Pain management in older persons: An evidence-based approach

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May 15, 2013

Advancing Safe Medication Practices

About ISMP Canada

ISMP Canada is an independent not-for-profit organization dedicated to reducing preventable harm from medications.

Our goal is the creation of safe and reliable systems for managing medications in all environments.

www.ismp-canada.org

Canadian Medication Incident Reporting and Prevention System (CMIRPS)

ISMP Canada is a key partner in CMIRPS with Health Canada, the Canadian Institute for Health Information (CIHI), with support from the Canadian Patient Safety Institute (CPSI)

Goals of CMIRPS:

- Collect data on medication incidents;
- Facilitate the implementation of reporting of medication incidents;
- Facilitate the development and dissemination of timely, targeted information designed to reduce the risk of medication incidents (*e.g.* **ISMP Canada Safety Bulletins**); and
- Facilitate the development and dissemination of information on best practices in safe medication use systems.

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We encourage you to report medication incidents

REPORT a Medication Incident

Practitioner Reporting

https://www.ismp-canada.org/err_report.htm

SafeMedicationUse.ca

Consumer Reporting

www.safemedicationuse.ca/

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ismp CANADA

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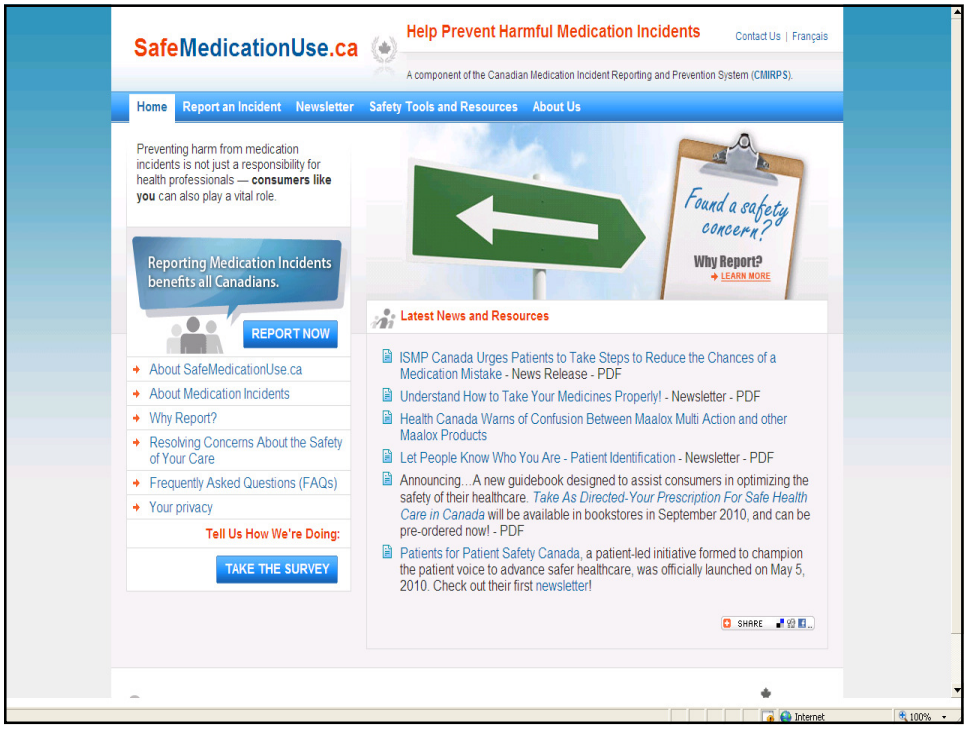


