PAIN MANAGEMENT IN OLDER PERSONS

Ramesh Zacharias MD FRCS DAAPM CMD

Medical Director Village of Erin Meadows
Assistant Clinical Professor (Adjunct)
Department of Anaesthesia
McMaster University
rzacharias@rogers.com

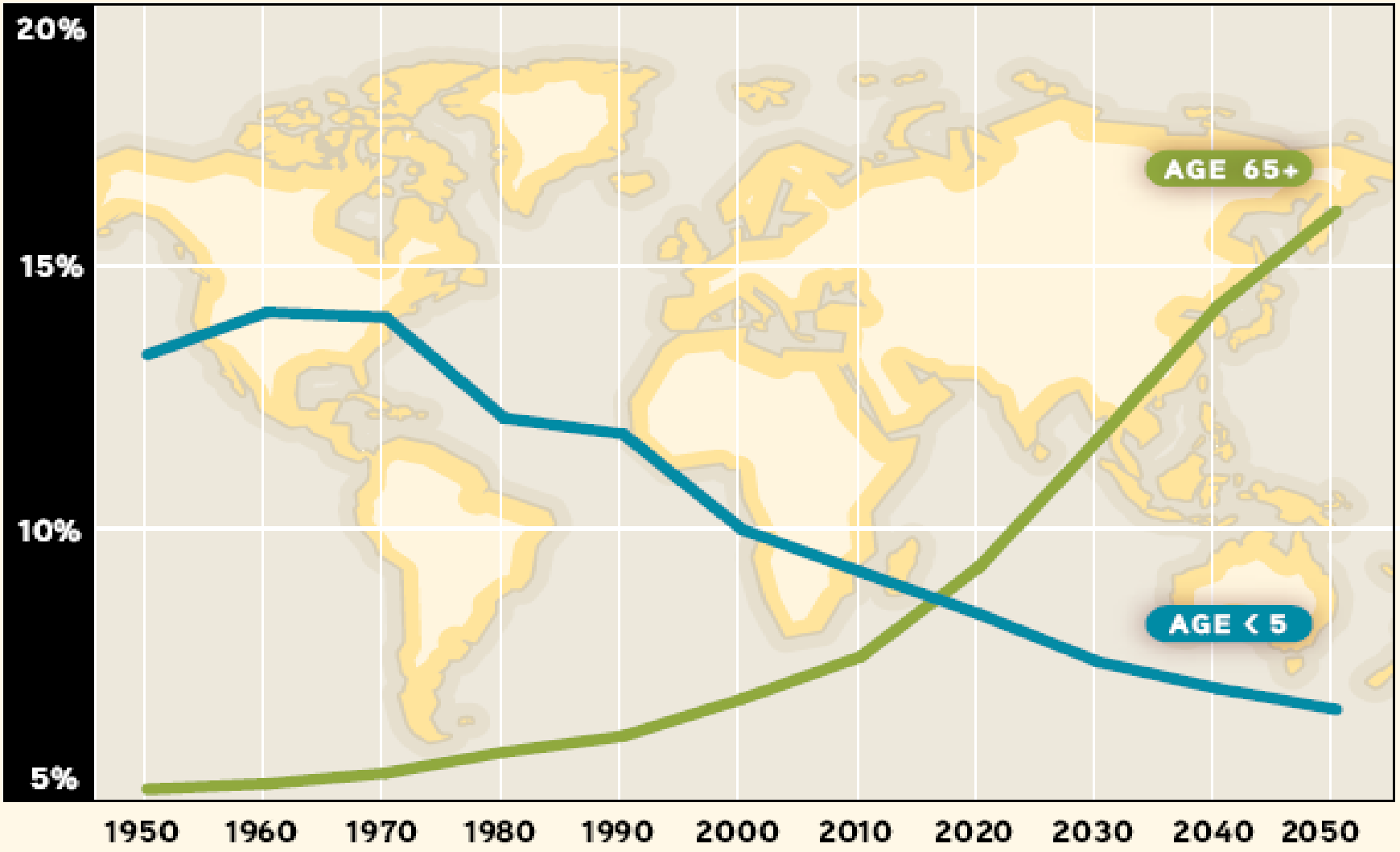
DISCLOSURES

- Unrestricted education grant: Sanofi-Aventis
- Speakers honoraria: Schering-Plough, Sanofi-Aventis, Pfizer, Purdue
- Consulting projects: Ontario MOHLTC, Atlantic Region Ministries of Health and Education, CIDA Inc, Ministries of Health Malaysia and Kerala India

LEARNING OBJECTIVES

- Discuss the current state of pain management in older persons
- Address changes in brain morphology with aging and chronic pain
- Describe the consequences of pain in older persons such as depression, loss of independence and reduced quality of life
- Assess pain in older persons with cognitive or communication impairment
- Developing a pain management plan

YOUNG CHILDREN AND OLDER PEOPLE AS A PERCENTAGE OF GLOBAL POPULATION



Source: United Nations Department of Economic and Social Affairs, Population Division. *World Population Prospects. The 2004 Revision*. New York: United Nations, 2005.

EPIDEMEOLOGY OF PAIN IN OLDER PERSONS

- Pain is a common problem encountered among elderly people in sub acute and long-term facilities. Pain is often underestimated and under treated in these settings. Ferrell, BA. Clinics in Geriatrics Medicine. 16(4):853-74, 2000 November.

- In the geriatric population, common causes of pain include osteoarthritis, low back pain, diabetes and other neuropathies etc. Freedman, Gordon. Geriatrics. 57(5): 36-41; 2002, May, Mitchell, C. British Journal of Nursing. 10(5): 296-304, 2001 March 8-21.

