THE MIND IS WILLING, BUT THE BODY IS WEAK: MANAGING CHRONIC PAIN IN THE BABY BOOM GENERATION

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Nurses: N-642

CT Credits: 1.0 contact hour

Target Audience:
Pharmacists, Technicians & Nurses

Program Overview:
This interactive, knowledge-based program will assist pharmacists in understanding facets of chronic pain experienced by the aging, and the benefits of alleviating the pain as their bodies continue to change. It will also enhance their knowledge of available options for these patients under these conditions. The program includes information on pharmacologic treatments, patient counseling, and a question and answer period.

Objectives:
• Define the physiologic changes in the elderly that may lead to chronic pain.
• Develop a plan of care that addresses pain as well as emotional and functional status, while counseling and educating patients about treatment options, including pharmacologic and non-pharmacologic options.
• State the dosing guidelines for pharmacologic therapies used to treat chronic pain in the aging population, including mechanisms of action, efficacy, and tolerability.

Objectives:

Speaker:
Dr. Charles Ponte received his Bachelor of Sciences degree from the University of Connecticut, and his Doctor of Pharmacy degree from the University of Utah. He is currently a professor of Clinical Pharmacy and Family Medicine in the Schools of Pharmacy and Medicine in The Robert C. Byrd Health Sciences Center at West Virginia University. He was also a Former Director of the Post Baccalaureate and Track-In Doctor of Pharmacy Programs.

Speaker Disclosure:
Dr. Ponte has no actual or potential conflicts of interest in relation to this program.

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Operational Definitions

- Baby Boomers – Persons born between 1946-64 - The “Me Generation”
  - Attributes:
    - Less religiosity
    - Selfishness
    - Entitlement
    - Greed
    - Educated
    - Laziness
    - Rock & Roll
    - 1966 TIME “Man of the Year”

Aging-Related Disorders

- Type 2 diabetes
- Osteoarthritis and RA
- Kidney and bladder problems
- Cognitive impairment
- Parkinson’s disease
- Sensory impairment
- Lung disease
- Cancer
- Osteoporosis
- Urinary tract disease
- Falls
- Depression

Consequences of Chronic Pain in the Elderly

- Nutrition
- Depression (loneliness)
- Insomnia
- Impaired ambulation
- Increased healthcare utilization
- Gait disturbances
- Impaired rehabilitation
- Adverse drug effects
- Overall quality of life

Chronic Malignant and Nonmalignant Pain

- Nociceptive (somatic & visceral)- throbbing, aching, soreness
- Neuropathic – burning, shooting, stabbing
- Cannot be rationalized as part of the healing process
- A disease state unto itself
- A large psychological component
Key Points

- Axioms
  1. A complex subjective phenomenon (difficult to define) that requires assessment (objectify)
  2. Perceived as ill health (unhealthy)
  3. Creates anxiety and fear of the unknown
  4. Optimal (individualized) treatment requires knowledge of cause(s) and natural history
  5. Treatment is multimodal and multidisciplinary

Barriers to pain assessment and management

- Patient-related barriers
  - Cognitive impairment
  - Sensory impairment
  - Ageist attitudes
  - Language issues
  - Cultural
  - Fear of the meaning of pain
  - Fear of pain medication side effects
  - Implications of tests and interventions

- Social and institutional
  - Fear of addiction to pain medications
  - Controlled substances laws
  - Poor reimbursement

- Health professional barriers
  - Misconceptions and prejudice regarding pain
  - Lack of adequate education in pain management

Subjective Pain Assessment

- Patient interview (include good drug history; use “PQRST” mnemonic)
- Use appropriate single dimension tool (e.g., visual analog, verbal numeric or verbal rating scales)
- Tips for the elderly – assess cognitive/sensory abilities first, single dimension tools are best (e.g., VAS as a vertical measure or pain thermometer, “faces” or color rating scales)

Single Dimension Instruments
Objective Pain Assessment

- Observation of behaviors/physiologic changes
- Be cognizant of atypical presentations for pain in the elderly
- Be aware of cultural/ethnic and gender differences in pain expression

Pain Perception in the Elderly

- Neurobiochemical changes lead to altered nociceptive “processing”
- Tolerance decreases
- Threshold increases
- Cognitive impairment muddies the water
- Presentation of pain differs from young

