



PAIN MANAGEMENT IN OLDER PERSON



PAIN FREE PROGRAMME | KEMENTERIAN KESIHATAN MALAYSIA | UNIT AUDIT KLINIKAL

OUTLINE

1. INTRODUCTION
2. HOW PAIN AFFECT THE OLDER PERSONS
3. PAIN ASSESSMENT
4. TREATMENT OF PAIN IN THE OLDER PERSONS
5. TAKE HOME MESSAGE



INTRODUCTION

- Care of older persons are complex and costly due to multiple comorbidities and disabilities
- 50 percent of community dwelling older persons report pain that interferes with normal function
- Half of nursing home residents report pain on a daily basis
- Factors contributing to the impact or response to pain treatment:
 - Medical co-morbidities
 - Psychological
 - Social conditions
 - Environment

AGEING

- Not a disease
- A process that converts healthy adults into frail ones with diminished reserves in most physiological systems and exponentially increased vulnerability to most diseases and death

Who is“OLD”?

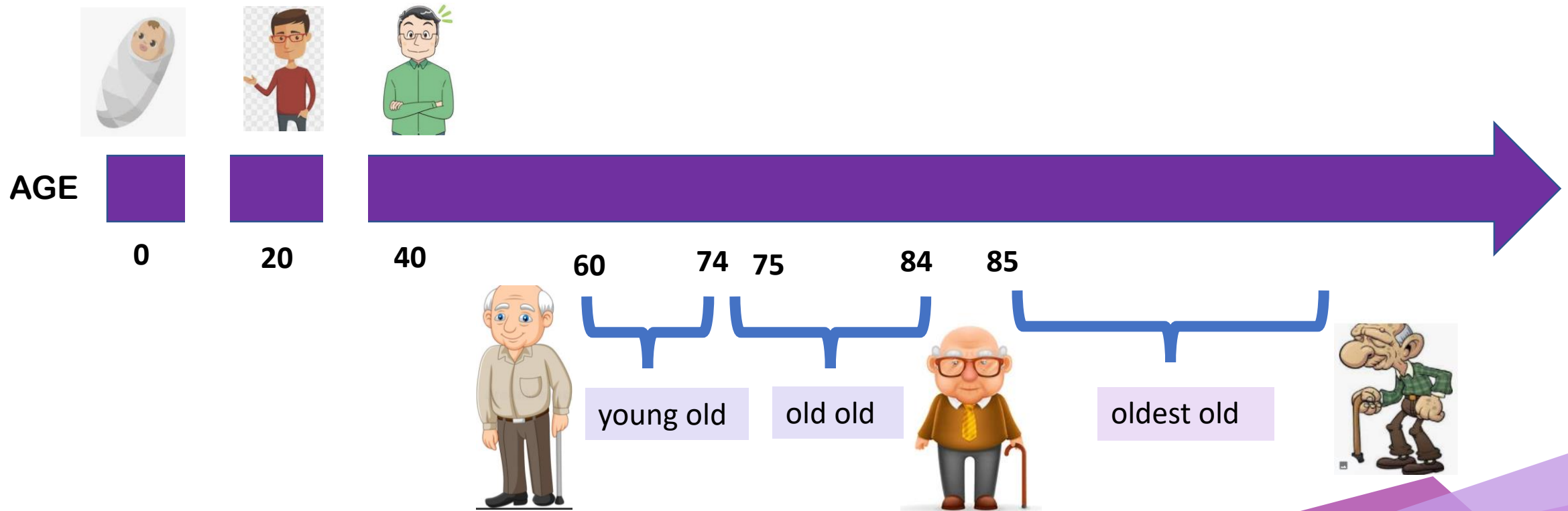
- United Nations defines older persons as those aged 60 year or over
- “Age 65 is generally set as the threshold of old age since it is at this period of life that the rates for sickness and death begin to show a marked increase over those of the earlier years”

-Isaac Rubinow, 1916

- According to World Health Organization (WHO), most developed countries accepted the chronological age of 65 years as a definition of 'elderly' individuals

Who is“OLD”?

(60-74 year), old old (75-84 year), and oldest old (>85 years).



WHAT MAKES OLDER PEOPLE DIFFERENT?