EPIDEMEOLOGY 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.

EPIDEMEOLOGY OF PAIN IN OLDER PERSONS

- Increased incidence of atypical presentations in the elderly due to diminished physiological reserves and interacting co-morbidities. Gibson & Helme, 2001.
- Older patients tend to under report pain.
- Impaired quality of life secondary to pain may be expressed by depression, anxiety, sleep disruption, appetite disturbance and weight loss, cognitive impairment, and limitation in the performance of daily activities. These burdens are expected to improve with effective pain management (AGS Panel 2002).

EPIDEMEOLOGY 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.

PAIN IN OLDER PERSONS MYTHS

- **Acknowledging pain will lead to loss of independence**
- **The elderly – especially cognitively impaired – have a higher pain tolerance**
- **The cognitively impaired cannot be accurately assessed for pain**
- **Patients in LTC say they are in pain to get attention**
- **Elderly patients are likely to become addicted to pain medications**

INADEQUATE PAIN TREATMENT IN OLDER PERSONS

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

CHANGES WITH ADVANCING AGE

- Decreased opiate receptors (Hess et al., 1981; Messing et al., 1980).
- Decreased efficacy of opiates mediating antinociception (Crisp et al,. 1994; Jourdan et al., 2002).
- Reduction in myelinated and unmyelinated fibers in peripheral nerves (Ceballos et al, 1999).
- Diminished expression of CGRP, substance P, somatostatin and nitric oxide (Ko et al., 1997).

