowel ileus or obstruction
- Spinal cord involvement
- Hemorrhoids, anal fissure, perianal abscess
- vomiting

mass

intake

- Immobility

TREATMENT

Step 1: Preventative/Maintenance Regime

Stool softner & stimulant

Docusate Sodium/casanthranol

Docusate Sodium/Sennosides

** *abdominal cramping, colic, diarrhea, nausea, vomiting*

Step 2: If no bowel movement in 48 hrs

Hyperosmotic Agents or Laxatives

Lactulose, Poly-ethylene-glycol, Sorbitol

Milk of magnesia, Bisacodyl

** *abdominal distention, pain, flatulence, electrolyte disorders*

TREATMENT

Step 3A: If no bowel movement in 3-4 days

- *Rapid-acting Laxative*

Note: *Administer only in the presence of active bowel sounds & in the absence of rectal fecal impaction, vomiting, severe abdominal cramping*

- Magnesium citrate, Mineral oil 30-60 ml
- ** *malabsorption of fat soluble vitamins, electrolyte disturbance*

Step 3B: if no bowel movement in 3-4 days *Fecal Impaction*

- Pre-treat with analgesia or mild sedative
- Soften stool with glycerin suppository or oil retention enema

- Manually disimpact stool, while encouraging relaxation deep breathing techniques
- Follow with SSE or tap water enemas until clear
- Offer sitz bath, or apply warm compresses, Tucks pads or local anesthetic ointment

PHARMACOLOGIC TREATMENT

- Prokinetic agent:
- Metoclopramide 5-10 mg QID
- Erythromycin 250mg IV BID
- Opioid Antagonist
- Naloxegol
- Methylnaltrexone

- Naloxone
- Opioid rotation to lipophilic agent
- Fentanyl or Methadone

CASE 5

- 46 yo F with Stage 4 Cervical CA
- Cachexia, declining fxnal status
- On opiates as outpt
- Scant BM x 5 wks PTA
- Abd distention and pain • How do we proceed?

CASE 5 (CONTINUED)

- D/C prn IV hydromorphone with change to Fentanyl PCA
- Initiate adjuvants for pain(gabapentin)
- Metoclopramide 5mg IV q6h ATC with upward titration to 10mg IV q4h ATC
- GI involved mult enemas given, mult scopes performed to try and resolve impaction
- Surgery on board in case of perforation
- Methylnaltrexone given subcut mult times with some results

Dyspnea

- The *subjective* sense of breathlessness or smothering.

BACKGROUND

- Dyspnea is the primary complaint of patients with advanced lung or heart disease.
- 94% of patients with chronic lung disease experience dyspnea in the last year of life.
- In SUPPORT (Study to Understand Patient Preferences and Outcomes of Treatment), “serious dyspnea” was far more common (66%) than “serious pain” (25%).
- These investigators reported that patients with COPD were more likely to die with poor control of dyspnea than patients who had lung cancer.

PRINCIPLES

- The experience of dyspnea includes sensory (how severe is it?) and affective (how unpleasant is it?) components.
- Based on a neurophysiological model, breathlessness is thought to be similar to the perception of pain.
- ACCP Statements based on dyspnea that persists at rest or with minimal activity and is distressful despite optimal therapy of advanced lung or heart disease.

ACCP Position

- Patients with advanced lung or heart disease should be asked about the intensity and distress of their breathlessness.
- Pursed-lips breathing, relaxation, oxygen for those with hypoxemia, noninvasive positive pressure ventilation, and oral/parental opioids can provide relief of dyspnea.
- Therapies should be started with the understanding that the patient and clinician will reassess whether the specific treatments are relieving dyspnea without causing adverse effects.

- It is important to communicate about palliative and end-of-life care.

PT PRESENTATION

- Shortness of breath
- Breathlessness
- Smothering feeling
- Suffocation
- Present at rest
- Worsened by activity

Diagnosis

- Self-report is the key to detecting dyspnea & appreciating the severity of dyspnea.
- Blood gas, oxygen saturation, and respiratory rate do not substitute for patient's self assessment and report of dyspnea.

Goal of Treatment

- Should be to improve the patient's subjective sensation rather than trying to modify any abnormality in blood gases or pulmonary function

