

# OPIOID USE IN THE OLDER ADULT



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# Why call out older adults?

- Pain and aging are multi-determined with contributions across the biopsychosocial spectrum
- Aging affects every aspect of health and illness
  - risk
  - molecular mechanisms
  - symptom experience
  - psychosocial adaptation
  - treatment efficacy
  - survival

Melding PS. *Pain* 1991;46:119-121.

Gagliese L. *J of Pain* 2009;19(4):343-353.

# Analgesics

- Most common strategy for management of persistent pain in older adults and area of greatest risk
- Current literature is inadequate to guide decision-making
- Studies suggests scheduled acetaminophen is inadequate for elderly nursing home patients with DJD, fracture or back pain

Won AB et al. *J Am Geriatr Soc* 2004;52:867-74.

AGS. *JAGS* 2009; DOI:10.1111/j.1532-5415.2009.02376.x

Buffum et al. *JAGS* 2004;52(7):1093-7

Reid M et al. *Orthop Nurs* 2012;31(2):109-14

# Pharmacokinetic Considerations

## ↓ Absorption

- gastric acid production, intestinal blood flow, motility

## ↓ Distribution

- total body water, lean body mass, serum protein levels
- lipid soluble drugs (opioids, benzodiazepines) ↑Vd

## ↓ Protein binding

- serum albumin, alpha-acidic glycoprotein

## ↓ Metabolism

- hepatic blood flow, hepatic mass and enzyme activity

## ↓ Excretion

- renal excretion (GFR), normal BUN and creatinine is not reflective of normal renal function

End result is higher peak levels and longer duration of action  
(delayed clearance and higher rates of side effects)

# Common Chronic Conditions that Warrant Precaution for Drug-Disease Interaction

- CHF
- CAD
- Obstructive Airway Disease
- PAD
- HTN
- Malignancy
- Arthritis
- Diabetes
- Osteopenia, osteoporosis
- Sensory impairments (vision, hearing)
- Dementia (memory, judgment, communication, self-care)
- Parkinsonism, neuralgias, balance disturbances

It is the rule rather than the exception to consider drug-drug and disease-drug interactions in the elderly as the average 70 y.o. has 3 comorbid medical conditions and takes at least 7 different medications

# Medications to Avoid in the Elderly

- Meperidine
  - CNS adverse effects, short duration of analgesia
- Pentazocine
  - Mixed agonist-antagonist, confusion, hallucinations
- NSAIDs
  - GI events, renal impairment, HTN, heart failure
- Tricyclic antidepressants
  - Orthostasis/falls, CNS effects, anticholinergic effects, cardiac arrhythmia
- Benzodiazepines
  - Risk of falls, disrupt sleep architecture
- Skeletal muscle relaxants
  - Poorly tolerated



# Opioid Use in Older Adults

- In carefully selected and monitored patients, opioids may provide effective pain relief if used as part of a comprehensive multimodal pain management strategy (AGS,2009).
- A combination of pharmacologic, non-pharmacologic, and rehabilitative approaches in addition to a strong therapeutic alliance between the older patient and physician is essential to achieve desired treatment outcomes (Makris et al, 2014).

# AMDG Recommendations

- Initiate opioid therapy at a 25% to 50% lower dose than that recommended for younger adults
- Use the least invasive method of drug administration (e.g. oral).
- Use opioids with short half-lives
  - Weigh the individual patient's needs and clinical presentation with known risk factors when deciding whether short or long acting opioids are best
- Avoid the use of agonist-antagonist opioids
- Be vigilant that adequate pain relief is provided and the risk of delirium and postsurgical opioid-related adverse drug events is minimized



# Avoid use of

## Codeine

Increased incidence of side effects (e.g. constipation, nausea)

## Meperidine

Normeperidine, is toxic to the CNS and can cause seizures, mood alterations and confusion, especially if the patient has coexisting CHF or renal impairment.

## Methadone

High drug-drug interaction potential and is associated with prolongation of the QT interval and a potential risk of accumulation due to a long elimination half-life

- Prolonged half-life because of lipophilicity and age-related increases in fat body mass

# Recognize and manage all potential causes of side effects

- Have a plan for addressing constipation from the start of opioid therapy.
  - Prophylaxis and/or treatment can include hydration, bulk fiber (only if hydration is maintained), activity, Senna, and Sorbital (20cc of 70% taken twice daily for 3 days per week) (AGS,2009).
- Consider medications that potentiate opioid side effects:
  - Sedatives, tranquilizers, and anti-emetics can cause sedation.
  - Antihypertensives and tricyclics can cause postural hypotension.
  - Antihistamines, phenothiazines, tricyclics, and anticholinergics can cause confusion.



QUESTIONS?