Prescribing Opioids To The Elderly
How What When and Why

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Disclosure

- Jennifer Moore, MD: I have no financial relationships or conflicts of interest to disclose.
Disclosure

Daphna Grossman, MD:

**AMDA Foundation Pfizer QI Award.** Enhancing the Implementation of a New Advanced Directive Policy

**AHSC AFP Innovation Fund.** Enhancing Communication Amongst Health Care Professionals in End-of-Life Care: An Evaluation of the Correlation between the Palliative Performance Scale (PPS) and the Clinical Frailty Scale (CFS)
Objectives

1. To briefly review the Canadian Guidelines for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain and apply them to the geriatric population

2. To describe pain assessment tools used for the non-verbal patient

3. To discuss the initiation and dose titration of common opioids in the geriatric population

4. To explore the use of adjuvants in the elderly
AGS has long recognized that persistent pain is undertreated in the frail elderly population, leading to many adverse outcomes.

Failure to adequately address pain in frail elders can begin the downward spiral that leads to decline and death.

Effective pain management is critical to ensuring our frailest elders have the highest quality care and quality of life.
Consequence of Undertreated Pain

- Depression
- Anxiety
- Decreased socialization
- Sleep disturbance
- Impaired ambulation
- Increased healthcare utilization
- Gait disturbance
- Falls
- Slow rehabilitation
- Adverse effects from multiple drug prescriptions
- Unnecessary suffering
Pain in Long Term Care

- 40-45% of clients in nursing homes experience persistent pain.
- Fewer than ½ of the residents with recurrent predictable pain in a nursing facility were prescribed scheduled pain medication.
- Up to 75% of community dwelling elderly reported experiencing pain in last 30 days

CASE
Mrs. K
Mrs. K

Medical History:

- 83 year old widow, lives in retirement home
- History of CAD, Grade 3 left ventricle, NIDDM
- Osteoporosis, Osteoarthritis
- Pain in both shoulders
- Burning and tingling pain in her feet
Mrs. K

- Bilateral shoulder pain:
  - constant
  - worse with movement
  - 7/10
- Difficulty sleeping
- Difficulty bathing and dressing
- Difficulty preparing meals
- Mrs. K is becoming depressed
Mrs. K

Medications:
Lasix 20 mg OD
Ramipril 5mg OD
ASA 81mg OD
Lipitor 20mg hs
Metformin 500mg bid
Citalopram 20mg OD

Renal Function:
CrCl = 30ml/min
Pain Assessment
Describing pain only in terms of its intensity is like describing music only in terms of its loudness.”

von Baeyer CL; Pain Research and Management 11(3) 2006; p.157-162
PQRSTU

- P – precipitating factors
- Q – quality of pain
- R – radiation of pain
- S – severity of pain
- T – temporal patterning/timing
- U – “you” – impact on patient’s life
How Do We Quantify Pain

- Pain Scale
- Faces Scale
Visual Analogue Scale

Unbearable Distress

No Distress
Common Pain Behaviours in Cognitively Impaired Elderly Persons
AGS Panel JAGS 2002

- **Facial expressions**
  Slight frown, sad, frightened face, grimacing, wrinkled forehead, closed or tightened eyes any distorted expression, rapid blinking

- **Verbalizations, vocalizations**
  Sighing, moaning, groaning grunting, chanting, calling out, noisy breathing, asking for help, verbally abusive

- **Body movements**
  Rigid, tense body posture, guarding, fidgeting, increased pacing, rocking, restricted movement, gait or mobility changes

- **Changes in interpersonal interactions**
  Aggressive, combative, resisting care, decreased social interactions, socially inappropriate, disruptive, withdrawn

- **Changes in activity patterns or routines**
  Refusing food, appetite change, Increase in rest periods, sleep, rest pattern changes sudden cessation of common routines, increased wandering

- **Mental status changes**
  Crying or tears, increased confusion irritability or distress
Pain Tool In Cognitive Impairment

“Which tool should I use?”

- Dolphus II (1997)
- ADD (1999)
- CNPI (2000)
- PADE (2003)
- PAINAD (2003)
- PACSLAC (2004)
## Pain Assessment in Advanced Dementia (PAINAD) Scale

<table>
<thead>
<tr>
<th>Items</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breathing</td>
<td>Normal</td>
<td>Occasional laboured breathing. Short period of hyperventilation</td>
<td>Noisy labored breathing. Long period of hyperventilation</td>
<td></td>
</tr>
<tr>
<td>Negative Vocalization</td>
<td>None</td>
<td>Occasional moan or groan. Low level speech with a negative or disapproving quality</td>
<td>Repeated troubled calling out. Loud moaning or groaning. Crying</td>
<td></td>
</tr>
<tr>
<td>Facial Expression</td>
<td>Smiling or inexpressive</td>
<td>Sad. Frightened. Frown</td>
<td>Facial grimacing</td>
<td></td>
</tr>
<tr>
<td>Consolability</td>
<td>No need to console</td>
<td>Distracted or reassured by voice or touch</td>
<td>Unable to console, distract or reassure</td>
<td></td>
</tr>
</tbody>
</table>
### Pain Assessment Checklist for Seniors with Limited Ability to Communicate (PACSLAC)

