Pain and the Older Person

Walter B. Forman, MD, FACP, FAAHPM
Professor of Medicine (retired)
University of New Mexico
Health Science Center
Albuquerque, New Mexico

Objectives:

1. to assist with difficult issues about pain in the elderly
2. to review the pathophysiology of pain
3. to understand the types of pain
4. to develop an understanding of the “resentment” about treating pain
Epidemiology of Pain (1)

- Forty to fifty percent of home health patients have moderate to severe pain
- Both nationally and in New Mexico, only 62 percent of patients with pain at the start of care improve while they are on home care
- Improvement in pain interfering with activity is New Mexico’s statewide measure for home health

Epidemiology of Pain (2)

- Up to 83 percent of nursing home residents experience pain that can impair mobility, cause depression, or diminish quality of life
- Forty-two percent of residents with pain recorded on their initial Minimum Data Set (MDS) assessment (April 1999) had daily pain with episodes rated as moderate or excruciating at the next MDS assessment
- One in seven residents were in persistent pain with episodes rated as severe
### Developmental Stages of Human Life

<table>
<thead>
<tr>
<th>Group</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants</td>
<td>0-18 months</td>
</tr>
<tr>
<td>Toddlers</td>
<td>18 mo-3 years</td>
</tr>
<tr>
<td>Pre-school</td>
<td>3-6 years</td>
</tr>
<tr>
<td>Childhood</td>
<td>6-12 years</td>
</tr>
<tr>
<td>Adolescence</td>
<td>12-18 years</td>
</tr>
<tr>
<td>Young Adults</td>
<td>19-40 years</td>
</tr>
<tr>
<td>Middle Adulthood</td>
<td>40-65 years</td>
</tr>
<tr>
<td>Seniors</td>
<td>&gt;65 years</td>
</tr>
</tbody>
</table>

### Pain and the Older Person: A Reclassification by Age*

- **Presbyalgos**: Age-related changes in the perception of pain.

- **The Older Person as a Function of Age**
  - **YOUNG-OLD**
    - 65-75 years
    - Generally healthy and active
  - **OLD-OLD**
    - 75-90 years
    - Decreasing index of independence and increasing morbidity
  - **OLDEST-OLD**
    - 90 years and above
    - High level of morbidity and pain levels difficult to manage

*Pradeep Chopra, MD, Howard Smith, MD
Pain in the Older Person: Why??*

- INCREASING NUMBER OF ILLNESSES
  - Post-herpes, DJD, spinal stenosis, OA, fractures, stroke
  - In the old-old less pain reported.
    - ?? Decreasing vocalization
    - Probable slowing of cognitive function leads to less reporting of pain
- Cultural Differences
  - “pain is just part of growing older”

*Pradeep Chopra, MD, Howard Smith, MD

---

Pain and the Older Person

Summary:
11 state agencies; 214 answers
#1
- As we age, pain becomes a problem because of our long-term use of our Musculoskeletal system.
  - True—77%
  - False—23%
Pain and the Older Person

#3
- The group of people over the age of 75 is rapidly increasing.
  - True—99%
  - False—01%

Pain and the Older Person: Pain Assessment

- Screen:
  - Do you or have you had pain in last weeks, months?
  - No—next topic!!
  - Yes—assessment next step
Pain and the Older Person: Step I

Assessment

- Quality
  - Word
- Intensity
  - Use tool appropriate to patient
- Location
  - Peripheral vs. central
Pain Pathways

Pain and the Older Person

#5

“Pain” is a common complaint in the elderly.