Non-pharmacologic Treatments for the Elderly

- Relaxation (biofeedback, PMR, meditation)
- Hypnosis
- Behavior therapies (CBT, OBT)
- Mind-body conditioning (yoga, tai chi)

One Minute Exercise

Choose the true statement.
1. Chronic pain can be rationalized as part of the healing process.
2. Pain is a normal part of the aging process.
3. Pain assessment usually follows the creation of a management plan.
4. Chronic pain is categorized into nociceptive and neuropathic types.
### One Minute Exercise

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### Analgesic Associations

#### Acute Pain
- Mild - ASA/APAP
- Moderate - NSAIDs, Combinations
- Severe - Morphine

#### Chronic Pain
- Aching Phase - Non-opioids
- Agonal Phase – Morphine
- Adjuncts – steroids, TCAs, anxiolytics, etc.

### NSAIDs

- 8 distinct chemical classes
- MOA – inhibition of COX-1 and/or COX-2
- Better than ASA as an analgesic
- Adverse effects similar to ASA (except platelets)
- Cardiovascular risk
- ASA/NSAID interaction
- Utility in bone pain

### Opioid Analgesics

- Remember – regardless of the drug used, the pharmacologic and therapeutic properties are similar
Pain Not Affected by Opioids

- Bone pain
- Deafferentation pain
- Increased intracranial pressure
- Muscle spasm
- Smooth muscle spasm

Routes of Administration

- Oral
- IM
- SubQ
- IV (bolus vs infusion)
- PCA
- Rectal/Vaginal
- Epidural/Intrathecal

Guidelines for Selection

- Oral effectiveness
- Duration of action
- Smooth muscle effects
- Metabolic disposition
- Past patient experience
- Drug interactions

Pharmacologic Considerations

- Pharmacokinetics (PK)
  - Absorption
  - Distribution
  - Metabolism
  - Excretion
- Pharmacodynamics (PD)
  - Interaction of a drug with a receptor or target organ/tissue

- The effect of aging on PK is Clearance
- Response is often less than predictable
Consensus Statement – International Expert Panel
Chronic Pain in the Elderly

- Baby Zoomers – desire to maintain QOL & function
- Efficacy of opioids in chronic noncancer pain (Level Ib or IIb evidence)
- Efficacy of opioids in neuropathic pain (higher doses needed) – buprenorphine may be DOC (Level II or III evidence)

Consensus Statement – International Expert Panel
Chronic Pain in the Elderly

- Most opioids are affected by altered drug clearance in the elderly (except buprenorphine)
- Opioids and immunosuppression – avoid MS and fentanyl (except buprenorphine)

Opioid Analgesics

- Know these concepts!

1. Equianalgesic doses
2. Relative analgesic potency

Equianalgesic Doses of Opioid Analgesics

<table>
<thead>
<tr>
<th>Oral/Royal Dose (mg)</th>
<th>Analgesic</th>
<th>Parenteral Dose (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Codeine</td>
<td>60</td>
</tr>
<tr>
<td>-</td>
<td>Fentanyl</td>
<td>0.1</td>
</tr>
<tr>
<td>15</td>
<td>Hydromorphone</td>
<td>1.5</td>
</tr>
<tr>
<td>4</td>
<td>Levorphanol</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Meperidine</td>
<td>50</td>
</tr>
<tr>
<td>15</td>
<td>Methadone</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>Morphine</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>Oxycodone</td>
<td>–</td>
</tr>
</tbody>
</table>

Adapted from the Canadian Oncology Pain Guidelines, 2008.
Opioid Adverse Effects

- Common problems
  1. Constipation
  2. GI Intolerance
  3. Sedation
  4. Respiratory Depression

Opioids and Constipation

- Most troubling adverse effect
- Tolerance does not develop
- Multiple etiologies
- Routinely add stimulant laxatives during chronic use
- Avoid bulk-forming agents to *treat* constipation

Tolerance

- Larger opioid dose required for pain relief
- First sign – reduced duration of analgesia
- Common with chronic administration
- Complex physiologic basis
- Less likely with oral opioids/combinations
- Cross-tolerance is incomplete