HETEROGENEITY

HOMEOSTENOSIS

**DIFFERENT
DISEASE
PRESENTATION**

COMORBIDITIES

**ACUTE VS
CHRONIC DISEASE**

**DIFFERENT
EXPECTATIONS**

HETEROGENEITY



80+ year olds performing on stage



63 year old bed bound following a stroke



88 year old walking on the street alone



74 year old on wheel chair



74 year old looking after grandchild

HOMEOSTENOSIS

Narrowing or stenosis of our internal body reserves to withstand stress



19 year old with
cough and cold

ANTI-PYRETIC
ANTI-HISTAMINE
REST IN BED

well after
3 days

VS



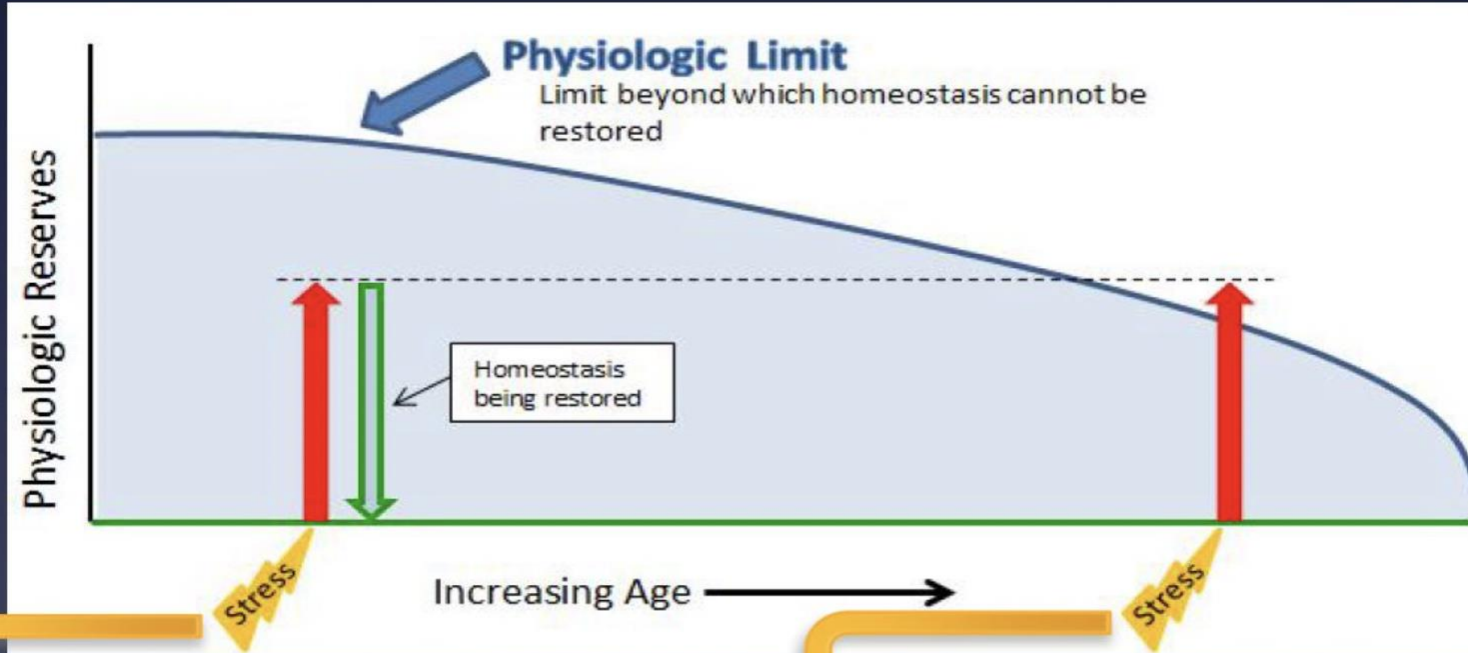
69 year old with
cough and cold

ANTI-PYRETIC → CONSTIPATION
ANTI-HISTAMINE → SLEEPY → DEHYDRATION → CONFUSION
REST IN BED → MUSCLE LOSS → UNSTABLE → FALL → FRACTURE

HOMEOSTENOSIS

Homeostenosis

$$\begin{array}{rcl} \text{HOMEOSTASIS} & & \\ + & & \text{STENOSIS} \\ \hline = & \text{HOMEOSTENOSIS} \end{array}$$



Physiologic reserves allow us to maintain homeostasis in the presence of environmental, emotional, or physiological stress.

With homeostenosis, an insult that may be withstood in a younger person pushes the elderly beyond their functional capacity, causing decompensation, disease, or death.