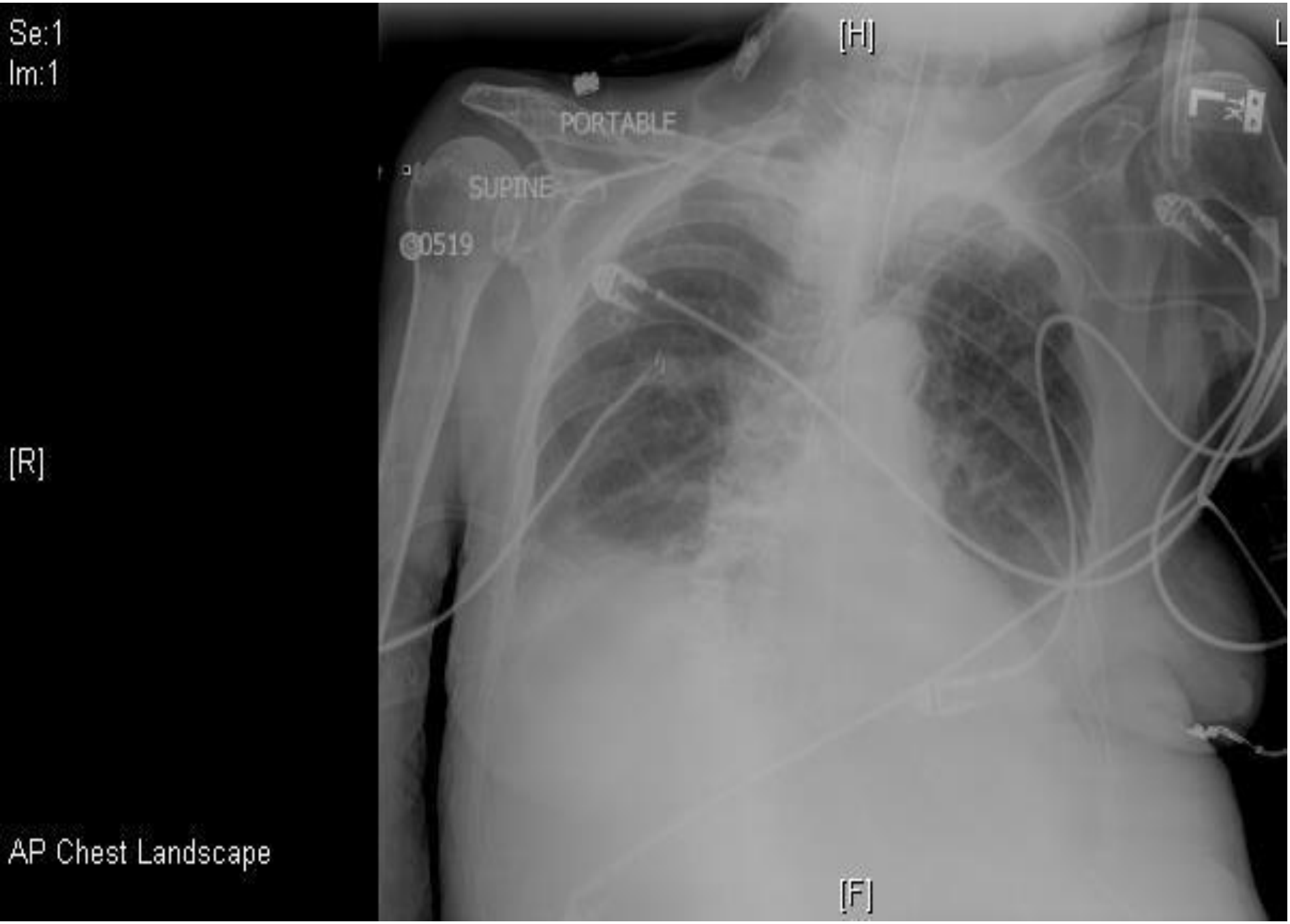
- *Primum non nocere* - avoid suctioning and other traumatic interventions when possible, start low doses of medications in naïve individuals and titrate appropriately

PATIENT CASE 6

- 86 yo F with CHF
- UTI subsequent hypotension
- Dyspneic and “anxious”

PATIENT CASE 6 (CONTINUED)

- Pt on NRB
- Agitated, dyspneic ,tachypneic, pooling oropharyngeal secretions
- On TPN, with inc wt and dec albumin
- B/L Crackles, poor aeration
- Pt AMS, poor historian, non-verbal cues


Se:1
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[H]
PORTABLE
SUPINE
0519
[R]
AP Chest Landscape
[F]

TREATMENT

- Address goals of care
- Continue O2 (but remove mask when possible)
- Diurese
- Decrease fluid burden (d/c TPN and IVF)
- Start low dose opiates (ie; Morphine 2mg IV q4h ATC with titration for dyspnea - when goal is comfort, do not hold for parameters such as BP etc)
- Scopolamine patch 1.5 mg top q72 for secretions

AGITATION/ANXIETY IN DEMENTIA

- Agitation/anxiety - a moving back and forth or with an irregular, rapid, or violent action; a feeling of worry, nervousness, or unease, typically about an imminent event or something with an uncertain outcome
- Prevalence 60 to 90 percent of patients
- Both typical and atypical antipsychotics carry ***negative mortality benefit(ie increase risk for earlier death)***
- Interventions - remove/treat exacerbating cause if possible(UTI,PNA etc), provide supportive ,caring environment, avoid physical restraints, use pharmacologic interventions selectively; if antipsychotics absolutely necessary use low dose preferably via SL route(ie Haloperidol 1mg sl q4h prn)