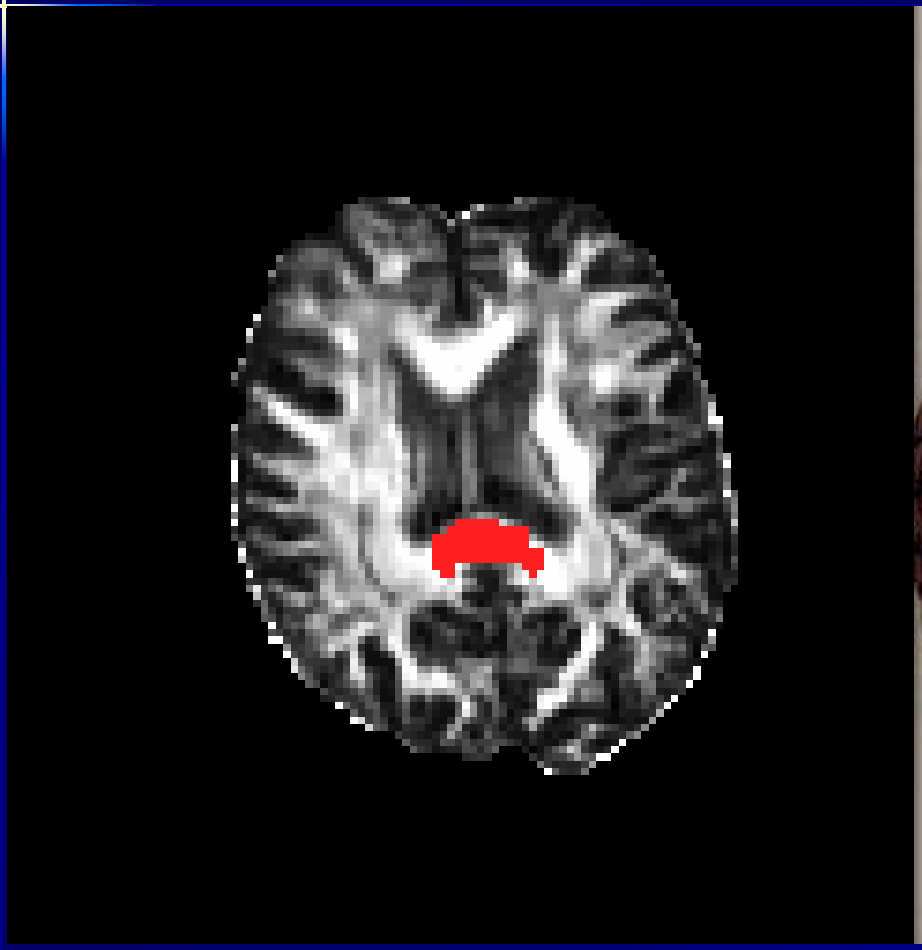
CHANGES WITH ADVANCING AGE

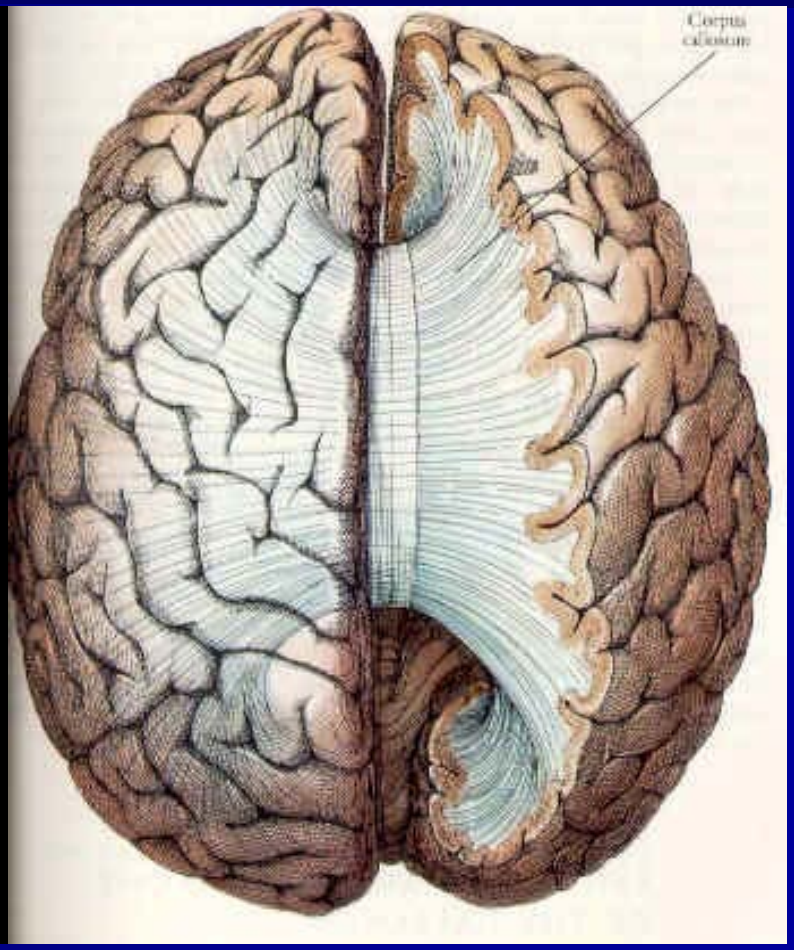
- Decreased levels of 5-HT and NE in dorsal horn and increased c-fos (Iwata et al., 1995; 2002).
- Modifications in the expression and functional state of spinal glial cells (Watkins and Maier, 2003).