Advancing Geriatrics Education (AGE): A UMMS initiative funded by the Donald W. Reynolds Foundation

COMORBIDITIES

**PARKINSON
DISEASE**

HYPERTENSION

**ISCHEMIC
HEART DISEASE**

**CHRONIC
OBSTRUCTIVE
AIRWAY DISEASE**

CANCER

DIABETES

**CONGESTIVE
CARDIAC
FAILURE**

OSTEOPOROSIS

**CHRONIC
KIDNEY
DISEASE**

HYPERLIPIDEMIA

**ATRIAL
FIBRILLATION**

**OSTEOARTHRITIS
OF THE KNEES**

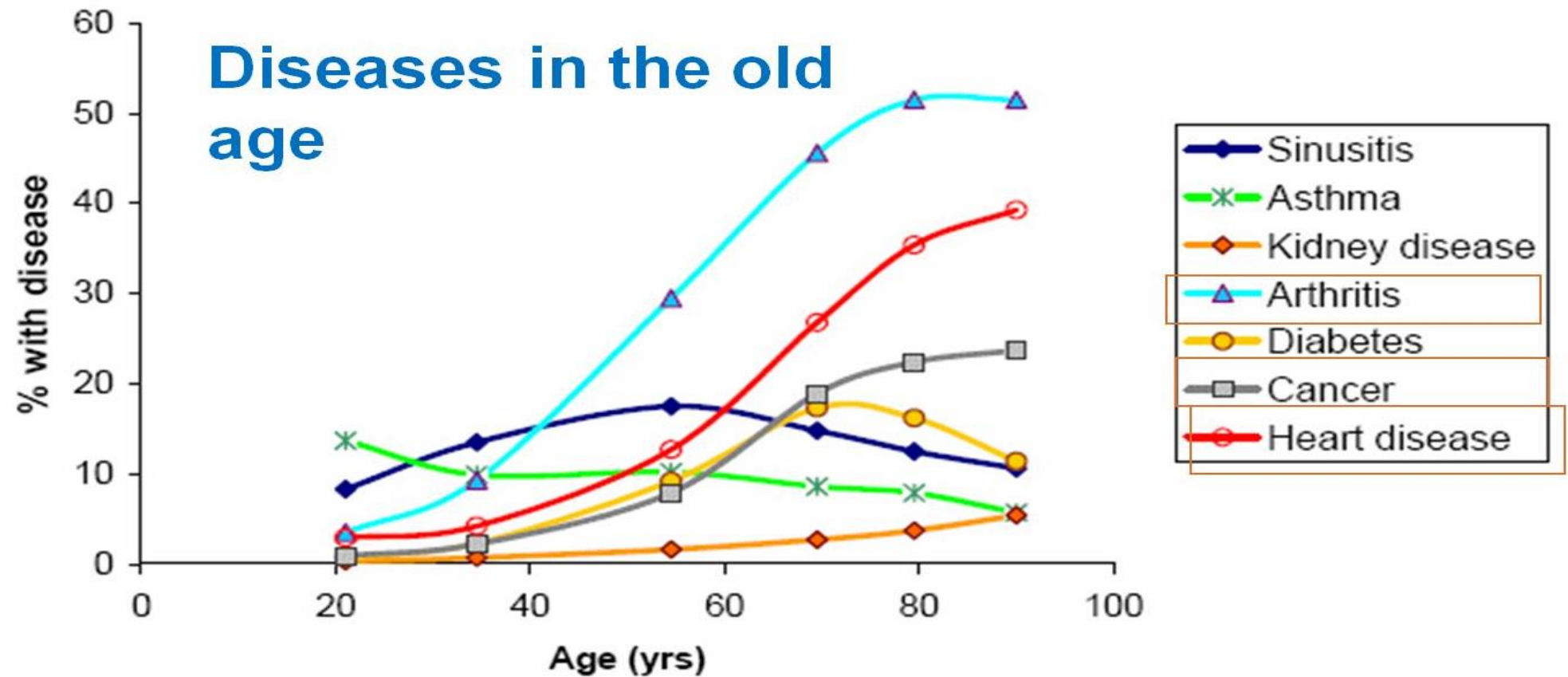
**BENIGN
PROSTATIC
HYPERPLASIA**

GOUT

STROKE

DEMENTIA

COMORBIDITIES



Prevalence of selected chronic conditions, expressed in percentages, as a function of age for the US population (2002-2003 dataset)

DIFFERENT DISEASE PRESENTATION



VS



Neth J Med. 2017 Jul;75(6):241-246.

Elderly patients with an atypical presentation of illness in the emergency department.

Hofman MR¹, van den Hanenberg F, Sierevelt IN, Tulner CR.

RESULTS: A total of 355 patients were included, with a mean age of 86 years; 53% of these elderly patients had an atypical presentation of illness. Mostly this was due to a fall (71%). A total of 15% of the patients with an atypical presentation reported no specific symptoms of the underlying disease. Patients with atypical presentation were more likely to have a longer stay in hospital ($p < 0.001$), to be discharged to a care institution ($p = 0.000$), and to have a higher delirium observation score ($p < 0.001$). There was no significant difference in one-year survival ($p = 0.056$).