- True—67%
- False—33%
Pain in the 21st Century: Neurophysiology

Pain in the 21st Century: Transmission
Pain and the Older Person

# 7

- The best measure of pain requires an individual with the pain to rate it.
  - True—73%
  - False—27%

Pain and the Older Person: Assessment

Pain Scales

**KNOW FIRST:**
1. People with "normal" cognition
2. People who are cognitively impaired
3. Which one does the person represent?
Pain and the Older Person: Screening Tools: Numeric Scale

0-10 Numeric Rating Scale

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>mild</td>
<td>moderate</td>
<td>severe</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pain and the Older Person: The Wong-Baker Rating Scale

Wong-Baker FACES® Pain Rating Scale

0 2 4 6 8 10
No Hurt Hurts Little Bit Hurts Little More Hurts Even More Hurts Whole Lot Hurts Worst

Used with permission.
Pain in the Older Person: For those who are Cognitively Impaired Persons

<table>
<thead>
<tr>
<th>Checklist of Nonverbal Pain Indicators (CNPI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicators:</td>
</tr>
<tr>
<td>With Movement</td>
</tr>
<tr>
<td>At Rest</td>
</tr>
<tr>
<td>Vocal Complaints –</td>
</tr>
<tr>
<td>(nonverbal expression of pain demonstrated by moans, groans, grunts, cries, gasps, sighs)</td>
</tr>
<tr>
<td>Facial Grimaces &amp; Wincses –</td>
</tr>
<tr>
<td>(furrowed brow, narrowed eyes, tightened lips, dropped jaw, clenched teeth, distorted expression)</td>
</tr>
<tr>
<td>Bracing –</td>
</tr>
<tr>
<td>(clutching or holding onto bed/chair, caregiver, or affected area during movement)</td>
</tr>
<tr>
<td>Restlessness –</td>
</tr>
<tr>
<td>(constant or intermittent shifting of position, rocking, intermittent hand motions, inability to keep still)</td>
</tr>
<tr>
<td>Rubbing –</td>
</tr>
<tr>
<td>(massaging affected area)</td>
</tr>
<tr>
<td>Vocal Complaints –</td>
</tr>
<tr>
<td>(verbal expression of pain using words, e.g., &quot;ouch&quot; or &quot;that hurts&quot;; cursing during movement, or exclamation of protest, e.g., &quot;stop&quot; or &quot;that’s enough&quot;)</td>
</tr>
</tbody>
</table>

Comprehensive Care Planning

- **World Health Organization (WHO) ladder**
- **Routine versus “prn”**
- **Non-pharmacologic interventions**
- **Identified pain management goal**
- **Ongoing monitoring and evaluation of interventions**
Non-Pharmacological Relief: Psychological Methods

- Patient education
- Relaxation, imagery, self-hypnosis
- Distraction
- Psychotherapy
- Reducing stress, anxiety and fear
- Cognitive reframing

Non-Pharmacological Relief: Complementary Methods

- Acupressure or acupuncture
- Chiropractic care
- Nutritional supplements, homeopathy
- Therapeutic touch
- Reiki
- Aromatherapy
- Electromagnets
Non-Pharmacological Relief: Physical Methods

- Stretching, exercises, reconditioning
- T.E.N.S. (or other varieties of E-stimulation)
- Elevate and compress/position for comfort
- Massage, vibration, rubbing or tapping
- Heat/cold applications

Non-Pharmacological Relief: Psycho-Social Methods

- Prayer, involvement with meaningful rituals
- Functional restoration
- Support groups
Pain and the Older Person

#10
- In the older person a trial period of a few days will help the clinician determine response to pain medication.
  - True—65%
  - False—35%

Principles for Using Analgesics
- By the step
- By the clock
- Adequate trial for each drug
- If the gut works, use it!
Types of Analgesic Medications

- Non-opioid Analgesics
  - NSAIDS
- Opioid Analgesics
  - Morphine, oxycodone, hydrocodone, fentanyl
- Co-analgesics
  - Local anesthetics
  - Antiepileptic drugs
  - Tricyclic antidepressants
  - N-methyl-D-aspartate (NMDA) inhibitors
Pharmacologic Agents of Questionable Effectiveness

- DO NOT USE PLACEBOS
- Avoid
  - Demerol (normeperidine)
  - Darvocet N-100 (Propoxyphene & APAP 100/650)
- Use with caution
  - Codeine
  - Tramadol

Communicating with Another Health Care Worker (1)

Let them know who is calling
- Identify the patient by name and diagnosis
- State the pain issue and the management goal
  - use pain rating, activities, and goals of relieving the pain
Communicating with Another Health Care Worker (2)