UPCOMING WORKSHOPS

Multi- Incident Analysis Workshop

May 16th, 2013 - Toronto, ON

BPMH Training for Pharmacy Technicians

June 11th and September 18th , 2013 - Toronto, ON

Root Cause Analysis (RCA) Workshop for Pharmacists

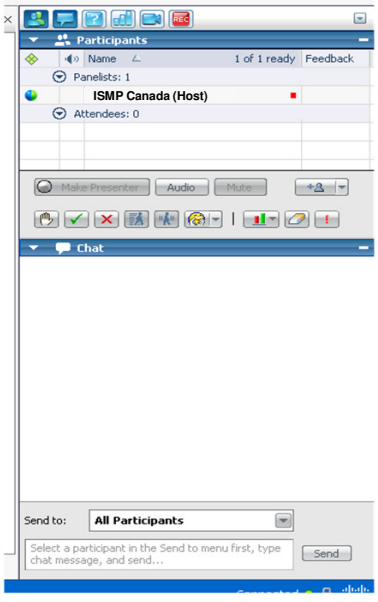
September 26th , 2013 – Toronto, ON

Failure Mode and Effects Analysis (FMEA) for Pharmacists

September 27, 2013 - Toronto, ON

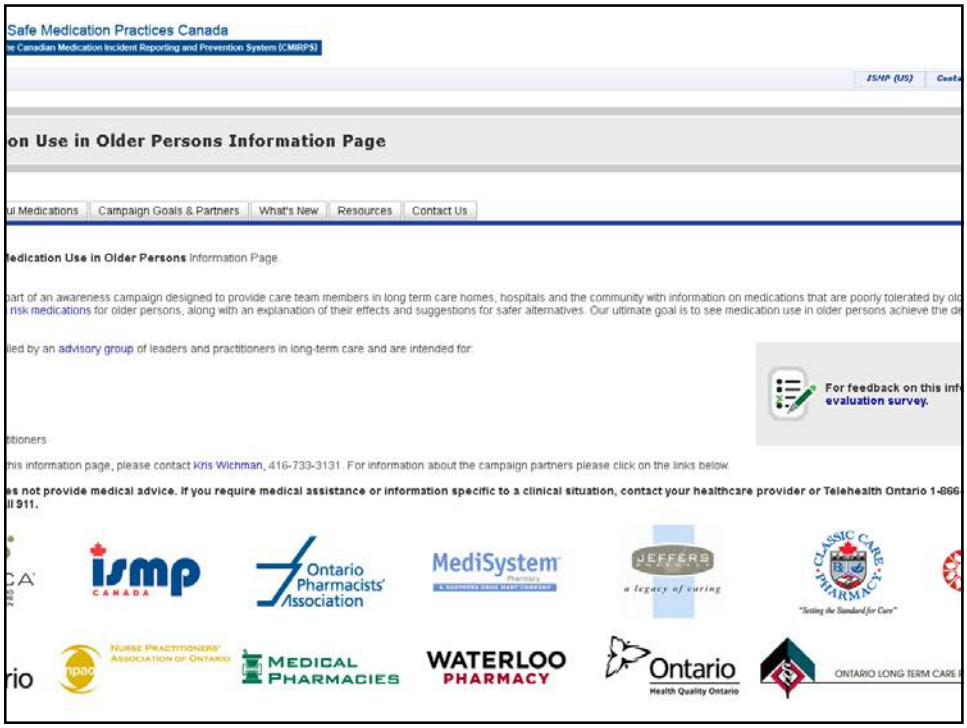
Questions

1. Raise your hand. If you have a phone icon by your name we will un-mute your phone and you can ask your question



2. Type your question in the chat box

3. Email your question to webinars@ismp-canada.org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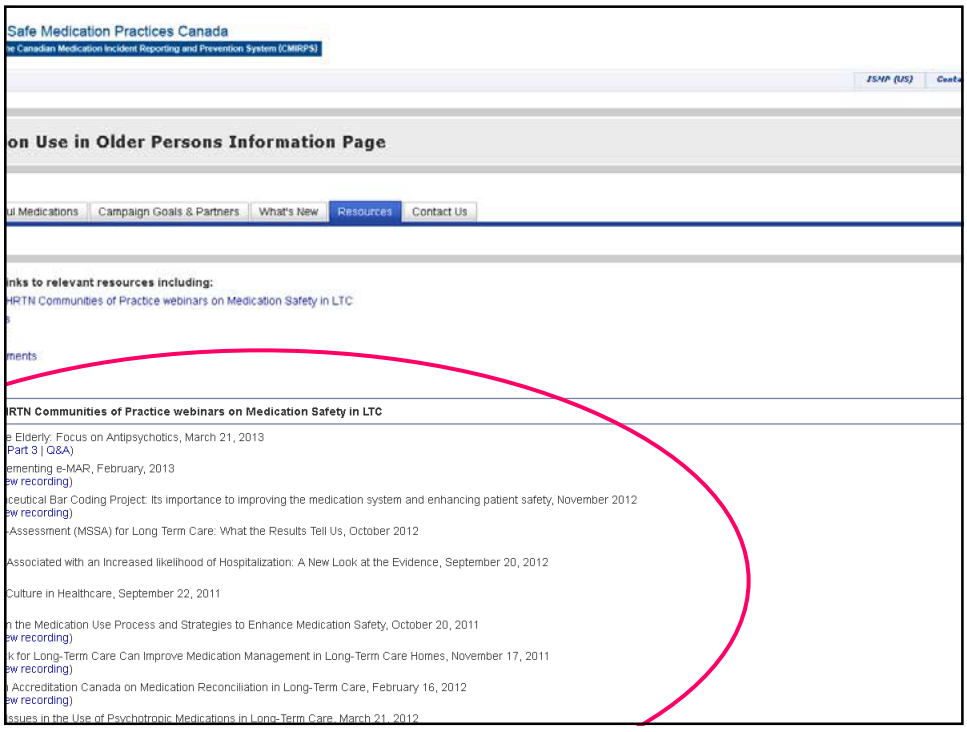
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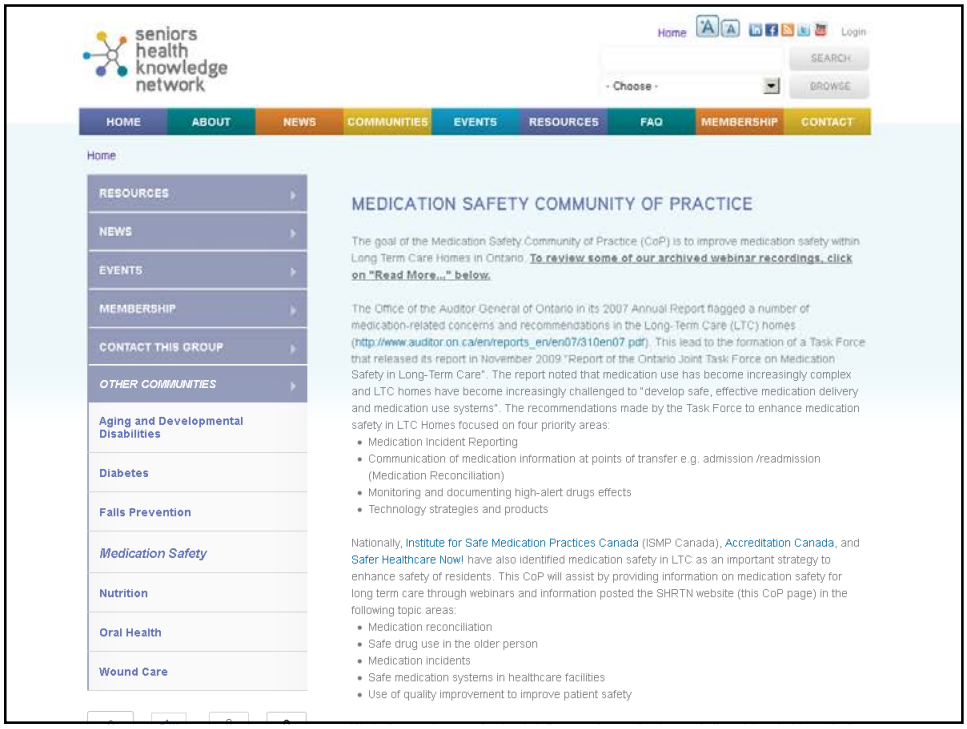
inks to relevant resources including:
HRTN Communities of Practice webinars on Medication Safety in LTC
HRTN Communities of Practice webinars on Medication Safety in LTC
Elderly: Focus on Antipsychotics, March 21, 2013
Part 3 | Q&A)
ementing e-MAR, February, 2013
ew recording)
ceutical Bar Coding Project: Its importance to improving the medication system and enhancing patient safety, November 2012
ew recording)
-Assessment (MSSA) for Long Term Care: What the Results Tell Us, October 2012
Associated with an Increased likelihood of Hospitalization: A New Look at the Evidence, September 20, 2012
Culture in Healthcare, September 22, 2011
n the Medication Use Process and Strategies to Enhance Medication Safety, October 20, 2011
ew recording)
k for Long-Term Care Can Improve Medication Management in Long-Term Care Homes, November 17, 2011
ew recording)
Accreditation Canada on Medication Reconciliation in Long-Term Care, February 16, 2012
ew recording)
ssues in the Use of Psychotropic Medications in Long-Term Care, March 21, 2012



This bulletin shares information about medication incidents occurring in the long-term care environment that have been voluntarily reported to ISMP Canada. The bulletin includes an overview of the medication incidents that had an outcome of harm or death and highlights the major themes identified through an aggregate analysis. Specific examples of the reported incidents are summarized to provide insights into opportunities for system-based improvement.

Background and Overview of Findings

To gain a deeper understanding of medication incidents occurring in the long-term care environment, data were extracted from voluntary reports submitted to ISMP Canada's medication incident database. The data reviewed for this analysis spanned a period of almost 9 years (August 1, 2000, to February 28, 2009). The analysis (which encompassed both quantitative and qualitative aspects) focused on medication incidents in which the outcome was harm or death.

The database search identified a total of 4740 medication incidents in the long-term care environment. Of these, 131 (2.8%) had an outcome of harm or death. Further quantitative analysis revealed that 116 (88.5%) of the 131 incidents were associated with an outcome of harm and 11 (11.5%) with an outcome of death. Administration of an incorrect dose was the single most common type of incident, followed by dose omission, administration of the incorrect drug, and administration of a medication to the incorrect patient (Figure 1).