<table>
<thead>
<tr>
<th>Facial Expressions</th>
<th>Activity/Body Movement</th>
<th>Social/Personality/Mood</th>
<th>Present</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grimacing</td>
<td>Decreased activity</td>
<td>Upset</td>
<td></td>
</tr>
<tr>
<td>Sad Look</td>
<td>Refusing medications</td>
<td>Agitated</td>
<td></td>
</tr>
<tr>
<td>Tighter face</td>
<td>Moving slow</td>
<td>Cranky/Irritable</td>
<td></td>
</tr>
<tr>
<td>Dirty look</td>
<td>Impulsive Behaviour (e.g., repetitive movements)</td>
<td>Frustrated</td>
<td></td>
</tr>
<tr>
<td>Change in eyes (squinting, dull, bright, increased movement)</td>
<td>Uncooperative/Resistant to care</td>
<td>Other*</td>
<td></td>
</tr>
<tr>
<td>Frowning</td>
<td>Guarding sore area</td>
<td>Pale Face</td>
<td></td>
</tr>
<tr>
<td>Pain expression</td>
<td>Touching/holding sore area</td>
<td>Flushed, red face</td>
<td></td>
</tr>
<tr>
<td>Grim face</td>
<td>Limping</td>
<td>Teary eyed</td>
<td></td>
</tr>
<tr>
<td>Clenching teeth</td>
<td>Clenched fist</td>
<td>Sweating</td>
<td></td>
</tr>
<tr>
<td>Wincing</td>
<td>Going into foetal position</td>
<td>Shaking/Trembling</td>
<td></td>
</tr>
<tr>
<td>Opening mouth</td>
<td>Stiff/Rigid</td>
<td>Cold &amp; clammy</td>
<td></td>
</tr>
<tr>
<td>Creasing forehead</td>
<td>Physical aggression (e.g., pushing people and/or objects, scratching others, hitting others, striking, kicking)</td>
<td>Changes in sleep (please circle):</td>
<td></td>
</tr>
<tr>
<td>Screwing up nose</td>
<td></td>
<td>Decreased sleep or</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increased sleep during day</td>
<td></td>
</tr>
<tr>
<td><strong>Activity/Body Movement</strong></td>
<td></td>
<td>Changes in Appetite (please</td>
<td></td>
</tr>
<tr>
<td>Fidgeting</td>
<td></td>
<td>Decreased appetite or</td>
<td></td>
</tr>
<tr>
<td>Pulling Away</td>
<td></td>
<td>Increased appetite</td>
<td></td>
</tr>
<tr>
<td>Flinching</td>
<td></td>
<td>Screaming/Yelling</td>
<td></td>
</tr>
<tr>
<td>Restless</td>
<td></td>
<td>Calling out (i.e. for help)</td>
<td></td>
</tr>
<tr>
<td>Pacing</td>
<td></td>
<td>Crying</td>
<td></td>
</tr>
<tr>
<td>Wandering</td>
<td>Anger/Mad</td>
<td>A specific sound or vocalisation</td>
<td></td>
</tr>
<tr>
<td>Trying to leave</td>
<td>Throwing things</td>
<td>For pain ‘ow’, ouch’</td>
<td></td>
</tr>
<tr>
<td>Refusing to move</td>
<td>Increased confusion</td>
<td>Moaning and groaning</td>
<td></td>
</tr>
<tr>
<td>Thrashing</td>
<td>Anxious</td>
<td>Mumbling</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grunting</td>
<td></td>
</tr>
</tbody>
</table>
PACSLAC
Pain Assessment Checklist For Seniors With Limited Ability To Communicate

- 60 items within 4 categories
- All 6 AGS recommended domains assessed
- Assessors indicate the presence of pain-related behavior by placing a mark next to the item.
- Each mark is scored as 1 point
- Total possible 60 points.
- Typically takes 5 minutes to complete
Pain Treatment
Non Pharmacological Pain Management

- Splints
- TENS
- Physical Therapy
- Recreational Therapy
- Occupational Therapy
- Spiritual, Psychosocial Therapy
- Massage Therapy
- Acupuncture, Therapeutic Touch, Reike, Meditation
Which Pain Medication?