“Normal” Aging: Changes in Brain Morphology

- Atrophy of prefrontal gray matter
  - *Raz et al, Cerebral Cortex 1997; 7: 268*
- Atrophy of thalamus
  - *Van Der Werf et al, Cog Brain Res 2001; 11: 377*
- Diminished frontal white matter integrity
  - *Pfefferbaum et al, NeuroImage 2005*

Older Adults with Disabling vs. Non-disabling CLBP





IMPLICATIONS

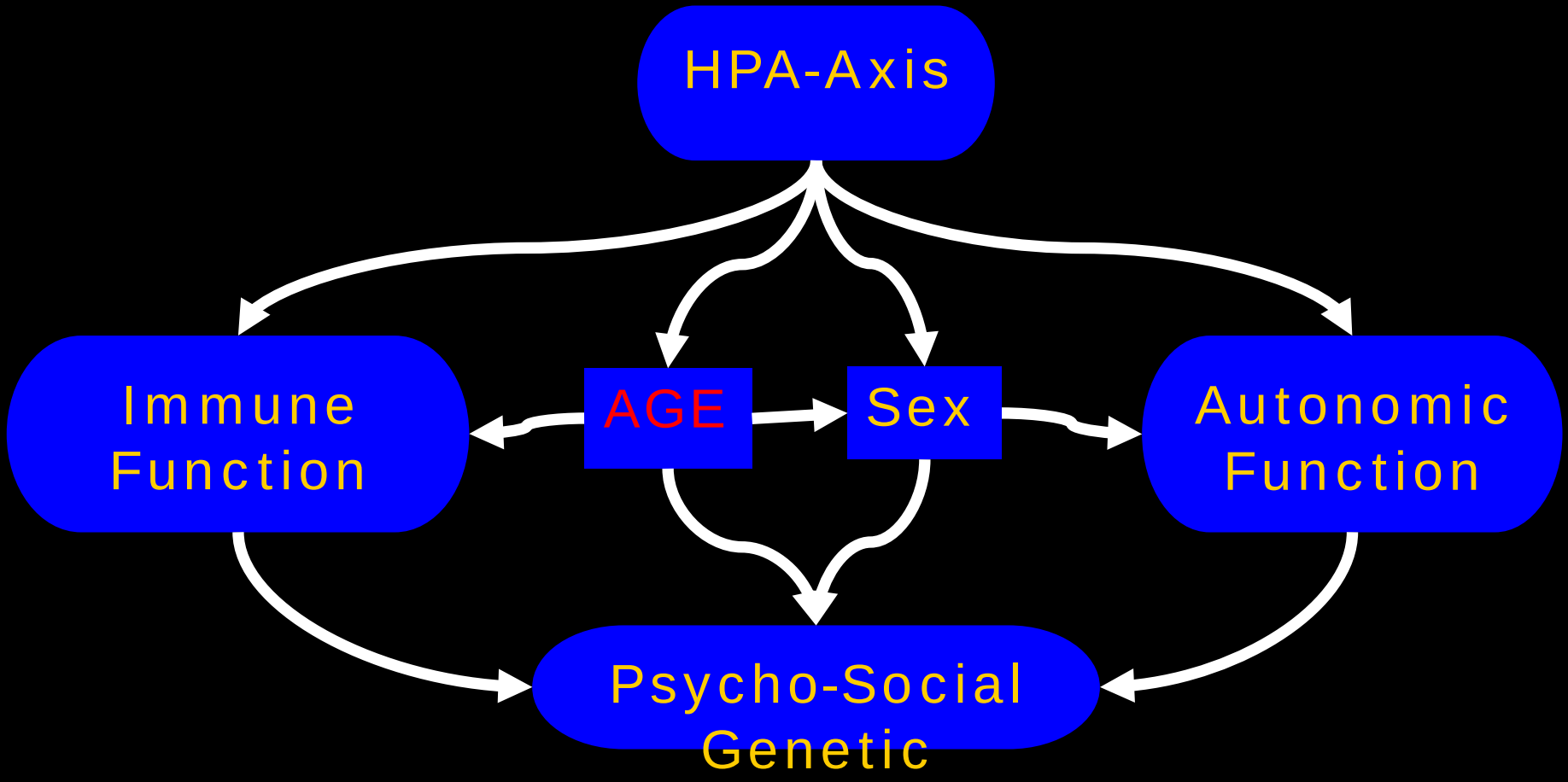
- Pain is associated with WM damage over and above that associated with aging.
- Chronic non-malignant pain is associated with alterations in brain morphology in older adults, above and beyond those associated with normal aging.
- Understanding what biologically drives subjective pain-associated disability may open the door to newly targeted treatments.