CASE 7

- 90 yo m with ES dementia (FAST 7A) well cared for at home, acute/chronic
- UTI-TX w/ceftriaxone
- Agitation persists in spite of TX environment
- 24 Hr sitter
- Start Valproic Acid Sprinkels 125mg PO Q6H, ATC w/ improvement in behavior

TAKE HOME POINTS

- *Primum non-nocere (First do no harm)*

- Risk/benefit ratio changes as patients goals of care change
- Palliative care can lengthen lifespan and enhance QOL
- Evaluate the whole patient (look for congruent vs discordant non-verbal cues).
- Maintain your own well-being and appropriate boundaries

KNOWLEDGE CHECK

- Palliative care is the same as Hospice Care T/F
- Morphine is the strongest opiate T/F

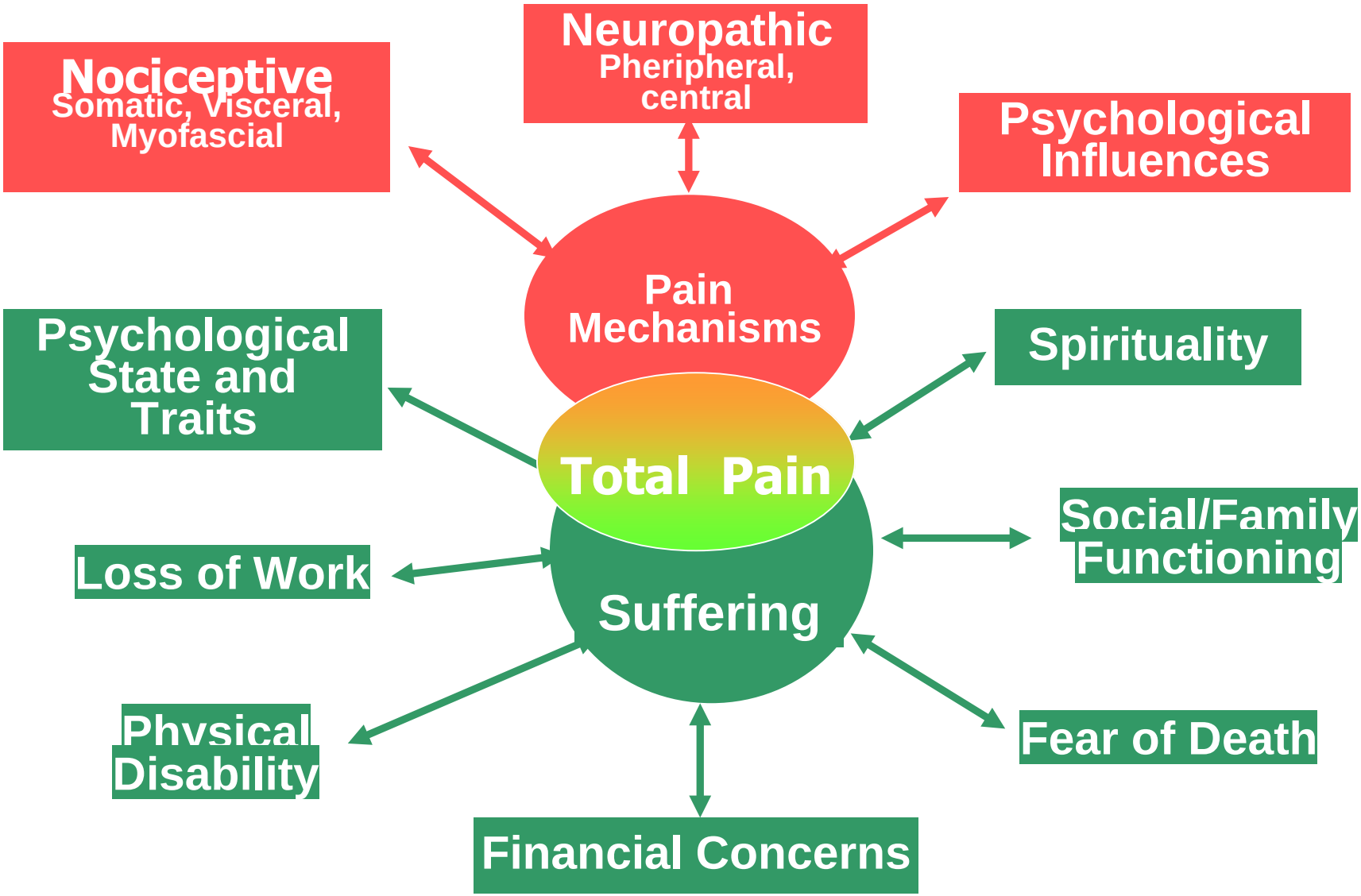
- Hydromorphone, Methadone & Buprenorphine are strong opiates T/F
- Dyspnea is defined by Pulse Ox T/F
- Agitation in dementia is best treated with non-pharmacologic interventions T/F