ACUTE VS CHRONIC PRESENTATION

- Older patients often visit their physician for a worsening of a chronic condition

CHRONIC DISEASES



- Adult onset diabetes
- Arthritis
- Kidney and bladder problems
- Dementia
- Parkinson's disease
- Glaucoma
- Lung disease
- Cataracts
- Osteoporosis
- Enlarged prostate
- Alzheimer's disease
- Macular degeneration
- Depression
- Cardiovascular disease

RECURRENT
PNEUMONIA

WORSENING
LUNG DISEASE

ACUTE
DISEASE

DIFFERENT EXPECTATIONS

Expectations regarding ageing

The belief that the person have related to how well they will maintain their physical and cognitive health as they age

A 92 year-old man went to the doctor to get a physical. A few days later the doctor saw the man walking down the street with a gorgeous young lady on his arm.

At his follow up visit the doctor talked to the man and said, "You're really doing great, aren't you?"

The man replied,

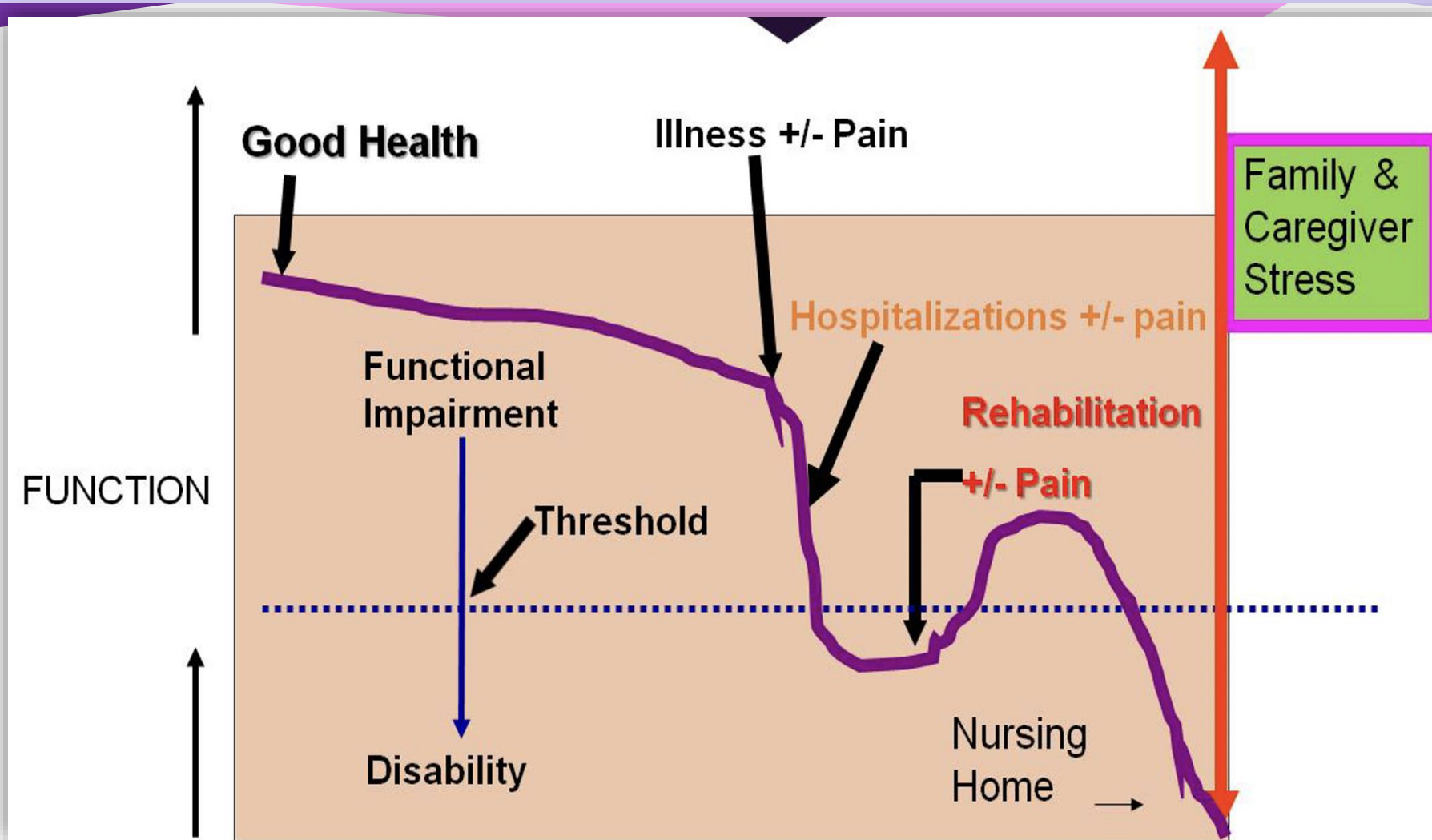
"Just doing what you said Doctor, 'Get a hot mamma and be cheerful'."