Chronic Pain is Poorly Managed

- Only 36% of patients felt their pain was very effectively treated
- 32% of MDs thought chronic pain was effectively treated
- 45% of people with moderate to severe chronic pain were not taking any prescription medication

Moulin DE, *et al. Pain Res Manage* 2002; 7(4):179-84.
Morley-Forster PK, *et al. Pain Res Manage* 2003; 8(4):189-94.
SES Canadian Pain Survey 2007.

Potential Interactions Influencing Pain Sensation



AMDA PAIN MANGEMENT GUIDELINES 2009

- Recognition
- Assessment
- Treatment
- Monitoring

AMDA CPG: RECOGNITION

- Is pain present
- Has characteristics and causes of pain been adequately defined
- Has appropriate treatment for pain been addressed

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**

Pain Assessment Tools in Cognitively Impaired

Abbey Scale, CNPI

DS-DAT, DOLOPUS-2

NOPAIN, PACE, PAINAD, PATCOA

PACSLAC, PADE, Simmons and Malabar

KEY COMPONENTS OF PAIN ASSESSMENT

- Measurement of Pain:
  - Using standardized scales in a format that is accessible to the individual.
- Cause of Pain:
  - Examination and investigation to establish the cause of pain.

Type of Pain assessment	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.

Type of Pain assessment	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

Type of Pain assessment	Practical Suggestions for Scale Selection	Comments and References
Observational pain assessment Older people with severe cognitive/communication impairment (no single recommendation currently possible)	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*

