

Pain Management in the Elderly

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Test: True or False

1. Pain sensitivity declines with age.
 ■ **FALSE**
2. Medications should be dosed as they would at 40 years old.
 ■ **FALSE**
3. NSAIDs are safe to use in the elderly.
 ■ **TRALSE**
4. Appropriate use of opioids increases fall risk.
 ■ **FALSE**
5. I'm going to have plenty of time to go over all therapeutic options for the management of nociceptive, neuropathic, visceral, and bone pain that I want to cover in the next 20 minutes.
 ■ **HECK NO!!**

Consequences of Poorly Managed Pain

- Depression, decreased socialization
- Sleep disturbances, decreased quality of life
- Impaired ambulation, falls
- Cognitive dysfunction, agitation, and restlessness
- Polypharmacy, increased nursing time, restraints
- Increased healthcare costs, regulatory issues

Cause of the Pain

- Related to
 - underlying disease pathology?
 - sequelae of the disease?
 - treatment of the disease?
 - a complication or concurrent problem, eg, constipation?
- Unrelated to the disease or its treatment

Nonverbal Signs of Pain

1.
 - Facial expression
 - Immobilization of body part
 - Protective movements
 - Rhythmic movements
 - Restlessness
 - Tossing in bed
 - Increased confusion



1. Johnson, *Nursing Home Medicine*, 1996; 4(11):325-331
 2. Bieri D et al. *Pain*. 1990;41:139-150.

Relating Pain with Function

Abilities or Activities

Enjoy					
Work					
Mood	Mood				
Active	Active				
Sleep	Sleep				
Walk	Walk	Walk			
Eat	Eat	Eat	Eat		
Talk	Talk	Talk	Talk	Talk	
Exist	Exist	Exist	Exist	Exist	Exist
LEVEL 0	2	4	5	6	8

after Cleeland et al.

Pain Pathophysiology

- Acute pain
 - identified event, resolves days–weeks
 - usually nociceptive
 - Hypersympathetic – Elevation of BP and pulse, diaphoresis, dilated pupils.
- Chronic pain
 - cause often not easily identified, multifactorial
 - indeterminate duration
 - nociceptive and / or neuropathic
 - Vegetative signs: fatigue, anorexia, depression

Topical Analgesics

- Counterirritants
 - Menthol, methylsalicylate, or trolamine salicylate
 - Capsaicin cream 0.025% - 0.075%, derived from red peppers, depletes substance P
- Lidocaine/prilocaine (EMLA)
 - Apply to intact skin ± occlusive dressing
- Lidocaine transdermal 5% (Lidoderm Patch)
 - Apply over painful area, may cut to size
 - Up to 3 patches at time for up to 12 hr/day

Step One: Non-Opioid Analgesics

- Acetaminophen or older NSAIDs
 - Ketorolac cream, diclofenac cream and patch
- Cox II Inhibitors
 - No platelet dysfunction
 - Lower incidence of ulcers and GI bleeding
 - Black-box warning of MI and stroke risks
 - Celecoxib (Celebrex) 100-200 mg BID

Step One (cont'd): Corticosteroids

- Dexamethasone
 - Indications
 - Bone pain not relieved by NSAID
 - Acute nerve compression (spinal, peripheral)
 - Visceral distension, nausea
 - Increased intracranial pressure (e.g., edema)
 - Pain and anorexia, mood disorder

Tramadol

- | | |
|---|--|
| <ul style="list-style-type: none">■ Benefits<ul style="list-style-type: none">- Synthetic “non-scheduled” mu agonist- Enantiomers<ul style="list-style-type: none">■ L - serotonin■ D - norepi- NNT = 4 for 50% reduction in neuropathic pain | <ul style="list-style-type: none">■ Pitfalls<ul style="list-style-type: none">- Lowers seizure threshold – careful bupropion, antipsychotics- Serotonin syndrome possible with SSRI or cyclobenzaprine |
|---|--|