The Doctor said,

"I didn't say that! I said you've got a heart murmur. Be careful!"

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FUNCTIONAL TRAJECTORY



CLASSIFICATION OF PAIN

BASIS	TYPES OF PAIN
DURATION	ACUTE
	CHRONIC
	ACUTE ON CHRONIC
CAUSE	CANCER
	NON CANCER
MECHANISM	NOCICEPTIVE (PHYSIOLOGICAL)
	NEUROPATHIC (PATHOLOGICAL)

IS PAIN UNDER TREATED IN OLDER PERSONS?

Case example:

79 year old lady, presented with fall at home and sustained intertrochanteric fracture of right hip

- She has Alzheimer's disease, diagnosed since 3 years ago. Doesn't recognize family members anymore.
- Basic ADL dependent, managed by daughter.
- Some behaviour issues – wandering at night, occasionally aggressive, sleeps during daytime, alert at night
- Constipation and anxiety are daily concerns

At day 2 of admission;

Surgical intervention for the fracture was performed

In the ward, nurse report:

Interrupted sleep at night

Incomprehensible sounds, waved her hands at staff

Given Paracetamol and Tramadol

MANIFESTATION OF PAIN IN OLDER PERSONS WITH COGNITIVE IMPAIRMENT

Facial expression	Verbalization
Body movement	Change in interaction
Change in activity or routine	Change in mental status

CONSEQUENCES OF UNRELIEVED PAIN IN OLDER PERSONS WITH COGNITIVE IMPAIRMENT

PHYSICAL

GAIT IMPAIRMENT
SLEEP DISTURBANCES
AGITATION
PHYSICAL COMBATIVENESS
WANDERING

PSYCHOSOCIAL

DECREASED IN ADL
IMPAIRED COGNITION
VERBAL AGGRESSION
SOCIAL ISOLATION
LEARNED HELPLESSNESS
DEPRESSION

COMMON MISCONCEPTIONS AMONG OLDER PERSONS AND HEALTHCARE PROVIDER

TO OLDER PERSON	HEALTHCARE PROVIDER
PAIN IS UNAVOIDABLE	OLDER PERSONS HAVE DECREASED SENSATION OF PAIN
PAIN IS PUNISHMENT	OLDER PERSONS WHO ARE COGNITIVELY IMPAIRED DON'T FEEL PAIN
ASKING FOR PAIN MEDICATION IS TOO DEMANDING AND MEANS I'M NOT A GOOD PATIENT	A SLEEPING PATIENT IS NOT IN PAIN
PAIN MEDICATIONS ARE ADDICTIVE	OLDER PATIENTS COMPLAIN MORE ABOUT PAIN AS THEY AGE
TAKING PAIN MEDICATIONS MEANS I'LL LOSE MY INDEPENDENCE AND MENTAL CLARITY	NARCOTICS WILL HASTEN DEATH
PAIN IS NOT HARMFUL	POTENT ANALGESICS ARE ADDICTIVE
NURSES DON'T HAVE TIME TO GIVE EXTRA MEDICATIONS	POTENT PAIN MEDICATIONS WILL CAUSE RESPIRATORY DEPRESSION

FACTORS AFFECTING PAIN MANAGEMENT IN OLDER PERSONS

- Older persons are more reluctant to report painful stimuli → healthcare providers should understand their patients as they have their own beliefs, attitude and personality changes
- Healthcare providers are NOT managing pain adequately as they perceived that elderly people are expected to have pain and therefore is considered a normal ageing process

FACTORS AFFECTING PAIN MANAGEMENT IN OLDER PERSONS

- Cognitive, hearing and visual impairment affect pain assessment
- Physiological changes, co-morbidities, polypharmacy, susceptibility to side effects affect pharmacotherapy of older persons
- Older persons can become acutely confused due to pain itself or from treatment (side effects of analgesia)

COMPREHENSIVE GERIATRIC PAIN ASSESSMENT

Present Pain Complaint

onset

severity

quality

pattern

duration

location

precipitating

relieving

useful for guiding the choice of interventions

provide insight into the patient's psychological state

sound psychometric properties when used for both acute and chronic pain

valid measure & effective used with cognitively impaired elderly patients

Weiner D et al, Evaluating persistent pain in long term care residents: What role for pain maps? Pain. 1998; 76:249