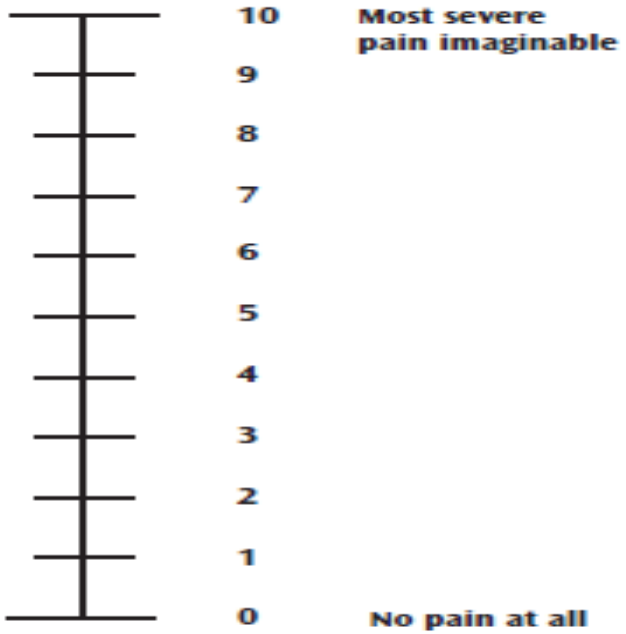
Observed Changes Associated with Pain Cont'd:

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.

Appendix 4. Examples of pain scales

4A Numeric rating scale

The Numeric Graphic Rating Scale (NGRS)



Say to the patient:

- This is a scale to measure pain.
- 0 indicates 'no pain at all'.
- The numbers on the scale indicate increasing levels of pain,
- up to 10 which is the most severe pain imaginable.
- Which point on the scale shows how much pain you have today?

To the administrator:

In your opinion was the person able to understand this scale?

Yes ☐ No ☐

Comment:

Reproduced with permission from Professor Lynne Turner-Stokes, Concise Guidance Series Editor, Royal College of Physicians, London.

4B Verbal descriptor rating scale (5 points)

'How severe is your pain today?'

- ☐ None
- ☐ Mild
- ☐ Moderate
- ☐ Severe
- ☐ Very severe

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.

Use of the Abbey Pain Scale

- The Abbey Pain Scale is the best used as part of an overall pain management plan.

Objective:

- The Pain Scale is an instrument designed to assist in the assessment of pain in residents who are unable to clearly articulate their needs.

Ongoing Assessment:

- The Scale does not differentiate between distress and pain, so measuring the effectiveness of pain-relieving interventions is essential.
- Recent work by the Australian Pain Society recommends that the Abbey Pain Scale be used as a movement-based assessment. The staff recording the scale should therefore observe the resident while they are being moved, e.g. during pressure area care, while showering, etc.

Use of the Abbey Pain Scale cont'd:

Ongoing assessment:

- Complete the scale immediately following the procedure and record the results in the resident's notes. Include the time of completion of the scale, the score, staff member's signature and action (if any) taken in response to results of the assessment, e.g. pain medication or other therapies.

- A second evaluation should be conducted one hour after any intervention taken in response to the first assessment, to determine the effectiveness of any pain-relieving intervention.