Osteoarthritis

- Synonyms – DJD, DA
- 27 million sufferers in US
- 25% of office visits to PCPs
- 50% of NSAID prescriptions
- Goals- pain control & maintain function
- APAP/NSAIDs – *Gold Standard*
- Antidepressants (concomitant depression)
- Opioids – modest effect, elderly susceptible to adverse effects

Kroenke K et al. Gen Hosp Psych 31 2009 206-219
Putting It All Together

- 65 year-old Hispanic female
- ee – worsening R hip pain for 3 months
- HPI – noticed that her arthritis in her hips has been getting more bothersome, making walking difficult, can’t sit for long periods of time (poor English)
- PMH – T2DM, hypertension, hypothyroidism, osteoarthritis and breast cancer
- SH – Lives alone, 50 pack yr history (cigarettes), occasional alcohol
- Allergies - Codeine – dizziness and nausea

Clinical Findings

- Meds – glyburide, insulin glargine, propoxyphene*, APAP, naproxen and calcium citrate (with Vit.D)
- PE - Point tenderness over hip socket, reduced range of motion, mild kyphosis of spine
- Hip X-ray– R hip (joint space narrowing, osteophytes and subchondral sclerosis), generalized osteoporosis

* - off market since 11/19/10 (patient had a small "stash")

Missing Information

- Pertinent laboratory values:
  - serum creatinine – 1.5 mg/dl; random serum glucose – 187 mg/dl; urinalysis – 2-5 WBCs, few bacteria, nitrite (-); first CPK and troponin I are negative
- Pertinent physical findings:
  - BP lying 157/90 - Pulse 72, standing 150/86 - Pulse 80

Treatment Goals

- Control the pain
- Maintain or restore functional status of the patient
- Minimize potential adverse effects from the treatment regimen
- Minimize potential drug-drug/drug-disease state interactions
- Avoid the use of codeine
**Therapeutic Options**

- Simple analgesics (ASA, APAP, NSAIDs)
- Opioid combinations (codeine, oxycodone, hydrocodone + APAP combinations)
- Strong opioids (morphine, meperidine, hydromorphone, fentanyl, methadone)
- Tramadol
- Muscle relaxants (cyclobenzaprine, carisoprodol, orphenadrine, methocarbamol)

**Pharmaceutical Care Plan**

- You determine that an opioid/APAP combination would be the best choices for this patient.
- You recommend Percocet 5/325 (oxycodone/APAP) 1-2 tablets po 6hrs ATC for 1-2 days. May use on a prn basis (q4-6 h) if appropriate.

**Patient Instructions**

- **Reason for use**
- **Dosing instructions**
- **Missed dose instructions**
- **Storage**
- **Precautions (alcohol and other CNS depressants)**
- **Adverse effects (common and those that can be monitored by the patient)**

**Opioid**

- Monitoring parameters (efficacy) – pain relief, maintenance of functional status and social interactions
- Monitoring parameters (toxicity) – CNS effects, GI intolerance, constipation, urinary retention, dizziness, lightheadedness, hallucinations or other visual changes, itching, rash
Pharmaceutical Care Plan

- You also recommend that the patient begin Senokot-S (senna/docusate, one po bid) to prevent constipation. The patient may titrate the dose accordingly if constipation becomes problematic.

- Call the patient in 24 hours to assess medication efficacy and presence of any adverse effects.

- Call the patient in a week to assess medication efficacy and presence of any adverse effects.

Key Points

- Educate the patient about realistic expectations from drug therapy (better FS, cure unlikely)
- Continuously monitor therapy for efficacy, adverse effects and development of tolerance
- Anticipate adverse effects and prevent when possible
- Tolerance does not develop to constipation
- Important to assess the functional status of the patient

The Ten Commandments of Drug Therapy in the Elderly - Thou shall:

1. Maintain a constant surveillance of the therapeutic regimen
2. Explain new and changed medications to the patient (surrogate)
3. Be conscious of price
4. Require the patient to bring all medications to each clinic visit
5. Monitor the patient

6. Understand the pharmacology and pharmacokinetics of drug(s) chosen
7. Take a careful drug history
8. Use low doses, titrate upward
9. Prescribe few drugs, keep the regimen simple
10. Be aware of drug-induced illness