- Summarize the current pain ratings and effect of pain on activities
- List the current analgesic doses and relevant side effects
- Suggest a solution (on the basis of a clinical practice guideline, if possible)

—Effective Pain Management in Nursing Facilities
Brown University Center for Gerontology and Health Care Research

Pain and the Older Person

#9

- Dosing of medication can be given in the early AM for a 24 hour response.
  - True—24%
  - False—76%
Thoughts when Using Opioids in the Older Person

- Who??
  - Pharmacology
    - Pain intensity
    - Age—dosing in the elderly
    - Absorption/distribution/metabolism/excretion
  - Illness
    - Renal & liver failure
  - Route
    - Oral, im/iv/sub-q., “rectal”
  - Cost
    - Can they afford drug & route?
Steps when beginning an Opioid

1. Patient diary
   - Should have pain 4/10 or > in 48 hrs
2. Non-opioids have failed
3. Start with IR medication
4. Adding the SR preparation
   - Total IR Dose ./.in 2 doses 12 hrs. apart
   - “Rescue” dosing
     - 10% of SR dose using an IR preparation
     - Use same agent for both!!
   - Exceptions
     - Fentanyl
     - Methadone

Pain in the Older Person: Knowledge Base

Start low
and
go slow!!!!!!
PREScribing opioid medications: Issues

1. Prevent constipation
   - Bulk, motility or evacuation agent
   - Fluids important!!

2. Avoid nausea & emesis
   - Antiemetic-use prophylactic
     - Haloperidol or hydroxyzine

3. Somnolence
   - Methylphenidate

4. Renal function
   - The elderly
     - Morphine glucuronides, Methadone

5. Myoclonus
   - Methadone, Meperidine, Propoxyphene, Morphine

Pain in the Older Person: Combination/s of Opioids and Naloxone

- Opioid combined with Naloxone or Naltrexone
  - Oral route
  - Both poorly absorbed orally
  - If injected produces opioid withdrawal
Prescribing Opioid Medications: What to be Concerned About

- Tolerance
  - Increase dose to maintain analgesia
- Physical dependence
  - Symptoms when abruptly withdrawn
- Psychological dependence
  - A behavior pattern
- Hyper analgesia

Pain in the Older Person: Hyperalgesia

1. Opioid-induced abnormal pain sensitivity (allodynia)
   - Tolerance and opioid-induced hyperalgesia similar syndrome, two distinct mechanisms. difficult to distinguish in a clinical setting.
   - Tolerance-dose escalation may be required
   - Hyperalgesia may worsen the patient's condition increase sensitivity to pain, escalating physical dependence.
3. Treatment: Rx of Hyperalgesia
   - ????? blocking NMDAR antagonists such as ketamine, dextromethorphan
   - psychotomimetic side effects may limit their use42
Sources of Illicit Opioids*

- 71% from friends or family
- 4.8% take without asking
- 4.4% dealer
- 17.3% Rx from doctor

*Boston School of Medicine Pain Center

Prescribing Opioid Medications

In summary:

- Use only a few opioids and become familiar with them
- Understand toxicity and treat prophylactically
- Make sure the patient and family understand what you are doing!!!
Neuropathic Pain: Differentiated from Nociceptive Pain

- Nociceptive pain:
  Caused by invasion and destruction of and or pressure on superficial tissue or muscle
  - Types: superficial, deep, visceral
    - Superficial and deep nociceptive pain is usually localized and non-radiating
    - Visceral pain is more diffuse over the viscera involved

- Neuropathic pain:
  Caused by pressure on or destruction of peripheral, autonomic or central nervous system structures.
  - Radiation of pain along dermatome or peripheral nerve distributions
  - May also be accompanied by lightning-like jabs of brief sharp pain (lancinating pain)
Neuropathic Pain: Physiology

- Nerves function like electric cables
  - Transmitting signals to and from the brain.
  - Damage to nerves interferes with the way signals are transmitted and cause pain signals that are abnormal.