COMPREHENSIVE GERIATRIC PAIN ASSESSMENT

- ***Measurement of pain*** - using standardized pain assessment tools
- ***Impact of pain on daily function*** - ability to perform instrumental and activities of daily living, social functioning, appetite and sleep
- ***Comorbidities and drugs*** - regular review on the impact of the comorbidities on pain and vice versa
- ***Attitudes and beliefs about pain, treatment goals and expectations***
- ***Assistance and Resources*** - a holistic approach in identifying help from family members, caregivers and faith communities for maximal support



TYPES OF ASSESSMENT

- UNIDIMENSIONAL
- MULTIDIMENSIONAL



UNIDIMENSIONAL ASSESSMENT



MULTIDIMENSIONAL ASSESSMENT

PAINAD

Pain Assessment In Advanced Dementia

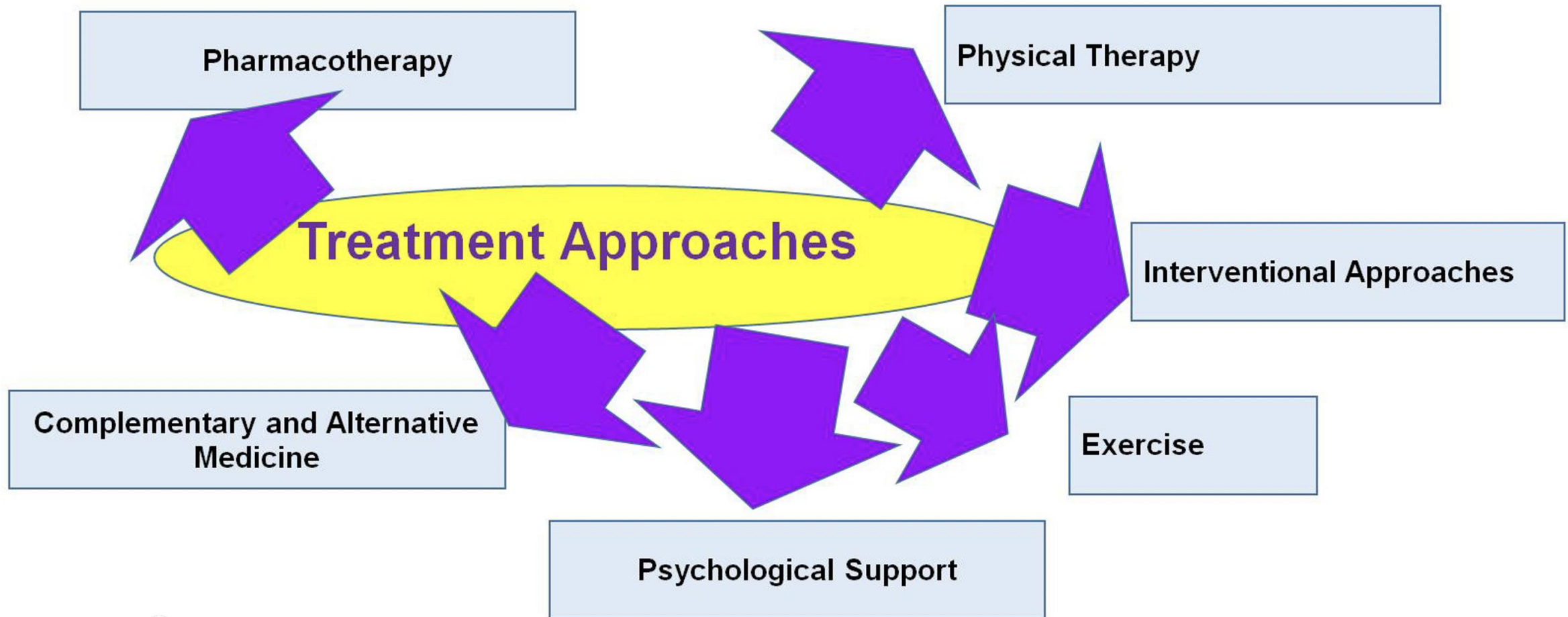
- simple, valid and sensitive tool for detecting pain in people with advanced dementia and non-communicative patients
- useful to assess whether pain management strategies have been successful

*Total scores range from 0 to 10 (based on a scale of 0 to 2 for 5 items)