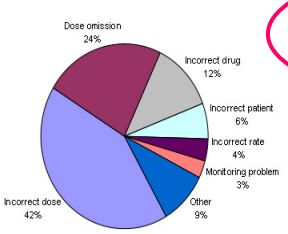


Figure 1: Types of incidents in long-term care facilities that resulted in harm or death (n = 131), identified in an analysis of aggregate data from the ISMP Canada medication incident database for the period August 1, 2000, to February 28, 2009. Incorrect dose, dose omission, incorrect drug, and administration of one or more medications to the wrong patient accounted for almost 85% of the harmful incidents reported.

Qualitative Analysis

The qualitative analysis of the 131 incidents that were associated with harm or death generated 3 main themes:

- incidents involving high-alert medications
- incidents involving anxiolytic–sedative and/or antipsychotic medications, including incidents leading to falls
- incidents involving patient transfers

The sections below present more detail about the medication incidents within these 3 main themes, and selected examples from the analysis.

Main Theme: Incidents Involving High-alert Medications

The majority of the harmful incidents reported involved 1 of 3 classes of medications that are considered high-alert medications: anticoagulants, insulin, and opioids (narcotics).

Anticoagulants

The majority of anticoagulant incidents involved errors in monitoring warfarin therapy. A number of anticoagulants, including warfarin, require monitoring via blood tests to ensure that the drug is maintained within a therapeutically effective range. The processes of ordering, transcribing, dispensing, and administering warfarin are tightly coupled with the concurrent processes associated with monitoring the international normalized ratio (INR) in the serum: ordering blood tests, drawing blood, ensuring timely availability of test results, checking the results, and updating orders for warfarin. Missing or weak links in any of these processes may result in warfarin-related medication incidents.

Example

- Warfarin was initiated for a nursing home resident, but the patient's INR was not ordered at the time of initiation. More than a month later, the patient's condition was deteriorating, and it was identified that no INR results

Speaker – Dr Zacharias

Dr. Zacharias obtained his Doctorate of Medicine from the University Of Western Ontario in 1980. He is currently the Medical Director and attending physician at the Village of Erin Meadows, a 180 bed Long Term Care home. He is the Director of Clinical Services for the Schlegel Villages which includes 11 LTC facilities caring for over 2500 seniors in Ontario. He is also the Medical Director of the Chronic Pain Management Unit at Hamilton Health Sciences. In 2012 he was appointed as a Coroner in the Province of Ontario.

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Speaker - Diane MacEachern

Diane MacEachern graduated with a Bachelor of Science in Nursing from McMaster University in 1991. After four years of working for both the Scarborough Health Department and the Oshawa General Hospital she returned to York University and in 1997, graduated from the Ontario Primary Care Nurse Practitioner Program. Diane is currently a member of NPSTAT, the CE LHIN's nurse practitioner long-term care outreach team. She is also the primary care provider to the fifty residents on the assisted care floor at The Village of Taunton Mills Retirement Home in Whitby. Diane returned to York University two years ago to pursue her Master of Science in Nursing with a focus in education and leadership which she will complete this summer. She has a keen interest in education and has preceptored students, lectured and tutored in the Ontario NP program. She has also been a Clinical Instructor in the Faculty of Health Sciences, BScN program at UOIT.

Speaker - Seh-Hwan Ahn

Seh-Hwan Ahn graduated from the University of Toronto Faculty of Pharmacy in 2003. After working several years in the community as a pharmacist, he has worked over 5 years as a consultant pharmacist in long term care for MediSystem Pharmacy.

Pain management in the older person: An evidence-based approach

Presented By:

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May 2013

Dr. Ramesh Zacharias
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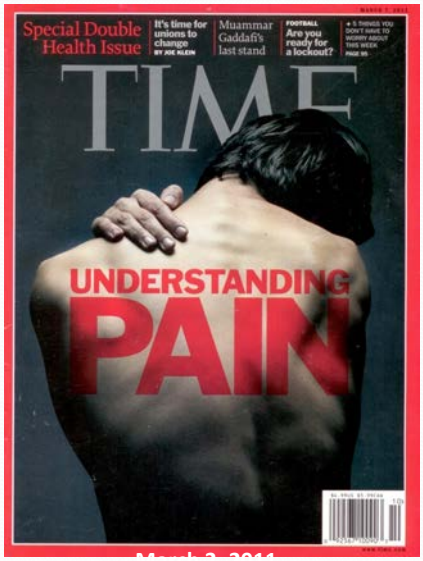
  - Ontario MOHLTC, Atlantic Region Ministries of Health and Education, CIDA Inc., Ministries of Health Malaysia and Kerala India



Healing the Hurt. Finding new ways to treat pain

Pain is not merely a symptom but a disease in itself, one that doctors have only recently come to recognize

Key Learning Objectives:

- Recognition of pain in older persons
- Principles of pain assessment and available tools for the cognitively well and cognitively impaired older persons.
- Pain management including pharmacological and non-pharmacological approaches.
- Monitoring to ensure effectiveness of treatment.

"Pain is whatever the experiencing person says it is, existing whenever he/she says it does".

~McCaffery (1968)

"Defining pain, distinguishing between the different types of pain, and understanding the way in which noxious stimuli are transmitted from the periphery to the part of the brain where pain is perceived, are essential to assessing pain and providing adequate pain relief."

~McCaffery & Pasero, 1999

Case VG

- 88 year old female
- History of Diabetes, CAD, Peripheral Vascular, Alzheimer's Disease, Hypertension, Arthritis
- Required a below knee amputation for gangrene in left foot and then 6 months later in her right foot

Case VG medications:

- acetaminophen 500mg TID
- citalopram 20mg daily
- donepezil 10mg daily
- ferrous fumarate 300mg OD
- metformin 500mg BID
- Novolin 30/70 inject 12 units QAM
- hydrochloride 10mg daily
- ramipril 2.5mg daily
- rosuvastatin 5mg daily
- rabeprazole 20mg
- vitamin D 1000units daily
- lorazepam 0.5mg qhs,
- quetiapine 12.5mg at 12:00 & 25mg at 19:00

Epidemiology of pain in older persons:

- Chronic pain is a complex problem with both clinical and psychological implications
- Chronic pain affects 20% of Canadians and jumps to 60% of those over 65. Chronic Pain in Canada: Prevalence, Treatment. Impact and Role of Opioid Analgesia, Moulin, D et al., Pain Research and Management, 2002. 7:179-84.
- Epidemiologic studies show a very high prevalence of persistence pain, often exceeding 50% of community dwelling older patients and up to 80% of nursing home resident. Gibson, SJ, Expert Review of Neurotherapeutics. 7(6): 627-35, 2007 June.