PAIN, OPIATE CONVERSION & TITRATION

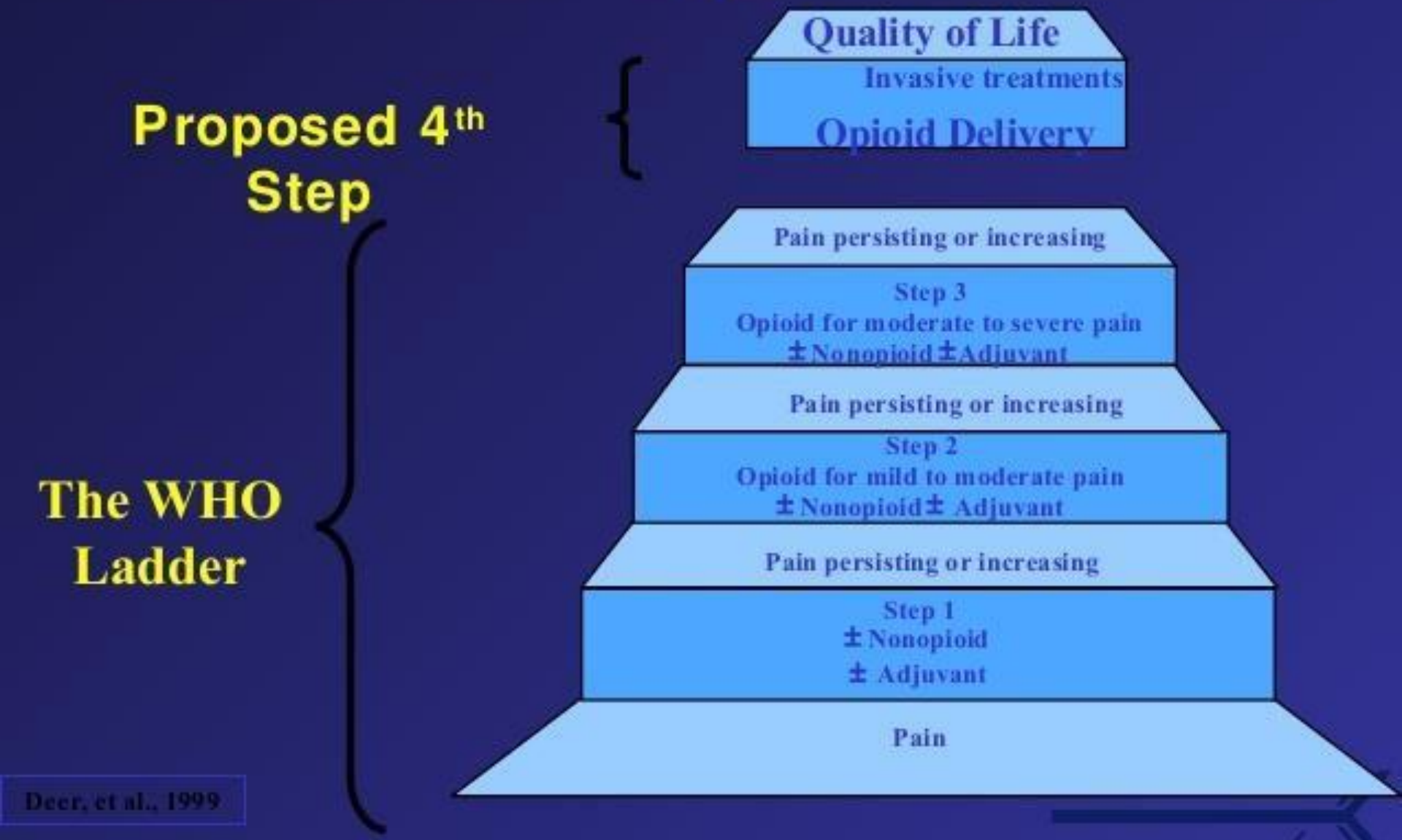
Definition of Pain

- An unpleasant sensation that can range from mild, localized discomfort to agony. Pain has both physical and emotional components. The physical part of pain results from nerve stimulation. Pain may be contained to a discrete area, as in an injury, or it can be more diffuse, as in disorders like fibromyalgia. Pain is mediated by specific nerve fibers that carry the pain impulses to the brain where their conscious appreciation may be modified by many factors.
- The word "pain" comes from the Latin "poena" meaning a fine, a penalty.