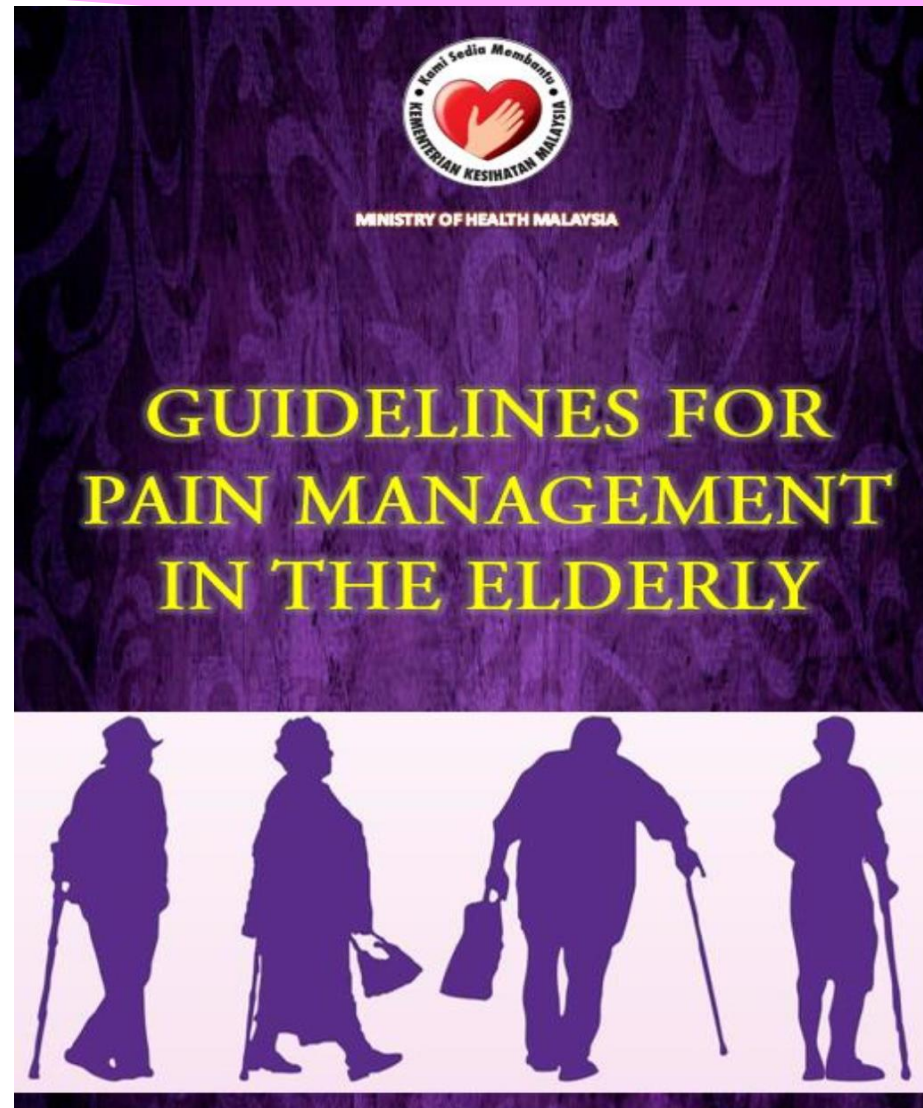
Obtained scores are NOT TO BE USED to inter absolute pain intensity i.e. a score of 10 on the PAINAD is not necessarily equal to an NPS rate of 10 (severe pain). Instead, compare the total score to the previous score received. An increased score suggests increase in pain, while a lower a score suggests pain is decreased.

ITEM	0	1	2	Score
Breathing independent of vocalization	Normal	Occasional labored breathing. Short period of hyperventilation	Noisy labored breathing. Long period of hyperventilation. Cheyne-stokes respirations	
Negative vocalization	None	Occasional moan or groan. Low-level of speech with a negative or disapproving quality	Repeated troubled calling out. Loud moaning or groaning. Crying.	
Facial expression	Smiling or inexpressive	Sad, frightened, frown	Facial grimacing	
Body language	Relaxed	Tense. Distressed pacing. Fidgeting	Rigid. Fists clenched. Knees pulled up. Pulling or pushing away. Striking out	
Consolability	No need to console	Distracted or reassured by voice or touch	Unable to console, distract or reassure	
TOTAL*				

MULTIMODAL APPROACH TO PAIN MANAGEMENT



GUIDELINES FOR PAIN MANAGEMENT IN ELDERLY



PRINCIPLES OF ANALGESIC PRESCRIPTION IN OLDER PERSONS

- **Timing of medication administration**
 - Severe, episodic pain – requires rapid onset and short duration
 - Continuous pain – regular analgesia, modified release formulations
- **Start low, go slow**
 - One drug initiated at a time, low dose followed by incremental dose titration
 - low dose followed by incremental dose titration
 - Allow adequate intervals between introducing drugs to allow assessment of effect

PRINCIPLES OF ANALGESIC PRESCRIPTION IN OLDER PERSONS

- **Consideration to choose analgesia:**
 - Comorbidities
 - Contraindications
 - Possibilities of drug-disease and drug-drug interactions
- **Treatment should be monitored regularly and adjusted if required to improve efficacy and limit adverse events**
- **Consider the use of non-pharmacological strategies – physiotherapy, cognitive behavioural approaches, acupuncture etc**