Epidemiology of pain in older persons:

- Pain management in the older patient requires a comprehensive assessment, adapted to the patients cognitive functioning, using specific tools, and taking into account the activities of daily living and autonomy. Perrot, S. Psychologie et Neuropsychiatrie du Viellissement 4(3): 163-70, 2006 Sep. Cunningham C. Nursing Standard. 20(46):54-8, 2006 Jul-Aug 1.
- The impact of poorly managed chronic pain on the quality of life of elderly patients and the problems related to its management are widely acknowledged. Auret K et al. Drugs and Aging. 22(8): 641-54, 2005.

Keeney C. et al. (2008). Initiating and sustaining a standardized pain management program in long-term care facilities. JAMDA. 10, 347-353

- As high as 83% of LTC residents struggle with daily pain
- Without standardized pain assessment methods: caregivers are unaware which of their patients experience daily pain
- 44.2% of participants: pain level during vital sign assessment was the same as on admission/completion of initial pain history form

Educational needs of health care providers working in LTC facilities with regard to pain management

Y Tousignant-Laflamme et al. Pain 2012Research and Management Vol 17 No 5 September/October

AMDA Pain Management Guidelines (2009)

- Recognition
- Assessment
- Treatment
- Monitoring

Pain in older persons: Recognition

Non-specific signs and symptoms suggestive of pain:

- Frowning, grimacing, fearful facial expressions, grinding of teeth
- Bracing, guarding, rubbing
- Fidgeting, increasing or recurring restlessness
- Striking out, increasing or recurring agitation
- Eating or sleeping poorly

Inadequate pain treatment in older persons…

- Consequences of untreated pain
  - Depression/social isolation
  - Suffering
  - Sleep disturbance
  - Behavioral problems
  - Anorexia, weight loss
  - Deconditioning, increased falls

Pain and the cognitively impaired patient:

- Pain is underappreciated and undertreated in the elderly with cognitive impairment
- Consider pain as an independent source of agitation
- Rule out delirium (may overlap dementia)
- Do not assume that the quiet non-communicative patient is not in pain
  - Assessing pain behaviours may be more useful than using self-report scales alone

Hadjistavropoulos T, et al. Physiother Can 2010;62(2):104
Ferrell BA. Consult Pharm. 2010;25 Suppl A:5

Assessment:

The most common reason for unrelieved pain is the failure of staff to routinely assess pain and pain relief.

~American Pain Society (2003)

- comprehensive and systematic assessment is essential before prescribing any treatment to alleviate pain and related suffering.

(Hadjistavropoulos et al, 2007)

Assessment and the older person…

- in addition to the general issues that affect the pain assessment and management of people of any age, specific concerns include:

(1) the myth that having pain is "natural" for older adults

(2) The myth older adults perceive less pain than younger adults

(3) unjustified fears about possible of addiction to opioids

(4) sensory and cognitive impairments

(5) increased stoicism that makes many seniors less likely to report pain

(6) fear of inducing respiratory depression or fear of giving the last or lethal dose of opioids

(Hadjistavropoulos et al, 2012; Tousignant-Laflamme et al, 2012)

Key principles of pain assessment and management include…

- Patients/residents have the ***right*** to the best pain relief possible.
- Unrelieved acute pain has ***consequences*** and pain should be ***prevented*** where possible.
- Effective pain assessment and management is ***multidimensional*** in scope and requires coordinated ***interdisciplinary*** intervention.
- Clinical ***competency*** in pain assessment and management demands ongoing ***education.***

(RNAO, 2009)

Generally…

- Self-report is the primary source of assessment for verbal, cognitively intact persons. Family/caregivers reports may be included for those unable to self-report
- Select a systematic, validated assessment tool to assess basic parameters of pain
- Use a standardized tool with established validity to assess ***intensity*** of pain (i.e. verbal scale, faces scale, behavioural scale, visual analogue scale *VAS* or numeric rating scale *NRS*)
- If one is unable to give self-report, pain assessment may include behavioral indicators using standardized measures (i.e. Checklist of Nonverbal Pain Indicators *CNPI*)

(RNAO, [illegible])

Baseline assessment of pain…

- **Identify location of pain**
- **Identify** PQRST **characteristics:**

P - provocating and precipitating factors, relieving factors

Q- quality of pain (eg. burning, stabbing, gnawing, shooting, lancinating, aching)

R – radiation

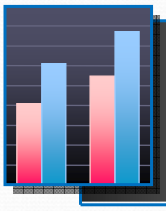
S - severity (use an appropriate intensity scale)

T - timing

- **Identify the effects of pain on function and activities of daily living.**

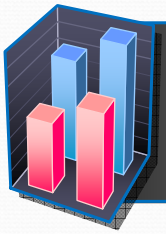
(RNAO, 2009)

Pain Assessment Tools



Unidimensional scales[1]

- Numeric Rating Scale
- Verbal Rating Scale
- Visual Analog Scale
- Faces Pain Rating Scale



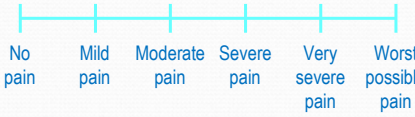
Multidimensional scales

- Brief Pain Inventory[1]
- McGill Pain Questionnaire[1]
- Neuropathic Pain Scale[2]

1. Brunton S. *J Fam Pract.* 2004;53(suppl 10):S3
2. Galer BS et al. *Clin J Pain.* 2002;18:297

Unidimensional Pain Assessment Scales

Verbal Pain Intensity Scale



*Incapacitating, God awful, soul stealing

Visual Analog Scale

* Length of line is irrelevant beyond discrimination

0-10 Numerical Rating Scale

*Limits people to 11 "intensities"

Faces Rating Scale

*Intended for children; "used" with nonverbal patients

McLafferty E, Farley A. Nursing Standard 2008;22:42

Comprehensive assessment should include:

- Physical exam, lab tests, other diagnostic data
- Effect and understanding of current illness
- History of pain, meaning of pain/distress caused by pain,; coping responses to pain and stress; effects of pain of ADLs
- Psychosocial and spiritual effects; psychological effects(anxiety/depression)
- Situational factors (culture, language, ethnic factors, financial impact of pain and treatment)
- Individual preferences and extractions/beliefs/myths re: tx, preference and response to education r/t condition and pain

(RNAO, 2007)

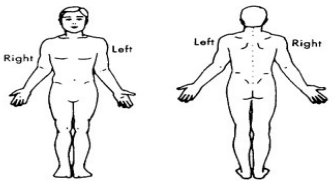
FORM 3.2 **Brief Pain Inventory**

Date_____ / _____ / _____ Time:_____

Name: _____ (Last) _____ (First) _____ (Middle Initial)

1) Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and toothaches). Have you had pain other than these everyday kinds of pain today?
1. Yes 2. No

2) On the diagram shade in the areas where you feel pain. Put an X on the area that hurts the most.



3) Please rate your pain by circling the one number that best describes your pain at its **worst** in the past 24 hours.

0 1 2 3 4 5 6 7 8 9 10
No pain — pain as bad as you can imagine

4) Please rate your pain by circling the one number that best describes your pain at its **least** in the past 24 hours.