Nature of Pain/QOL



Modified WHO Analgesic Ladder



Deer, et al., 1999

Opioid Titration

- Goal of care is management of pain with long acting pain medications (overall goal of pain management is **ALWAYS** OPTIMIZE FUNCTIONALITY)
- Use of 3 or more breakthrough doses/24 hour period may be an indication of the need to increase the long acting medication (dose/frequency or both)
- Knowing how to safely titrate pain medications is a core competency for hospice nurses
- Opioid naïve< 30mg DOME (Daily Oral Morphine Equivalents); High dose opiate >90MG DOME

Opioid Rotation

Consider when:

- Lack of therapeutic response - Patient develops tolerance to their current narcotic
- Formulary issues - Change from Oxycodone Extended Release to a preferred narcotic(ie Long Acting Morphine)
- Change from IV/SQ to po or po to IV/SQ
- Changing to Methadone
- Development of adverse effects
- Change in patient status
- Other considerations
- Opioid/formulation availability
- Patient/family health care beliefs

Physician and/or Pharmacist oversight required:

- When changing to or from IV/SQ
- When changing to or from Methadone

COMMUNICATING THE RATIONALE

Explaining WHY to patients, families, caregivers (and other practitioners):

- Improved pain management
- Fewer Peaks/Troughs
- LA oral, transdermal fentanyl and buprenorphine
- Enhanced adherence to opioid therapy
- Improved patient outcomes
- Better analgesic effects
- Better functional status
- Fewer adverse effects

CONVERSION CONVERSATIONS

- Same opioid, one formulation to a another

- Same opioid, one route of administration to another

- From one opioid to another

- Conversions to/from transdermal opioids

EQUIANALGESIC TERMINOLOGY

- Opioid responsiveness

- The degree of analgesia achieved as the dose is titrated to an endpoint defined either by intolerable side effects or the occurrence of acceptable analgesia
- Potency
- Intensity of the analgesic effect of a given dose
- Dependent on access to the opioid receptor and binding affinity
- Equipotent doses = equianalgesic

EQUIANALGESIC OPIOID DOSING

- Use the equianalgesic chart

- Convert current total daily opioid to morphine equivalence (DOME in a 24 hr time period)
- For TD Fentanyl, double the strength of the patch i.e, 100mcg patch is approximately 200mg/day of oral morphine
- Always consider 25% reduction in dose when rotating opiate itself (incomplete cross tolerance)

EQUIANALGESIC OPIOID DOSING

	Equianalgesic Doses (mg)	
Drug	**Parenteral**	**Oral**
Morphine	**10**	**30**
Buprenorphine	**0.3**	**0.4 (sl)**
Codeine	**100**	**200**

Fentanyl	**0.1**	**NA**
Hydrocodone	**NA**	**30**
Hydromorphone	**1.5**	**7.5**
Meperidine	**100**	**300**
Oxycodone	**10***	**20**
Oxymorphone	**1**	**10**
Tramadol	**100***	**120**

LIMITATIONS OF EQUIANALGESIC CHARTS

- Based on single dose studies
- Patient-specific variables

- Weight, adipose layer available, temperature

DETERMINING AN APPROPRIATE DOSE ADJUSTMENT

- Determine 24 hour total of long acting medications actually taken
- Determine 24 hour total of breakthrough doses actually used = DOME
- Determine pain trajectory with the aforementioned
- Is the pain opiate responsive? Are there better alternatives? Adjuvants? Complementaries?

COMFORT ACHEIVED - WITHOUT OPIOID ROTATION

- If the patient reached comfort with the breakthrough dosing taken in the last 24 hours:
- Total the medication used in the past 24 hours (TDD)
- Adjust the LA Opiate accordingly

COMFORT NOT ACHIEVED - WITHOUT OPIOID ROTATION

If patient did not reach comfort with breakthrough dosing in past 24 hours:

- Total opiate use in last 24 hrs (DOME)
- **Increase the total dose by 25% for moderate pain.**
- **For severe pain, 50% increase may be indicated. Requires close monitoring.**
- Adjust LA opiate appropriately

- Breakthrough/Rescue dose is 25% of the new 12 hour long acting dose

MEDICATION CHANGE/ROUTE NECESSARY

Common scenarios:

- Cannot swallow the oral tablet / solution
- No longer has the fatty layer or body temperature to absorb a transdermal patch
- Has lost IV access and does not wish to restart

- Consider using the same drug in a new route
- Consider using a different drug in a new route

SAME DRUG: DIFFERENT ROUTE

- Bioavailability
- The rate and extent to which the active ingredient is absorbed from a drug product and becomes available at the site of action
- Oral bioavailability
- Morphine 30-40% (range 16-68%)
- Hydromorphone 50% (29-95%)
- Oxycodone 80%
- Oxymorphone 10%

CONVERSION EQUATION
Same Drug : Different Route

- Set up the conversion equation
- Use the same drug but determine the conversion fraction based on an alternate route
- (Morphine is 30 Oral to 10 IV or equation of 10/30)
- Cross multiply and solve for “X”
- Obtain the total dose for the new route
- Divide the total dose by 2 for every 12 hour dosing or by 3 for every 8 hour dosing
- Breakthrough dose is 25% of the 12 hour long acting dose

- Individualize for your patient
- HAVE YOUR MATH DOUBLE CHECKED!!!