- Acetaminophen?
- Nsaids?
- Opioids?
- Adjuvants?
Canadian Guidelines for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain

- Before initiating opioid therapy, ensure comprehensive documentation of the patient’s pain condition, general medical condition and psychosocial history, psychiatric status and substance use history

- Stepped opioid selection

- Start with a low dose and increase gradually until optimal dose attained

- Monitor and observe for opioid effectiveness, adverse effects or medical complications and aberrant drug related behaviours
AGS Comment on Addiction

- The incidence of addictive behaviour among patients taking opioids for medical indications appears to be very low.

- The exercise of careful professional responsibility reduces the risk of abuse.

- Therefore, fear of addiction and other side effects does not justify failure to treat severe pain.
# Opioid Risk Tool

**Canadian Guidelines for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain**

<table>
<thead>
<tr>
<th>Item</th>
<th>Mark each box that applies</th>
<th>Item score if female</th>
<th>Item score if male</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Family History of Substance Abuse:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td>[ ]</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Illegal Drugs</td>
<td>[ ]</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Prescription Drugs</td>
<td>[ ]</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>2. Personal History of Substance Abuse:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td>[ ]</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Illegal Drugs</td>
<td>[ ]</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Prescription Drugs</td>
<td>[ ]</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td><strong>3. Age (mark box if 16-45)</strong></td>
<td>[ ]</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>4. History of Preadolescent Sexual Abuse</strong></td>
<td>[ ]</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td><strong>5. Psychological Disease</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attention Deficit Disorder, Obsessive-Compulsive Disorder, or Bipolar, Schizophrenia</td>
<td>[ ]</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Depression</td>
<td>[ ]</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Score Risk Category:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Risk: 0 to 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate Risk: 4 to 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Risk: 8 and above</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Canadian Guidelines for Safe and Effective Use of Opioids for Chronic Non-Cancer Pain

**Mild-to-Moderate Pain**

**First-line:** Codeine or Tramadol

**Second-line:** Morphine, Oxycodone or Hydromorphone

**Severe Pain**

**First-line:** Morphine, Oxycodone or Hydromorphone

**Second-line:** Fentanyl

**Third-line:** Methadone, Buprenorphine
Tramadol

- Synthetic analgesic
- Active metabolite binds to mu receptor
- Tramadol 50mg = 1 Tylenol #3
- Inhibits norepinephrine and serotonin reuptake (caution with SSRI & SNRI)
- Immediate release and long acting preparation
- In combo with Acetaminophen - Tramacet
Tramadol

- IR peaks at 2 hours, T1/2 – 6hrs
- IR  50-100mg q4 hours up to 400mg/d
- Up to 300mg/d if >75 years or frail
- Dose up to 200mg/d in renal impairment  (CrCl <30ml) or hepatic impairment
- ADR – Nausea, vertigo, somnolence, headaches
  - Low risk of addiction
  - Low risk of respiratory depression
Codeine

Codeine with Tylenol
- Tylenol #1 – 8mg codeine
- Tylenol #2 – 15mg codeine
- Tylenol #3 – 30 mg codeine

Codeine – tablet/syrup

Codeine Contin
- Minimum dose is 50mg
- 20% of patients do not metabolize Codeine
# OPIOID EQUIVALENCIES

<table>
<thead>
<tr>
<th>Drug</th>
<th>P.O. Dose mg</th>
<th>SC Dose mg</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphine</td>
<td>20</td>
<td>10</td>
<td>Q4h</td>
</tr>
<tr>
<td>Hydromorphone</td>
<td>4</td>
<td>2</td>
<td>Q4h</td>
</tr>
<tr>
<td>Oxycodone</td>
<td>10</td>
<td>n/a</td>
<td>Q4h</td>
</tr>
<tr>
<td>Codeine</td>
<td>200</td>
<td>n/a</td>
<td>Q4h</td>
</tr>
<tr>
<td>Fentanyl Patch</td>
<td>A 25ug patch is equivalent to 60mg of po morphine (+/- 30mg) in 24 hrs</td>
<td></td>
<td>q3d</td>
</tr>
</tbody>
</table>

*Note: Q4h = every 4 hours, q3d = every 3 days*
Morphine

- Preparations: PO – tablets (5mg)/ syrup
  - Parenteral
  - Long Acting Morphine:
    - M-Eslon, MS-Contin, Kadian
- Metabolized into M3Glucuronide and M6Glucuronide
Oxycodone

- Twice as potent as Morphine
- Percocet – Oxycodone (5mg) and Acetaminophen (325mg)
- Oxycodone – 5mg lowest dose
- Metabolites do not cause neurotoxicity

Preparation: tablets only
Long acting preparation recently changed from Oxycontin to OxyNeo – 10mg lowest dose
Hydromorphone

Hydromorphone is 5x more potent than Morphine

1 Tylenol #3 = Morphine 2.5mg = Hydromorphone 0.5mg

Preparations: PO – tablets (1mg)/syrup
Parenteral
Long Acting Hydromorphone: HydromorphContin (3mg)
Pharmacokinetics of Opioids

Bioavailability (for a drug given orally) is the area under the curve.