0 1 2 3 4 5 6 7 8 9 10
No pain — pain as bad as you can imagine

5) Please rate your pain by circling the one number that best describes your pain on the **average**

0 1 2 3 4 5 6 7 8 9 10
No pain — pain as bad as you can imagine

6) Please rate your pain by circling the one number that tells how much pain you have **right now**.

0 1 2 3 4 5 6 7 8 9 10
No pain — pain as bad as you can imagine

7) What treatments or medications are you receiving for your pain?

_____

_____

8) In the Past 24 hours, how much **relief** have pain treatments or medications provided? Please circle the one percentage that most shows how much relief you have received

0% 10 20 30 40 50 60 70 80 90 100%
No relief — Complete relief

9) Circle the one number that describes how, during the past 24 hours, pain has **interfered** with your:

A. General activity

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

B. Mood

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

C. Walking ability

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

D. Normal work (includes both work outside the home and housework

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

E. Relations with other people

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

F. Sleep

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

G. Enjoyment of life

0 1 2 3 4 5 6 7 8 9 10
Does not interfere — Completely interferes

What about the resident/patient with poor cognitive functioning?

- pain problems are often overlooked, under-assessed and mis-assessed, especially among seniors with dementia.
- under-treatment of pain among seniors and inadequate assessment of pain among people with cognitive impairments create difficult ethical situations for pain clinicians

(Hadjistavropoulos et al, 2007)

Checklist of Nonverbal Pain Indicators:

- **Facial expression** (sad, frightened, grimacing, squinting)
- **Verbalizations, vocalizations** (moaning, groaning, calling out, noisy breathing)
- **Body movements** (rigid, tense, guarding, rocking, pacing, restricted movement, rubbing a body part)
- **Changes in interpersonal interactions** (aggressive, combative, restless, resisting care, withdrawn)
- **Changes in activity patterns or routines** (changes in appetite, sleep, increased wandering)
- **Mental status changes** (crying, increased confusion, irritability, agitation)

(Feldt, 2000)

Cognitive Status	Practical Suggestions for Scale Selection	Comments and References
Older people with no significant cognitive/communication impairment and older people with mild to moderate cognitive/communication impairment	Numeric graphic rating scale. Verbal rating scale. Numerical rating scale (0-10)	High validity and reliability in older people. Can be used in mild/moderate cognitive impairment. Vertical as opposed to horizontal orientation may help to avoid misinterpretation in the presence of visuo-spatical neglect, e.g. in patients with stroke.

Cognitive Status	Practical Suggestions for Scale Selection	Comments and References
Older people with moderate to severe cognitive/communication impairment	Pain Thermometer Colored Visual Analogue Scale	Easy to use Validity has not been fully evaluated Well understood in early and mid-stage state of Alzheimer's disease

Cognitive Status	Practical Suggestions for Scale Selection	Comments and References
Older people with severe cognitive/communication impairment (no single recommendation currently possible) - observational pain assessment helpful	Abbey Pain Scale	Short and easy to apply scale Requires more detailed evaluation.
Multidimensional assessment Older people with minimal cognitive impairment	Brief Pain Inventory	15- item scale assessing: severity, impact on daily living, impact on mood and enjoyment of life.

Observational Changes Associated with Pain:

Type	Description
Autonomic Changes	Pallor, sweating, tachypnoea, altered breathing patterns, tachycardia, hypertension.
Facial Expressions	Grimacing, wincing, frowning, rapid blinking, brow raising, brow lowering, cheek raising, eyelid tightening, nose wrinkling, lip corner pulling, chin raising, lip puckering.
Body Movements	Altered gait, pacing, rocking, hand wringing, repetitive movements, increased tone, guarding, *bracing*

Observed Changes Associated with Pain Cont'd:

Type	Description
Verbalisations/vocalisations	Sighing, grunting, groaning, moaning, screaming, calling out, aggressive/offensive speech
Interpersonal interactions	Aggression, withdrawal, resisting
Changes in activity patterns	Wandering, altered sleep, altered rest patterns
Mental status changes	Confusion, crying, distress, irritability.

The Abbey Pain Scale

For measurement of pain in people with dementia who cannot verbalise

How to use scale: While observing the resident, score questions 1 to 6.
Name of resident: .....
Name and designation of person completing the scale: .....
Date: ..... Time: .....
Latest pain relief given was ..... at .....hrs.

Q1.	Vocalisation eg whimpering, groaning, crying *Absent 0 Mild 1 Moderate 2 Severe 3*	Q1 ☐
Q2.	Facial expression eg looking tense, frowning, grimacing, looking frightened *Absent 0 Mild 1 Moderate 2 Severe 3*	Q2 ☐
Q3.	Change in body language eg fidgeting, rocking, guarding part of body, withdrawn *Absent 0 Mild 1 Moderate 2 Severe 3*	Q3 ☐
Q4.	Behavioural change eg increased confusion, refusing to eat, alteration in usual patterns *Absent 0 Mild 1 Moderate 2 Severe 3*	Q4 ☐
Q5.	Physiological change eg temperature, pulse or blood pressure outside normal limits, perspiring, flushing or pallor *Absent 0 Mild 1 Moderate 2 Severe 3*	Q5 ☐
Q6.	Physical changes eg skin tears, pressure areas, arthritis, contractures, previous injuries *Absent 0 Mild 1 Moderate 2 Severe 3*	Q6 ☐

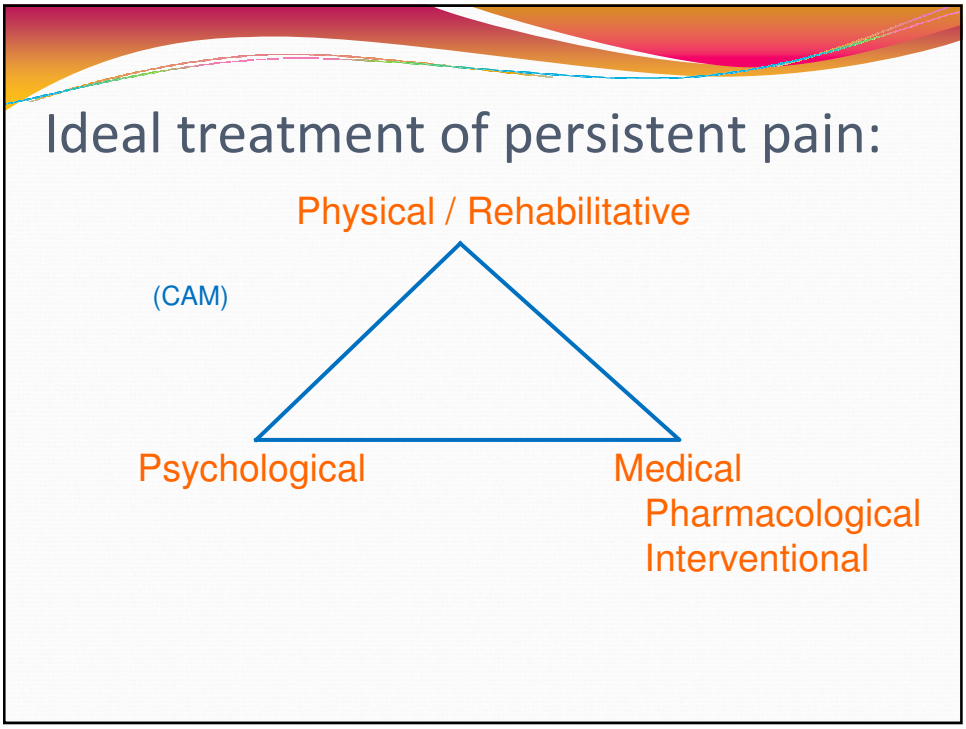
Add scores for Q1 to Q6 and record here ⇒ Total pain score ☐

