



## INFO-CONNECT

# Chronic Pain Management In Older Adults

### The Facts . . .

- Approximately 60-80% of older adults report some degree of pain that interferes with life activities.
- 60-80% of nursing home residents report chronic pain.
- Pain is often undertreated in the geriatric population.
- Untreated pain in patients with dementia can lead to increased behavioral problems.
- Pain has been designated the 5th vital sign.
- 80% of people greater than 65 report regular use of an analgesic medication.

## What is Chronic Pain?

Chronic non-malignant pain can be defined as pain which lasts beyond the usual time period that an injury to the body needs to heal. Thought to be 4 to 6 weeks, although some use 3 months.

### Sources of chronic pain include:

- Peripheral vascular disease
- Improper positioning
- Decubitus ulcer
- Mouth/teeth problems
- Degenerative joint disease
- Osteoarthritis/Rheumatoid arthritis
- Fibromyalgia
- Post-stroke syndrome
- Diabetic peripheral neuropathy
- Post-herpetic neuralgia
- Back pain
- Osteoporosis

### Non-malignant pain is often under-reported and undertreated due to:

- Patients not reporting pain, because they believe it is a part of the aging process.
- Patients' concern about the possibility of addiction with the use of pain medications.
- Belief that geriatric patients experience less pain as they get older.
- Difficulty diagnosing and treating pain in patients with dementia.
- Fear that geriatric patients may not be able to tolerate pain medications due to their increased risk of adverse effects.
- Difficulty diagnosing the source of the pain due to numerous co-morbid diseases in geriatric patients.

## Treatment of Chronic Pain

Goal of treating chronic pain is to reduce (may not be possible to eliminate) pain and improve function.

- Around the clock (ATC) pain management
  - Maintains a stable analgesic blood level and gives structure to pain management plan for chronic, persistent pain
- As needed (PRN) medications
  - For episodic and breakthrough pain
  - Used in combination with ATC
- Physical therapy
- Exercise
- Acupuncture, massage, yoga, tai chi
- Psychological interventions

## Treatment of Mild-Moderate Chronic Pain with Non-Opioid Medications

Acetaminophen and NSAIDs can be used in conjunction with opioids to produce an opioid-sparing effect, thereby allowing a reduction in the dose of opioid that is required for effective pain management. Lower doses of opioids can result in fewer or less severe side effects.

### ACETAMINOPHEN (TYLENOL®)

- Considered the drug of choice for mild to moderate chronic pain.
- Analgesic and antipyretic effect, but does not have anti-inflammatory effect.
- Dosed every 4 to 6 hours with a maximum dose of 4,000mg/day and 2,000-3,000mg/d in frail geriatric patients.
- Inhibits synthesis of prostaglandins in the central nervous system and peripherally blocks pain impulse generation.
- Found in numerous combination products-do not exceed the maximum dose.
- Overdose can lead to liver toxicity.
- Contraindicated in patients with liver failure.
- Use caution in patients with liver dysfunction and chronic alcohol abuse.

## NSAIDS

Two groups of nonsteroidal anti-inflammatory drugs (should only be considered in patients who have failed other therapies):

- 1) Nonselective NSAIDs
- 2) COX-2 selective NSAIDs
  - NSAID use in the geriatric population places them at an increased risk for developing:
    - Gastrointestinal bleeds
    - Hypertension
    - Kidney problems
    - Drug interactions
    - Confusion

## NONSELECTIVE NSAIDS

- Examples: ibuprofen (Advil®), naproxen (Aleve®).
- Provide an analgesic, antipyretic, and anti-inflammatory effect by inhibition of prostaglandin.
- May be appropriate for short term use, but should be used with caution for chronic use in the geriatric population.

## COX-2 SELECTIVE NSAIDS

- Thought to be more selective than other NSAIDs in targeting inflammation.
- Example: celecoxib (Celebrex®).
- Indicated for rheumatoid arthritis, osteoarthritis, and acute pain.
- Use with caution in patients with cardiovascular risk factors.

## ANTIDEPRESSANTS

### Tricyclics: Nortriptyline, Desipramine

- Often used to treat diabetic neuropathic pain and postherpetic neuralgia.
- Very sedating—administer at bedtime.
- Use low doses to treat pain.

- Narrow therapeutic window.
- Side effects include sedation, orthostatic hypotension.
- May be used as an adjunct with opioids.

### Serotonin and norepinephrine-reuptake inhibitor

- Duloxetine (Cymbalta®), Milnacipran (Savella®)
  - Treatment of diabetic peripheral neuropathy.
  - Monitor blood pressure and heart rate.
- Venlafaxine (Effexor®)
  - Use high doses of 225mg or higher.

## ANTICONVULSANTS

- Helps decrease the spontaneous firing of sensory neurons associated with neuropathic pain.
- Gabapentin (Neurontin®), Pregabalin (Lyrica®)
  - Very well tolerated. Side effects include sedation, ataxia, and dizziness.
  - May take 2-3 weeks to see therapeutic benefit.
  - Few drug interactions.
- Topiramate (Topamax®), Tiagabine (Gabitril®) can also be used.

## TOPICAL AGENTS

### Capsaicin Cream

- Capsaicin is an enzyme found in all hot peppers.
- It depletes a pain mediator (Substance P) from afferent nociceptive neurons.
- Used in the treatment of peripheral neuropathic pain and arthritic pain.

- Applied to the affected area 3 to 4 times a day; and may take a few weeks of treatment to achieve the full effect.
- May initially cause local burning sensation.
- Use gloves to apply cream, wash hands thoroughly afterwards, and avoid eyes and mucus membranes.