OPIOID CONVERSION

Same Drug : Different Route

Am is 84 yowith Multiple Myeloma and is admitted to the hospital w/ cord compression and is made npoawaiting corpectomyby neurosurg. Pain previously well controlled on la morphine 30 MG PO Q8H. What is the equivalent IV dose?

A. Morphine 5 MG IV every 4 hours

B. Morphine 10 MG IV every 4 hours
C. Morphine 15 MG IV every 4 hours
D. Morphine 30 MG IV every 4 hours
E. Morphine 45 MG IV every 12 hours

Answer is choice A

OPIOID CONVERSION
Changing to a Different Drug

- AM (same pt) now develops renal failure (preferred agents Hydromorphone, Fentanyl, Methadone) convert pt to equianalgesic IV Hydromorphone regimen
- Use the conversion fraction for the old drug and the new drug in the new route

- (Morphine is 30mg Oral to Hydromorphone 1.5MG IV or equation of 1.5/30)
- Cross multiply and solve for “X”
- Obtain the total dose for the new opioid or route
- HAVE YOUR MATH DOUBLE CHECKED!!!

Calculations

- 1.5/30=x/90, therefore 30x=135, x=4.5 MG of IV Hydromorphone over 24hrs
- Change pt to Hydromorphone 0.75MG IV q4h ATC

Change in Drug and Route

56 yo M with ES CHF and COPD receiving 5MG po/sL Morphine q4h atc for dyspnea (controlled), now for d/c from GIP to home, major adherence concerns. What dose TD Fentanyl:

A)Fentanyl 25MCG TD q48hr

B)Fentanyl 25MCG TD q72hr

C)Fentanyl 12MCG TD q72hr

D)Fentanyl 50MCG TD q72hr

Answer is choice C

Conversion to PCA (IV OR SUBCUT)

JC is 59 yo F with stage 4 NSCLC. Family desires to keep pt at home on hospice. Pain well controlled but now w/significant EOL Dysphagia. Prior regimen is LA Morphine 100 MG PO Q12H and MSIR 30MG PO Q4H PRN (avg 3 BTP dose/24hr). What is PCA Morphine Basal and Bolus dose?

A) Morphine Basal 1 MG/hr Bolus 1mg Q10MIN
B) Morphine Basal 2 MG/hr Bolus 1mg Q10MIN
C) Morphine Basal 3 MG/hr Bolus 2mg Q10MIN
D) Morphine Basal 4 MG/hr Bolus 2mg Q10MIN
E) Morphine Basal 8 MG/hr Bolus 4mg Q10MIN

Answer is choice D

CHANGE IN OPIATE, SAME ROUTE

FY is 74 yo F with stage 4 Breast Ca. Now admit to Hoc, pain stable on oxycodone extended release (non-formulary) 20MG PO Q8H ATC and oxycodone immediate release 10mg PO Q3H PRN BTP (not utilizing); change to long acting (LA) morphine (do not account for cross tolerance).

A) LA Morphine 15 MG PO Q12H
B) LA Morphine 15 MG PO Q8H
C) LA Morphine 30 MG PO Q12H
D) LA Morphine 30 MG PO Q8H
E) LA Morphine 60 MG PO Q12H

Answer is Choice D

Methadone - Benefits

Mu agonist, synthetic opioid

- Has two non-opiate analgesic receptor activities:
- Prevents MAO reuptake in periaqueductal gray
- Prevents N-methyl-d-aspartate (NMDA) receptors
- Lacks neuroactive metabolites
- High bioavailability (79 +/-11 hours)
- Long half life (30 +/- 16 hours)
- Highly lipophilic
- Fecal excretion - safe in ESRD
- Very inexpensive

METHADONE

When converting to Methadone:

- Assess the appropriateness of converting in the home
- Educate to side effects and responses
- Process takes 3-5 days to reach full therapeutic effect
- Breakthrough dosing with another opioid is imperative for transition
- Know the assessment findings that indicate overdose or under dosing