Now tick the box that matches the Total pain score ⇒	0–2 No pain	3–7 Mild	8–13 Moderate	14+ Severe

Finally, tick the box which matches the type of pain ⇒	Chronic	Acute	Acute on chronic

Abbey J, De Bellis A, Piller N, Esterman A, Giles L, Parker D, Lowcay B. The Abbey Pain Scale. Funded by the JH & JD Gunn Medical Research Foundation 1998–2002.

Ideal treatment of persistent pain:



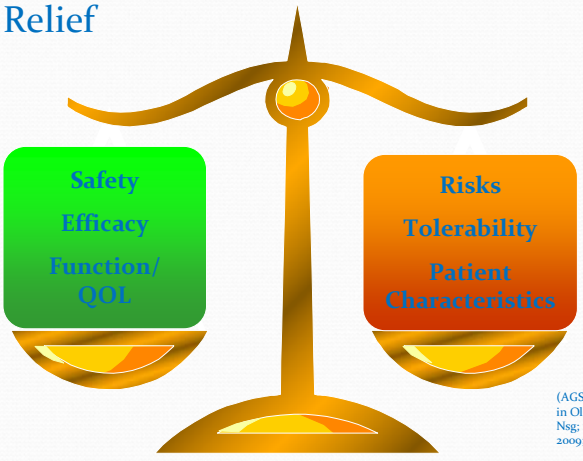
Treatment:

Pain Management Goals:

- Decrease pain
- Improve function
  - Physical
  - Psychological
  - Social
- Minimize risk
  - Patient
  - Physician
  - Society

Treatment Considerations for Persistent Pain in Older Adults:

Goal: Optimal Pain Relief



*Quality/frequency of assessments

*Optimized nondrug approaches

*Balance risk/benefits and optimize use

*Minimize ADR/misuse/abuse

*Monitor & document outcomes

(AGS Panel on the Pharmacological Management of Persistent Pain in Older Persons. *JAGS,* 2009;57(8):1331-1346; Arnstein. Pain Manage Nsg; 11(2):S11-S22; Bruckenthal P, et al. *Pain Medicine.* 2009;10(S2):S67-S78)

Pain Prevalence in Older Adults and Gaps in Treatment Across Care Setting: *Courtesy Dr Keela Herr

Setting	Prevalence of pain	No Pain Treatment?
Nursing Home (551 OA/6 NHs) (Reynolds et al., 2008)	51.4% intact 47.7% impaired	20% intact 44% impaired
Hospital (367 OA/8 hosp) (Gianni et al., Arch Geront & Geriatrics, 2010)	67% pain present	51% no treatment or inadequate for intensity
Emerg Dept (1454 >65 hip fx) (Herr & Titler, Emerg Nsg, 2009)	Mean pain intensity=7	40% patients no analgesic ordered
Home Care (2779 OA) (Maxwell et al., 2008)	48% daily pain	22%

Barriers to Pharmacological Pain Management *Courtesy Dr Keela Herr

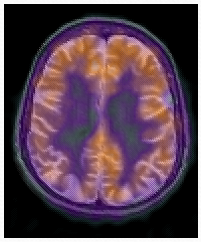
- *Provider Knowledge Gaps*
  - No consistent training on geriatrics and/or pain in professional education
  - Knowledge to balance benefits/risk for best treatment plan
- *Knowledge Gaps Re: Analgesic Use in Older Adults*
  - Strength of evidence in existing pain guidelines for older adults
  - Limited research on analgesic use in older adults, specifically the complex including cog impaired
- *Political/Regulatory Climate*
  - National Public Health Concerns Re Opioid Misuse/Abuse (CDC)
  - Federal concern re: safe and effective analgesic use (FDA; NIA; NIH Pain Consortium)
  - PROP—physicians for responsible opioid prescribing

(Kaasalainen et al., 2010, 2012; Taylor, Lemtounti, Weiss & Pergolizz, 2012, Current Geron & Ger Res,12; Chou et al., 2009, J Pain, 10(2):113-130)

Barriers to Pharmacologic Pain Management in Older Adults: Patient Issues

Multidrug Regimens

Drug-drug Interactions
Adverse reactions
Compliance issues

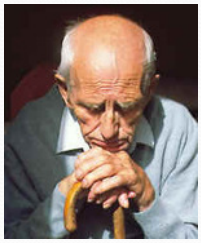


Cognitive Impairment

Ability to request
Administration
Adherence

Opiophobia

Fear of addiction and side effects



Physiologic Changes

Frailty
System declines
Comorbidities
Effect on analgesia

Campbell et al. Am J Ger Pharm, 2012; 10(3):165-177
Coldrey et al. Best Pr & Res Clin Anaes, 2011; 25:367-378
McLachlan et al., Br J Clin Pharm, 2011; 71(3):351-364
Panel on Persistent Pain in Older Persons. *J Am Geriatr Soc*. 2002;50:S205-224

Non-Pharmacological Methods of Pain Control…

- Heat & Cold - it works well for some patients, works quickly, adverse effects are virtually non-existent, may provide some patients/families with a sense of control over the relief of pain.
- Relaxation - may be appropriate for almost any type of pain with a goal of reducing muscle tension and anxiety.
- Guided Imagery – may help by taking attention away from pain, but caution should be used in using relaxation and imagery with patients who are, confused, drowsy, have a poor grasp of the language of the relaxation therapist, have a significant psychiatric history including auditory or visual hallucinations
- Distraction
- Other – music, therapeutic touch, massage, reflexology, Reiki and aromatherapy

(RNAO, 2009)

AGS Recommendations 2009

- Acetaminophen as initial and ongoing pharmacotherapy particularly musculoskeletal pain
- NSAIDS AND Cox-2 selective inhibitors may be considered rarely and with extreme caution
- Opioids for all patients with moderate-to-severe pain

Opioid Guideline 2010

- Opioid therapy for elderly patients can be safe and effective (Grade B) with appropriate precautions, including lower starting doses, slower titration, longer dosing interval, more frequent monitoring, and tapering of benzodiazepines (Grade C).