### **Lidoderm® Patch**

- Treatment of pain associated with post-herpetic neuralgia, peripheral neuropathy, and osteoarthritis.
- Apply only to intact skin.
- Patch may be cut into pieces.
- Apply up to three patches, only once, for up to 12 hours within a 24-hour period.
- Local anesthetic agent that inhibits initiation and conduction of impulses.
- Most common side effect is skin irritation.

### **CALCITONIN (MICALCIN®)**

- Beneficial short-term effect on pain in patients who have sustained an osteoporotic fracture.
- How it relieves pain is unknown.
- Intranasal: 200 units (1 spray)/day.
- Side effects include facial flushing, anorexia, nausea.

### **TRAMADOL (ULTRAM®), (RYZOLT®)**

- Dual mechanism of action that not only binds weakly to opioid agonists, but it also inhibits the reuptake of serotonin and norepinephrine.
- Start at a small dose and slowly increase (over weeks) to avoid GI side effects, so, not ideal for acute pain.
- Maximum dose in patients >75 years old is 300mg/d.

- Doses > 400mg/d have been associated with seizures.
- Caution with use in combination with other medications that affect serotonin (e.g., serotonin reuptake inhibitors and tricyclic antidepressives) since it may increase the risk of seizures and serotonin syndrome.
- Side effects include nausea, constipation, sedation, and seizures.

## **Treatment of Moderate-Severe Chronic Pain with Opioid Medications**

### **MORPHINE**

- Drug of choice for moderate-severe pain.
- May result in accumulation and toxicity in patients with impaired renal or hepatic function due to the presence of metabolites.
- Available in immediate (Roxanol®) and controlled/extended release (MS Contin®, Kadian®, Avinza®) formations.

### **OXYCODONE**

- Available in immediate and sustained release formations and in combination with non-opioid analgesics.
- Only available in oral formation.
- Immediate release (oxycodone, Percocet®) q 3-4 hours.
- Sustained release (OxyContin®) q 12 hours.
- Does not have an active metabolite.
- Caution not to exceed the maximum dose of the non-opioid analgesic.

### **HYDROCODONE**

- Only available in combination with a non-opioid analgesic such as acetaminophen.
- Examples include: Vicodin®, Lortab®

- Caution not to exceed the maximum dose of the non-opioid analgesic.

### **HYDROMORPHONE**

- Short acting and lack of an active metabolite permits this medication to be used in patients with renal impairment.
- Analgesic 4 times as potent as morphine.
- Available in an oral immediate (Dilaudid®). (Extended release formulation Palladone® recently recalled for safety concerns.)
- Useful when requiring high doses of opioids.

### **CODEINE**

- Weaker opioid for mild to moderate pain.
- Available in combination with non-opioid analgesics.
- Some patients may not be able to convert it to morphine due to an inactive CYP 2D6 and may experience ineffective pain control.
- High incidence of constipation and nausea.
- Caution not to exceed the maximum dose of the non-opioid analgesic.

### **FENTANYL**

- 100 times more potent than morphine.
- Available in IV, transdermal, or transmucosal.
- Duragesic® – transdermal patch
  - For management of persistent, chronic pain that requires continuous treatment.
  - Worn continuously for 72 hours and applied to chest, back, flank or upper arm.
  - Takes 12 -24 hours for onset of action, so make breakthrough pain medication available when initiating the patch.
  - Titration to an effective dose can take days to weeks.
  - Use with caution in opioid-naïve patients.
  - Do **NOT** cut the patch.
  - Fold used patch so adhesive side adheres to itself immediately upon removal.

- Actiq® - transmucosal lozenge and Fentora® - tablet that dissolves in the cheek.
  - Rapid acting analgesic for breakthrough pain.
  - Not equivalent.
  - Patient must have the ability to continuously suck the lozenge.

## Adverse Opioid Side Effects

- Include respiratory depression, nausea, vomiting, and constipation.
- Although a patient will become tolerant to the nausea and vomiting, constipation will remain a problem.
- When a patient is started on an opioid, make sure the patient has an appropriate bowel regimen with a stool softener and laxative.
- Titrate slowly in opioid-naïve patients to reduce the risk of respiratory depression.

## Opioid Withdrawal Symptoms

- May occur if opioids are stopped abruptly in patients who have taken them chronically and have developed a physical dependence.
- Symptoms may include anxiety, insomnia, diaphoresis, nausea, vomiting, diarrhea and abdominal pains. If an opioid needs to be discontinued, taper the opioid.

## Tolerance vs. Dependence vs. Addiction

### Tolerance

Occurs when the initial dose of an opioid loses its effectiveness over time, requiring higher doses to produce the same analgesic effect.

### Physical Dependence

Occurs over time as your body adapts to the opioid, and withdrawal symptoms may occur if the opioid is withdrawn abruptly.

### Addiction

Is a disease marked by cravings for the opioid and continued use despite repeated harmful consequences.

## Medications to Avoid in the Geriatric Population

- Propoxephene/Acetaminophen (Darvocet®)
  - Weak analgesic.
  - Equal to acetaminophen in relieving pain.
  - Active metabolite that can cause severe CNS and cardiac toxicity.
- Meperidine (Demerol®)
  - Short duration of action.
  - Active metabolite (normeperidine) can accumulate and cause severe CNS toxicity (tremors, seizures, mood alterations, and confusion).
- Methadone
  - Not recommended in older adults.
  - Very long half-life, which can lead to accumulation in older adults.
  - Slowly titrate to an effective dose.
  - Side effects can persist even after the drug has worn off.

## Key Concepts in Controlling Chronic Pain

- Use a preventative approach with treating pain.
- Titrate up to an effective dose to minimize side effects.
- Assess and reassess pain control.
- Monitor for changes in behaviors in patients with cognitive impairments.

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