Level needed to control pain

Concentration in plasma

1-2h  3h

Time

MEDICAL CARE OF THE DYING 4TH ED.
Administration of Opioids

• May give PO, SC, IV, SL, PR

• Do not give IM!!!!!!!

• Potency PO:SC:IV = 1:2:3
Fentanyl

- Synthetic agonist analgesic
- Lipophilic - absorbed through the mucous membranes and skin
- Available in parenteral form, SL dissolvable tablet, (100mcg) and as a transdermal patch
- Parenteral and SL formulations are short acting
- Parenteral formulation can be given IV, SC, SL, or intranasal
- Analgesic effect achieved in 5-10min
- Rapid termination of effect therefore excellent for incident pain and procedures
Fentanyl Patch

- Long acting preparation
- Changed q 3 days (sometimes q2d)
- Peak concentrations: 20-72hrs
- Patch can not be cut
- 25mcg/hr patch = 60mg oral morphine/24h
- 12mcg is lowest dose
- Need to chose another class of opioid as breakthrough
- Must be on stable dosing of opioid to use patch
- Do not use in opioid naïve patient
**Buprenorphine**

- Potent partial µ-opioid receptor agonist
- Elimination not affected by renal impairment
- Buprenorphine:Morphine = 1:100
- Patch - Peak plasma concentration reached at 60h
- ADR include constipation, nausea, dizziness and somnolence
- Constipation, somnolence, respiratory depression less of an issue than with other opioids
Buprenorphine

- Sublingual tab with Naloxone - Suboxone
  For opioid addiction only

- Transdermal patch - Butrans
  Sustained release – q7d
  Available in 5, 10, 20 mcg/hr
  * Max dose 20mcg/hr
  5mcg/hr if opioid naïve
Opioids In Renal Impairment

- Oxycodone
- Hydromorphone
- Fentanyl
- Methadone
- Buprenorphine
Opioid Side Effects

- Constipation
- Nausea and Vomiting
- Increased somnolence
- Pruritis
- Myoclonic jerks
- Agitation, hallucination
- Respiratory depression
Prescribing Opioids
10 Commandments

1. Titrate with short acting narcotics; Convert to long acting when pain well controlled

2. Approximately 10% of the total 24 hour dose should be available q2h PRN for breakthrough pain. Try to use same opioid as the background medication.

3. Regular use of 3 or more PRN doses per day indicates that the background dose should be increased.

4. Avoid Morphine in renal insufficiency; Use Hydromorphone, or Oxycodone. Use Fentanyl if stable pain. Consider Buprenorphine or Methadone

5. Initiate a stimulant laxative such as Senna when prescribing opioids
10 Commandments

6. Treat nausea with medication that act at the Chemoreceptor Trigger Zone i.e. Metoclopramide or Haloperidol

7. SC dose is $\frac{1}{2}$ the oral dose; IV dose is $\frac{1}{3}$ oral dose

8. When rotating opioids, decrease the equivalency dose by 30-50%

9. Decrease dose or lengthen dosing interval in the presence of hepatic or renal impairment

10. Avoid IM route
Case - Mrs. K

What about the burning pain in her feet?

What is the approach to neuropathic pain?
Adjuvants: Medication

- NSAID, Acetaminophen
- Anticonvulsants – Gabapentin, Pregabalin
- TCA’s – Amitriptylline, Nortriptylline
- SNRI – Venlafaxine, Duloxetine
- Steroids – Decadron
- Tramadol
- Bisphosphonates
- Cannabinoids – Sativex
- Ketamine
- Lidocaine
- Methadone

May have to decrease opioid dose
Site of action of analgesic medications.

Polypharmacy Warning

- **Gabapentin/Pregabalin**
  - Renal dosing
  - May need to decrease opioid dose

- **TCA’s**
  - Anticholinergic and cardiac side effects often limit their utility in the elderly patient.
  - Nortriptylline is better option than Amitriptylline

- **SSRI’s**
  - Monitor for hyponatremia
  - QT prolongation
Psychological Adjuvants

- Attention and emotion activate areas in the brain associated with pain

- Can altering our attention to pain or our emotion affect our pain perception?

Attentional modulation network.

Emotional modulation network.

Approach To Pain

Mechanical (splinting, surgery)

Self Care

Medication

- Nutrition
- Sleep
- Relaxation
- Exercise
- Social Support

Water and pills
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4. To explore the use of adjuvants in the elderly

Thank You