Opioid treatment in older persons:

- Presence of renal insufficiency also influences choice of opioids
- Oxycodone, morphine, propoxyphene, and meperidine all have active metabolites excreted renally.
- Dose adjustments are necessary for patients with renal insufficiency
- Hydromorphone a possible choice in patients with renal impairment
- M-Eslon can be opened and put in G-Tubes

Opioid treatment in older persons:

- Transdermal fentanyl patch is another option for patients requiring around-the-clock pain control
- 2005 FDA advisory: "should only be used in patients who are already receiving opioid therapy, who have demonstrated opioid tolerance and require a daily dose of at least 25 mcg/hr"
- Transdermal buprenorphine recently available in Canada —once weekly for moderate pain safe in opioid naïve patients

Chronic Neuropathic Pain Guidelines from CPS

FIRST LINE

- Tricyclic antidepressants (Amitriptyline, nortriptyline)
- Gabapentinoids (gabapentin,pregabalin)
- Carbamazepine and oxycarbazepine in TN

Pain Res Manage 2007; 12(1):13-21;Moulin D, Clark AJ et al
Clin Interv Aging, 2008 March; Clair Haslam and Turo Nurmikko

Neuropathic Pain—Cont'd

SECOND LINE

Serotonin Noradrenaline Reuptake Inhibitors

- Venlafaxine
- Duloxetine
- Topical Lidocaine mixtures

Neuropathic Pain Cont'd

THIRD LINE

- Opioids (Morphine, oxycodone, hydromorphone, methadone)
- Tapentadol CR
- Tramadol
- Citalopram and paroxetine
- Capsaicin

Neuropathic Pain Cont'd

FOURTH LINE

- Cannabinoids
- Methadone

Topical Analgesic Agents:

Lidocaine 5%, Amitriptyline 5%,

Ketoprophen 7.5%, Ketamine 10%

In PLO Gel or Lidoderm TID-QID

Newer Drugs:

- Transdermal buprenorphine – good for moderate pain in opioid naïve. Patch changed every 7 days
- Oxycodone Hydrochloride /Naloxone Hydrochloride
- Oxycodone hydrochloride controlled release tablets
- Tapentadol – IR/CR
- Fentanyl buccal soluble film - oral patch for breakthrough palliative care

Fentanyl and the Opioid Naive

- Because of the risk of life-threatening hypoventilation leading to death, fentanyl patch at any dose, including 12mcg/hours formulation, is **contraindicated in opioid-naïve individuals**.
- Fentanyl should only be use in opioid tolerant (i.e. those who have been taking AT LEAST 60 mg of oral morphine daily, or 30 mg of oral oxycodone daily, or 8 mg of oral HYDROmorphone daily, or equianalgesic dose of another opioid daily, for a period of at least one week).
- Fentanyl may have altered pharmacokinetics in elderly, cachectic, or debilitated individuals, due to poor fat stores, muscle wasting or altered clearance. Therefore, it may be appropriate, according to clinical judgment, to initiate the dose at a level lower than recommended in conversion table (next slide).

Table 1♣: Recommended dose conversion from current opioid to fentanyl Patch

Current Analgesic	**Daily dose (mg/day)**						
Oral Morphine	60–134	135-179	180-224	225-269	270–314	315-359	360–404
IM/IV Morphine	20–44	45-60	61-75	76-90	NA	NA	MA
Oral Oxycodone	30–66	67-90	91-112	113-134	135–157	158-179	180–202
Oral Codeine	150–447	448-597	598-747	748-897	898-1047	1048-1197	1198–1347
Oral Hydromorphone	8–16	17-22	23-28	29-33	34–39	40-45	46–51
IV Hydromorphone	4.0–8.4	8.5-11.4	11.5-14.4	14.5-16.5	16.6–19.5	19.6-22.5	22.6–25.5
	↓	↓	↓	↓	↓	↓	↓
Recommended FENTANYL Dose	**25 mcg/h**	**37 mcg/h**	**50 mcg/h**	**62 mcg/h**	**75 mcg/h**	**87 mcg/h**	**100 mcg/h**

♣Table 1 should not be used to convert from fentanyl patch to other opioids

NA (not applicable) – reflects insufficient data available for guidance. I f needed, prescribers should make these conversions very carefully and conservatively.

Reference: Dosage Conversion Guidelines for Fentanyl Transdermal Systems, Health Canada, Jan 2009 .

Avoid in Elderly (Beer's List)

- Demerol (Meperidine)
- Talwin (Pentazocine)
- Long acting benzodiazepines
- High dose Tylenol, no more then 2.6g/day
- NSAIDS & Indomethacin
- Pentazocine
- Skeletal Muscle Relaxants
- Codeine

Demerol (meperidine): Not an effective oral analgeisc in dosages commonly used; may cause neurotoxicity

Talwin (Pentazocine): Opioid analgesic that causes CNS adverse effects, including confusion and hallucinations, more commonly than other narcotic drugs

Long acting benzodiazepines: Older adults have increased sensitivity to benzodiazepines and slower metabolism of long-acting agents. In general, all benzodiazepines increase risk of cognitive impairment, delirium, falls, fractures, and motor vehicle accidents in older adults

High dose **Tylenol (acetaminophen)**, no more then 2.6g/day

NSAIDS: (eg Aspirin >325mg/d, Diclofenac, Ibuprofen, Meloxicam, Naproxen, etc.) & Indomethacin

Increases risk of GI bleeding and peptic ulcer disease in high-risk groups, including those aged > 75 or taking oral or parenteral corticosteroids, anticoagulants, or antiplatelet agents. Use of proton pump inhibitor or misoprostol reduces but does not eliminate risk. Upper GI ulcers, gross bleeding, or perforation caused by NSAIDs occur in approximately 1% of patients treated for 3–6 months and in approximately 2–4% of patients treated for 1 year. These trends continue with longer duration of use.

Pentazocine: Opioid Analgesic that causes CNS adverse effects. Including confusion and hallucinations, more commonly than other narcotic drugs

Skeletal Muscle Relaxants (eg. Cyclobenzaprine, Methocarbamol, Orphenadrine, etc): Most muscle relaxants are poorly tolerated by older adults because of anticholinergic adverse effects, sedation, risk of fracture; effectiveness at dosages tolerated by older adults is questionable

Codeine:

- Note: Not on the Beer's List
- Codeine is bioactivated by CYP2D6 into Morphine in body
- great genetic/interethnic differences in metabolizing codeine
- CYP2D6 ultra-rapid metabolism phenotypes may have more active metabolite than expected leading to serious adverse drug reactions
- conversely, slow metabolizers may have no analgesic effect from codeine and no pain relief
- Risk of overdose also when combined with the inhibition of CYP3A4 by other medications and the accumulation of active metabolites because of renal failure

Side Effect Monitoring

When using analgesics, things to watch for are:

- Sedation & falls
- Nausea/Vomiting
- Constipation
- Myoclonus
- Confusion or agitation
- Dry mouth