Use of the Abbey Pain Scale

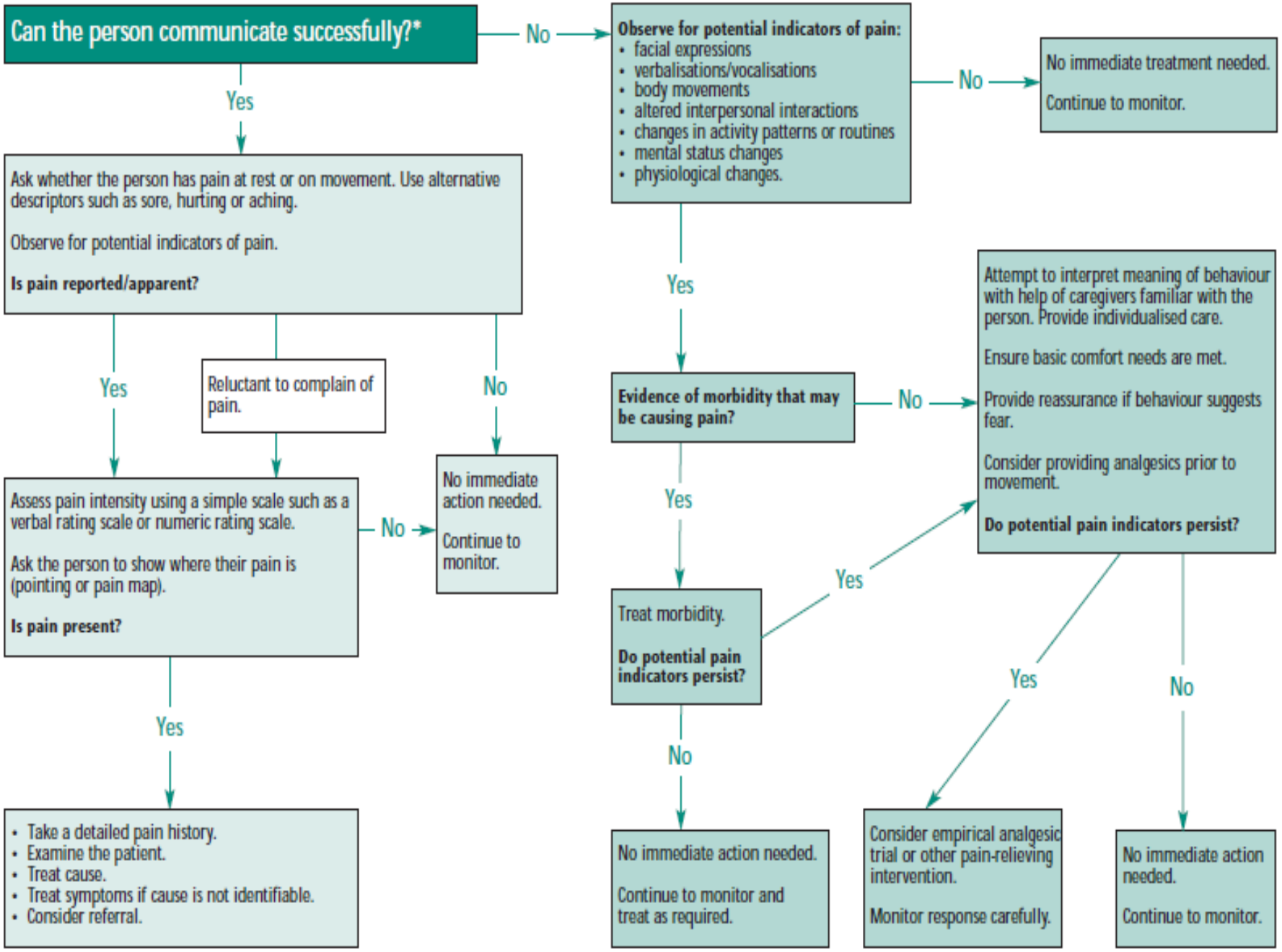
Lastly. . .

If, at this assessment, the score on the pain scale is the same, or worse, consider further intervention and act as appropriate. Complete the pain scale hourly, until the resident appears comfortable, then four-hourly for 24 hours, treating pain if it recurs. Record all the pain relieving interventions undertaken.

If pain/distress persists, undertake a comprehensive assessment of all facets of resident's care and monitor closely over a 24-hour period, including any further intervention undertaken. If there is no improvement during that time, notify the medical practitioner of the pain scores and the action's taken.

-Jenny Abbey April, 2007.