Codeine

- | | |
|--|---|
| <ul style="list-style-type: none">■ Benefits<ul style="list-style-type: none">- Prodrug to morphine- Cheap | <ul style="list-style-type: none">■ Pitfalls<ul style="list-style-type: none">- 10% of people lack CYP2D6, so no conversion to morphine.- Ceiling effect based on 2D6 saturation and activity |
|--|---|

Hydrocodone

■ Benefits

- Metabolized to hydromorphone
- 60% 2D6 & 3A4, 40% by other mechanisms
- Variable APAP – 325, 500, 650

■ Pitfalls

- Diversion
- Only available in combo w/ APAP
- Oral only

Oxycodone

■ Benefits

- Metabolized to oxymorphone → 40x more potent.
- Available in IR and SR preparations

■ Pitfalls

- Caution in liver failure
 - $t_{1/2}$ 3.4 → 13.9 h
- Diversion
- Oral only (IV in Europe)
- Bioavailability increased by EtOH.

Morphine

■ Benefits

- **CHEAP!!**
- **Very versatile:** IV, SC, PO, PR, IT, SL in IR and SR preparations as well as topical gel.
- $T_{1/2}$ 2.5 – 4h
- Excellent for dyspnea also.
- 10 – 15% → M-6-G, 10x potency w/ 12h $t_{1/2}$

■ Pitfalls

- Direct histamine release feigns allergy
- Stigma

Hydromorphone

■ Benefits

- Potent – helpful when volume restriction for an infusion is important.
- Versatility

■ Pitfalls

- Expense
- No SR version in US – available in Europe

Fentanyl

■ Benefits

- **IV**
 - Short half-life – rapidly reverses w/o naloxone
- **Patch**
 - Patients w/ dysphagia
- **Transmucosal**
 - Onset of action 15 minutes

■ Pitfalls

- **Expensive!!**
- **Patch**
 - 24-hour period to reach steady state (difficult to titrate quickly)
 - Have to have fat
 - Adhesive reaction or can't keep it on
- **Transmucosal**
 - Can be rapidly fatal
 - No way to calculate equianalgesic dose, must start low and titrate up

Methadone

■ Benefits

- Half life of 0.5 to 5 days
- No active metabolites
- Minimally effected by renal impairment.
- **Cheap!!**
- Multiple mechanisms of action.

■ Pitfalls

- Difficult to titrate quickly
- Can prolong QT interval at high doses (worse if IV)
- Increased respiratory suppression
- Stigma / regulations
- Variable kinetics and dynamics

Don't Use Agonist - Antagonists

- Examples
 - Pentazocine (Talwin)
 - Butorphanol (Stadol)
 - Nalbuphine (Nubain)
- High incidence of hallucinations or confusion
- Analgesic ceiling and possible withdrawal reaction
- Difficult transition to pure agonist

Avoid Propoxyphene

- No better than placebo for pain relief, but preferred by some elderly patients.
- Stimulates the limbic system, affects mood
- Dose limited by long-lasting metabolite and mixture with acetaminophen
- Other opioids often provide better analgesia with less toxicity

Don't Use Meperidine

- ***Not indicated*** for the management of chronic pain (only < 48 hours).
- ***Toxic metabolite*** nor-meperidine
 - Restlessness and anxiety
 - Hallucinations and delusions
 - ***Seizures and death***
- Low oral potency

Meperidine



TLC Treatment

- Keep clean and dry
- Position comfortably
- Back rubs, whirlpool, or shower
- Reassuring words and touch
- Talk to caregivers
- Psychosocial / spiritual intervention

AMDA Clinical Practice Guidelines, Chronic pain management in long-term care 2003 pg 16

Side Effects

- Nausea
- **Constipation**
- Fatigue / sedation
- Myoclonus
- Delirium
- Respiratory depression

Summary: Pain in the Elderly

- No decrease in sensitivity to pain with aging
- Risk of NSAID gastropathy 4x greater if > 65 y.o. → ~17,000 deaths / year.
- NSAIDs, especially indomethacin, can cause confusion.
- Impaired renal clearance prolongs ½ life of drugs.