Side Effect Management

Nausea/Vomiting

- **dimenhydrinate** 25-50mg po / 50-100mg pr q4-6h prn or scopolamine

transdermal patch q48-72h

- **prochlorperazine** 5-10mg po/pr q4-6h prn
- **metoclopramide** 10-15mg po/sc/ or domperidone 10mg po tid-qid, if gastric motility reduced
- Add / try **haloperidol** 0.5-5mg po/sc bid-tid

Side Effect Management

Constipation

Regular doses of agents:

1. Avoid stool softener (**docusate**) – not effective
2. Stimulant laxative (e.g. **biscacodyl** 10-15mg or **sennosides** 2 tabs at qhs, up to 8 tabs qhs, can use bid or tid

Additive, stepwise progression:

3. **Lactulose** 15-30mL up to q3h till BM / Milk of magnesia 30-60mL daily
4. **Fleet** / **mineral oil** enemas +/- mineral oil

Side Effect Management

Myoclonus (involuntary twitching of a muscle or group of muscle)

- Decrease opioid dose slightly
- If severe, switch to another opioid (more common with meperidine)
- **lorazepam** 1-2mg sl or **diazepam** 5mg po/pr q6-8h

Side Effect Management

Confusion or agitation

- More often due to concurrent use of sedative meds (benzodiazepines)
- Usually occur during first weeks of therapy (7-14 days)
- Tolerance with continued use frequently develops once stable dosing is achieved

Side Effect Management

Dry mouth

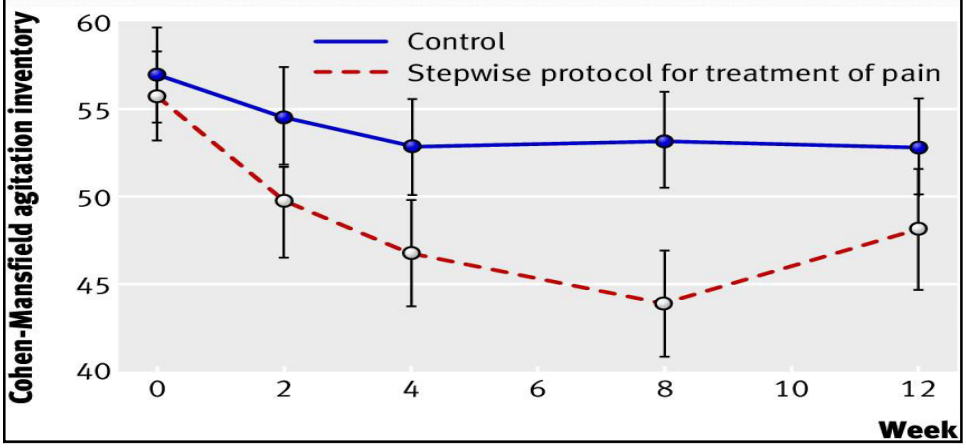
- Common with potent opioids
- Frequent sips of water, ice chips
- **Biotene** toothpaste & mouthwash
- **Moi-stir** spray, **Oral Balance**
- Avoid OTC mouthwashes that contain alcohol

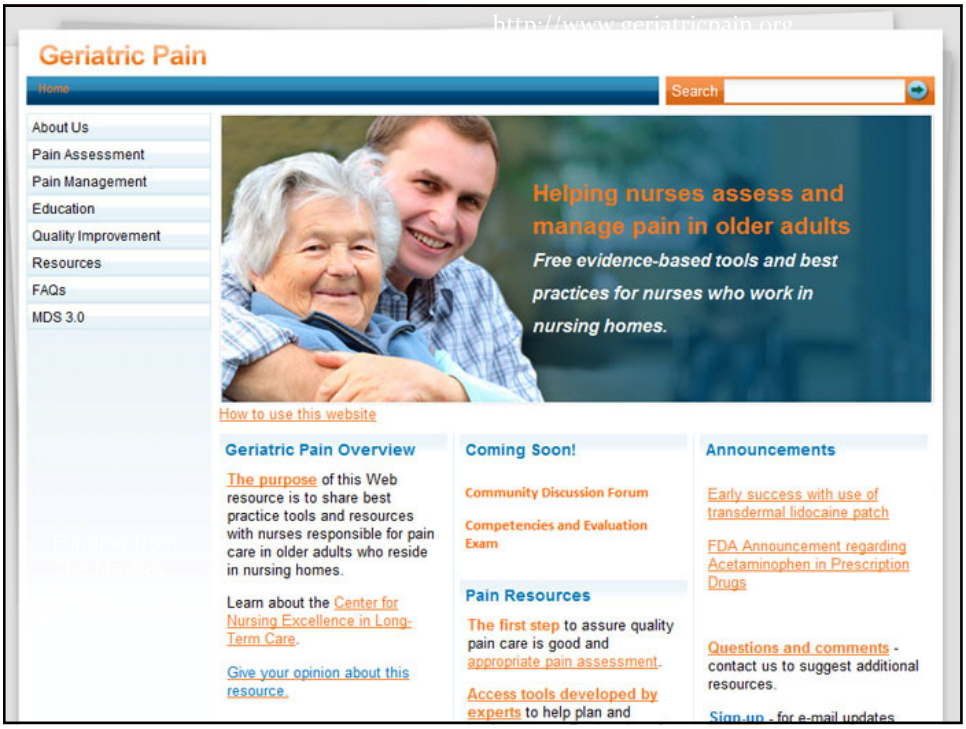
Back to Case Study: VG

Analgesics being used are:

- Gabapentin 200mg Q8H
- hydromorphone 1mg QAM

Husebo BS, *et al*. *BMJ* 2011; 343:d4065 **Efficacy of treating pain to reduce behavioural disturbances in nursing home residents with Dementia**





Summary:

- Systematic and comprehensive assessment is critical for highest quality care
- A combination of non-pharmacologic and pharmacologic interventions can effectively reduce pain and its burden
- Consider physiological characteristics in older patients
- Pharmacologic modalities can be used safely and effectively to treat pain in older patients

Pain in older people…

Ask about pain regularly
Assess pain systematically
Believe the patient's and family's reports of pain and what relieves it
Choose appropriate pain control options
Deliver interventions in a timely, logical and coordinated fashion
Empower patients and their families

We all must die
But if I can save Him from days of
Torture, that is what I feel is my great and
Ever new privilege
Pain is a more terrible lord of mankind
than
Even death himself

~Albert Schweitzer, 1939.

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- http://www.geraitricpain.org

Thank you for your participation…

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UPCOMING WORKSHOPS

Multi- Incident Analysis Workshop

May 16th, 2013 - Toronto, ON

BPMH Training for Pharmacy Technicians

June 11th and September 18th , 2013 - Toronto, ON

Root Cause Analysis (RCA) Workshop for Pharmacists

September 26th , 2013 – Toronto, ON

Failure Mode and Effects Analysis (FMEA) for Pharmacists

September 27, 2013 - Toronto, ON

Advancing Safe Medication Practices

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