Methadone Precautions

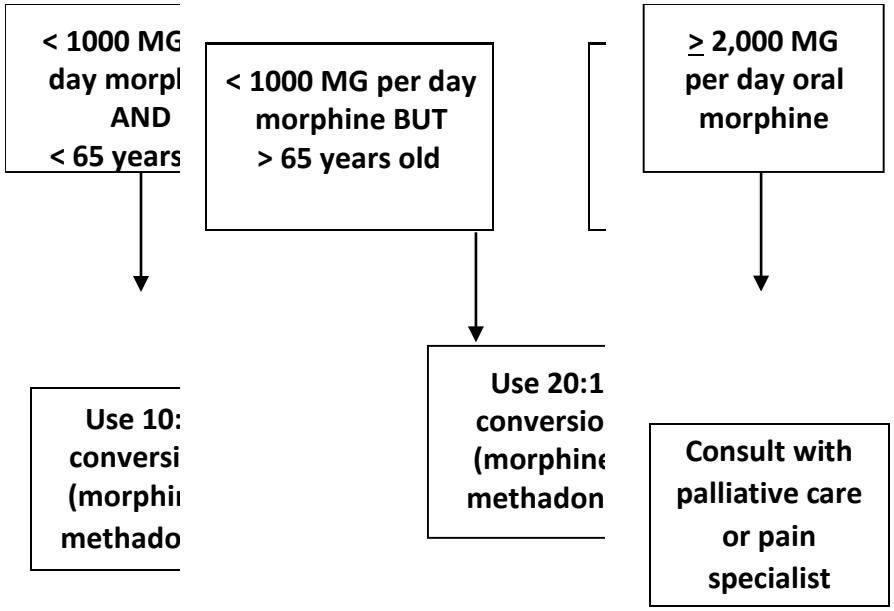
- Lack of caregiver(s) to monitor the patient
- Very limited prognosis

- Increased risk of QT prolongation in patients with known bradycardia or heart failure, patients with hypokalemia or those taking drugs which potentiate QT prolongation.
- Patients with OSA, hypercarbia.

METHADONE DOSES

- Initial dose for opioid naïve patients: 1-2.5MG at bedtime or twice a day
- Use their previous opioid or morphine for breakthrough pain
- With careful oversight, can use methadone for breakthrough(rare) in case of allergies etc..

Conversion from Morphine to Methadone



Methadone

- Analgesic and plasma t1/2 differ

- Onset of 15 min with peak in 1 to 2 hrs
- Analgesic t1/2 of 4 to 6 hrs
- Plasma t1/2 of ~24hrs
- Clinical implications of pharmacokinetic properties
- IV methadone is twice as potent as oral

Dosing Dilemmas

- Half life (30+/- 16 Hours)
- Recommended dosing intervals (3-24 hours)
- Duration of analgesia for a single dose (4-6 hours)
- Rapid absorption-distribution
- Accumulates in tissues-initial q4hour dosing may stretch to bid

Clinical Uses

- Neuropathic pain and/or mixed nociceptive pain not responding to morphine and co-analgesic
- End-stage renal failure
- True morphine allergy
- Cost

What is an Adjuvant Analgesic?

Any drug that has a primary indication other than pain, but is known to be analgesic in specific circumstances

What are the Indications to Use an Adjuvant Analgesic?

- Poor response to optimal opioid therapy
- Type of pain experienced is more responsive to the adjuvant
- Patient has a marked predisposition to opioid toxicity

What Types of Pain are Adjuvants Indicated?

- Neuropathic pain
- Bone pain
- Visceral pain
- Myofascial

Is The Patient Experiencing Neuropathic Pain?

- Etiology
- Injury along the afferent and efferent pathways
- Tumor infiltration

- Treatment: chemotherapy, radiation, surgery
- Description
- Burning, electrical, pinching, shooting; numbness, tingling, “pins & needles”

What Sensory Disturbances Does The Patient Experience?

- Hyperalgesia: increased perception of painful stimuli
- Allodynia: exaggerated pain induced by non-painful stimuli
- Hyperpathia: exaggerated pain response
- Dysesthesia: deep aching, pressure, cramping, painful sensations
- Hypesthesia: numbness, decreased feeling

- Paresthesia: tingling, spontaneous, non-painful sensation

Neuropathic Pain: What To Do?

- Anticonvulsants
- SNRI for co-morbid depression
- Tricyclic antidepressants
- Benzodiazepines
- N-Methyl-D-Aspartate receptor antagonists
- Corticosteroids
- Alpha$_2$ adrenergic agonist
- Antiarrythmics
- Topical anesthetics

Refractory Pain

- 57 yo F with widely metastatic breast ca
- Intractable pain on Oxycodone Extended Release 80MG po q6h atc with Oxy IR 30MG po q3h prn(taking ATC)
- What to do?

A)Methadone 10MG po tid,oxy ir 30MG po q3prn

B)Methadone 40MG bid,oxy ir 45MG po q3prn

C)Methadone 40MG tid,oxy ir 45MG po q3prn

D)Methadone 60MG bid,oxy ir 45MG po q3prn

Answer is B

Knowledge Check

- 38 yo F with cervical CA
- On Hydromorphone PCA with basal 18MG/hr
- On gabapentin as adjuvant, pain poorly controlled, primarily neuropathic

Knowledge Check (continued)

Start methadone PCA at basal of 9mg/hr with upward titration based on symptoms

Clinical Pearls

- Methadone safe and effective when used judiciously
- Consider when failing other opioids/difficult to control pain
- QTc issues can be concern in conjunction w/other agents affect cardiac conduction(TCA's etc.)