- Nerve damage can be associated with:
  - Diabetes mellitus
  - Trauma
  - Chemotherapy drugs
  - Stroke
  - HIV infection
  - Chronic alcohol abuse

Neuropathic Pain: Clinical Components: History (1)

- Quality
  - Burning, stabbing, shooting, gnawing
  - Effects function; eating, sleeping, working, intimacy
  - Paroxysmal; can occur early or late after injury
  - Sensory impairment usually in anatomic distribution

- Allodynia
  - Light touch produces pain (sheets, clothing)

- Hyperalgesia:
  - *Primary* – describes pain sensitivity that occurs directly in the damaged tissues.
  - *Secondary* – describes pain sensitivity that occurs in surrounding undamaged tissues.
  - *Opioid induced* – with opioid use in the Rx of chronic pain
Neuropathic Pain: Physical Components on Exam (2)

- Motor weakness
  - In distribution of pain
- Deep tendon reflexes
  - ??? Diminished or absent at nerve distribution
- Sensation
  - ??? Diminished or absent at site
  - Tinel’s Sign (1879-1952)
    - *lightly tap* over the nerve to elicit a sensation of tingling or *"pins and needles"* in the distribution of the nerve
- Skin changes (color, temperature) as in CRPS

Neuropathic Pain: Clinical Presentations

- Peripheral Tissues
  - Fx, Inflammation, DVT, Arthritis, Prolonged immobilization of limb
- Peripheral Nerve
  - Trauma
- Dorsal root ganglion
  - Post-zoster, Spinal Nerve Injury
- CNS
  - Head injuries, Hemorrhage, Infarct, Tumor
- Viscera
  - MI
- Idiopathic
  - ???????
Neuropathic Pain Medication

<table>
<thead>
<tr>
<th>Medication</th>
<th>Adverse Effects</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tricyclic Antidepressants: Nortriptyline, amitriptyline, desipramine</td>
<td>Cardiac conduction, sedation, constipation</td>
<td>Side effects major with amitriptyline</td>
</tr>
<tr>
<td>SNRI's Duloxetine, Venlafaxine</td>
<td>Sedation, ataxia, constipation</td>
<td>No in glaucoma, renal function</td>
</tr>
<tr>
<td>Anticonvulsants carbamazepine, gabapentin</td>
<td>Agranulocytosis, ataxia, nausea, diarrhea</td>
<td>1st line in trigeminal neuralgia, no in A-V block</td>
</tr>
<tr>
<td>Opioids Tramadol, MS, Oxycodone</td>
<td>Respiratory depression, ataxia, constipation</td>
<td>Constipation, substance abuse, poor response to these</td>
</tr>
<tr>
<td>Topical lidocaine 5%</td>
<td>rash</td>
<td>Patch to painful areas</td>
</tr>
</tbody>
</table>

Neuropathic Pain: Rx Complementary and Alternative Medicine

- Psychological techniques
  - helps patients cope with the emotional consequences
- Patient education
  - often quoted as a strategy, evidence base is weak
- Electrical stimulation
  - transcutaneous electrical nerve stimulation (TENS)
    - Equal to placebo (TENS)
- Acupuncture
  - systematic evidence to support its use in neuropathic pain is limited
- Combination Approach
  - Combination of psychological, pharmacological and physical therapies, tailored to the needs of the individual patient
Complex Regional Pain Syndromes: (CRPS)

Two types, with similar signs and symptoms, but different causes:

- Type 1. Also known as reflex sympathetic dystrophy syndrome, this type occurs after an illness or injury that didn't directly damage the nerves in your affected limb. About 90 percent of people with complex regional pain syndrome have type 1.
- Type 2. Once referred to as causalgia, this type follows a distinct nerve injury.

Prior Names for CRPS

- Reflex Sympathetic Dystrophy
- Causalgia
- Post-traumatic Sympathetic Dystrophy
- Algodystrophy
- Sudeck’s Atrophy
- Post-traumatic Vasomotor Syndrome
- Shoulder-Hand Syndrome
Opioids and the Future

- **Opioid Receptors**
  - Mu + at least 5 others
  - 3 mu receptors
    - Analgesia, dependence, reduced GI motility
  - + endogenous opioids
    - Endorphins

- **TLR4**
  - Role is in activating innate immunity
  - Opioids (M3G) activate during sepsis