Appendix 2. Algorithm for the assessment of pain in older people



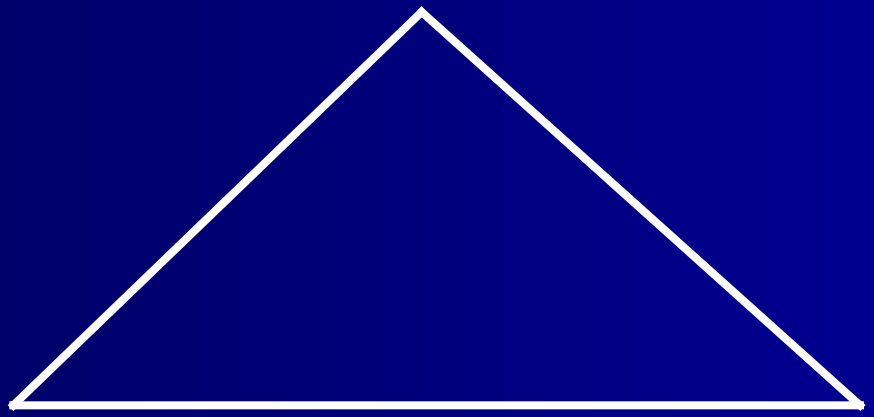
Pain Management Goals

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

IDEAL TREATMENT OF PERSISTENT PAIN

Physical / Rehabilitative

(CAM)



Psychological

Medical

Pharmacological

Interventional

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

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, methadone)
- Tramadol
- Citalopram and paroxetine
- Capsaicin

Neuropathic Pain Cont'd

FOURTH LINE

- Cannabinoids
- Methadone

Tricyclic Antidepressants (TCA)

Ray et al: Clinical Pharmacol Therapeutics;2004 Mar;75(3):234-41

- Slight increase in cardiac deaths only with TCA doses greater than 100mg/day
- Gabapentin or Pregabalin is a better alternative

OPIOD TREATMENT IN OLDER PERSONS

- Significant differences in drug pharmacokinetics and drug sensitivities
- With swallowing difficulties use capsules that can be opened and sprinkled on food or flushed through nasogastric or gastric tubes

OPIOD 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

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 Butrans recently available in Ontario—once weekly for moderate pain safe in opioid naïve patients

TOPICAL ANALGESIC AGENTS

- Topical agents, either alone or in combination with other oral agents may provide relief for patients with musculoskeletal and neuropathic pain
- When compared with oral NSAIDs, topical NSAIDs showed similar rates or treatment success without the risk of GI events

TOPICAL ANALGESIC AGENTS

Lidocaine 5%, Amitriptyline 5%,

Ketoprophen 7.5%, Ketamine 10%

In PLO Gel or Lidoderm TID-QID

NEWER DRUGS

- Buprenorphine Patch—Butrans –good for moderate pain in opioid naïve
- Targin—Ocycontin/Naloxone
- Onsolis—Buprenorphine oral patch for breakthrough palliative care

NEWER DRUGS

- NUCYNTA CR—Tapentodol Controlled release
- Jurnista-Once daily Hydromorphone using OROS technology

SUMMARY

- **Views about management of pain in the elderly have changed in recent years**
- **It is an expectation that pain be recognized and managed appropriately**
- **MOHLTC 2009: Pain management a required program**
- **Pain can be effectively treated in the community and long-term care setting**

SUMMARY

- 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

REFERENCES

- Hadjistavropoulos T, Herr K, Turk DC et al. An interdisciplinary expert consensus statement on assessment of pain in older persons. Clin J Pain 2007; 23(Suppl 1):S1-43
- Royal College of Physicians, British Geriatrics Society and British Pain Society. The assessment of pain in older people; national guidelines. Concise guidance to good practice series, No 8 RCP, London 2007

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- American Medical Directors Association 2009. Pain Management in the Long Term Care Setting: Clinical Practice Guidelines. Available at www.amda.com/tools/guidelines.cfm
- AGS Panel on Pharmacological Management of Persistent Pain in Older Persons. J Am Geriatr Soc 2009: 57(8): 1331-46

“DON’T FOCUS ON THE PROBLEM.
FOCUS ON THE SOLUTION”

“OUR JOB IS IMPROVING THE QUALITY OF LIFE, NOT JUST DELAYING DEATH”

PATCH ADAMS