Summary

- Works well for bone pain, neuropathic pain pt who have failed multiple other opiates and refractory pain, co-morbid addictions (Etoh, etc), patients with ESRD, patients who cannot afford other opiates
- Be careful of pt with OSA, sedation on day 4/5, withdrawl on day 7+, drug interactions, QTc issues, ESLD

Final Thoughts

1. Be alert for clinical scenarios that may indicate opioid switching should be recommended
2. Always consider adjuvants/complementaries and other elements of pain (is the pain opioid responsive?)
3. Understand/consider principles of opioid responsiveness, potency, equivalence and bioavailability
4. Follow approved labeling for switching in opioid tolerant patients
5. Use a fair balance equianalgesic dosing chart and understand limitations (approach these systematically)
6. Consider timing of switches

7. Document your interventions and EDUCATE patients and practitioners

BEST PRACTICES

- Dosage calculations should be double checked by another practitioner (nurse, pharmacist, MD)
- Know your dose prior to calling the MD for orders
- Understand that you are responsible for the dose you give, even if the MD order was not prudent

- Patients who have pain meds increased or medications changed should have a check in call and/or skilled nursing visit 24 hours after the change

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APPENDIX

Onset of Action - Pg 29: Notes

- The 1992 Agency for Health Care Policy and Research CPG states that pain should be reassessed:
    1. Within 30 minutes of parenteral drug administration
    2. Within one hour of oral drug administration
    3. With each report of new or changed pain
- However, these recommendations pertain to the reassessment of acute pain in an acute care setting.
- Multiple factors determine the appropriate frequency of pain reassessment, including characteristics of the pain (eg duration, severity), patient factors and needs, the clinical setting, and pain management plan (ie type of drug or intervention).
- In the outpatient setting, patients should be instructed to report any changes in pain characteristics, side effects of treatment, and treatment outcomes. Periodic reassessment is recommended in patients with chronic pain to evaluate improvement, deterioration, or treatment-related complications.

Nausea & Vomiting – Pg 47: Notes

- The vomiting center coordinates emesis. It is located in the lateral reticular formation of the medulla, adjacent to the structures involved in the coordination of vomiting (cranial nerves VIII and X and the vasomotor, respiratory, and salivary centers).
- Vomiting results from the stimulation of a multistep reflex pathway controlled by the brain. It occurs when efferent impulses are sent from the vomiting center to the salivation center, abdominal muscles, respiratory center, and cranial nerves.
- There are many stimuli that can contribute to poorly controlled emesis in patients receiving complex, multiday chemotherapy.
- Some of these stimuli, such as motion, uremia, smells, or tastes, act centrally in the brain to stimulate the vomiting center.
- Others, such as gastroparesis and radiation, primarily interact peripherally by stimulating afferent impulses from the gut to the vomiting center.
- Chemotherapy drugs stimulate emesis both centrally and peripherally.

Anti-Emetic Therapy – Pg 48: Notes

- Corticosteroids are widely used to control CINV; their antiemetic mechanism of action is unknown, but it may be mediated through inhibition of prostaglandin synthesis.
- At equivalent doses, corticosteroids have equivalent safety and efficacy and can be used interchangeably. The corticosteroids most commonly studied for use as antiemetics have been dexamethasone and methylprednisolone. Dexamethasone has the advantage of being available in many dosage formulations.
- For acute CINV, corticosteroids (eg, dexamethasone, methylprednisolone) add approximately 20% to 25% to the emetic response rates of cancer patients when given with a serotonin antagonist, compared with using the serotonin antagonist alone. For delayed CINV, dexamethasone and serotonin antagonists appear to have equivalent antiemetic activity.
- Use of corticosteroids in hematologic malignancy patients may be prohibited by treatment protocols either because of theoretical concerns about drug interactions or infection concerns in high-risk patients.
- Often the cancer treatment regimen already includes a corticosteroid, the administration of which should be scheduled close to chemotherapy administration to take advantage of the synergy with serotonin antagonists.

Methadone – Pg 102: Notes

I want to call your attention to methadone. Methadone has garnered the reputation of being the opioid of choice for neuropathic pain because not only is it an opioid that works at all of the receptors, it's also a serotonin reuptake inhibitor and an NMDA blocker. So theoretically, this ought to be a good drug for neuropathic pain.

POSTTEST/QUIZ

Please click on the link below to be taken to this activity's quiz. After successful completion, you can then fill out an evaluation and application for CME credit.

Symptom Management and Approach to Care 1