PHARMACOLOGICAL MANAGEMENT

PARACETAMOL

MILD	
1-3	
REGULAR	PRN
No medication Or PCM 1 gm QID	PCM &/or NSAIDs/ COX2 Inhibitor

- Effective analgesic for musculoskeletal pain : OA & low back pain
- Recommended as first-choice analgesia in several consensus guidelines
- Doesn't provide significant anti-inflammatory or antiplatelet effects
- Safe at recommended doses, not a/w significant GI, renal, CV or CNS adverse effects
- Transient ALT increase does not translate into liver failure, provided that maximum daily dose are avoided
- In malnourished patients (weight < 50 kg) with acute liver failure → dose reduction to 2gm/24 hours
- Educate patients to not exceed max daily dose (4g/24h)

PHARMACOLOGICAL MANAGEMENT

NSAIDS/COX2-I

MILD	
1-3	
REGULAR	PRN
No medication Or PCM 1 gm QID	PCM &/or NSAIDs/ COX2 Inhibitor

- More effective for persistent pain
- Must be used with great caution in older persons due to potential serious adverse effects
- Lowest dose use for shortest period, regular review needed
- Not all NSAIDs are equal → prescribing should be based on safety profiles of NSAIDs/COX2-i to patient risk profiles
- NSAIDs and COX2-i have increased GI bleed with age, dose, duration & concomitant use of antiplatelet (Aspirin)
- Aspirin co-prescribed only if absolutely necessary
- Adverse GI side effects may be reduced with PPI
- May cause worsening of CKD, particularly in patients taking diuretics?/ACE-I
- Renal vasoconstriction + increased tubular sodium reabsorption → oedema + HpT → worsening of CCF/MI/Stroke
- COX2-I are contraindicated in patients with IHD + cerebrovascular disease and must be used with caution in patients with CVS risk factors

PHARMACOLOGICAL MANAGEMENT

OPIOD

MODERATE

4-6

REGULAR

Opioid
Tramadol 50-
100 mg tds-qid

+ PCM 1 gm
QID
+
NSAIDs/COX2-i

PRN

Additional
Tramadol 50-
100 mg (max
total dose:400
mg/day)

- In older persons : start at 25-50% of recommended dose for adults
- Major side effects and problems to elderly : confusion and constipation

WEAK OPIOID

- Tramadol is centrally acting with 2 mechanisms of action:
 - Weak mu-opioid agonist activity + serotonin and noradrenaline reuptake inhibition
 - Use with caution when taking other serotonergic drugs
 - Less effects on respiratory and GI function but may cause confusion in older persons
 - Reduce seizure threshold particularly at doses > 300 mg/day
 - Initiated at 25 mg OD or BD and increase in 25 mg increments every 2-3 days to achieve max dose of 100mg/day

PHARMACOLOGICAL MANAGEMENT

STRONG OPIOID

SEVERE

7-10

REGULAR

IV/SC Morphine 5-10 mg 4H
Or
Aqueous Morphine 5-10 mg 4H
Or
IR Oxycodone 5-10 mg 4-6H

+ PCM 1 gm QID
+ NSAIDs/COX2-i

PRN

IV/SC Morphine 5-10 mg
Or
Aqueous Morphine 5-10 mg
Or
IR Oxycodone 5-10 mg

- Morphine at dose of 2-3 mg every 6 hours with a plan to follow up within 48-72 hours to assess for efficacy and adverse effects
- Oxycodone for cancer pain, low back pain, osteoarthritis, post herpetic neuralgia and peripheral diabetic neuropathy, 7 times more constipation than transdermal fentanyl
- Fentanyl – effective, well tolerated, low incidences of constipation, nausea & drowsiness. Not given as opioid initiation
- Buprenorphine – reduction in pain intensity, similar in all age groups, increase in duration of sleep. Side effects are similar in all groups i.e., dizziness and nausea

PHARMACOLOGICAL MANAGEMENT

Opioid	Potency	WHO step	Metabolism/ Excretion	Common Adverse Effects	Other considerations
Tramadol	Weak	2	Hepatic/ renal	Constipation, nausea, appetite loss, drowsiness, dizziness, sweating	Lowers seizure threshold; may precipitate serotonin syndrome; may increase suicide risk
Codeine	Weak	2	Hepatic (CYP2D6)/ renal	Constipation, nausea, appetite loss, drowsiness, dizziness, sweating, falls	Variability in metabolism both slow and rapid can cause variability in response
Hydrocodone	Weak	2	Hepatic (CYP2D6)/ renal	Anxiety, constipation, dry mouth, headache, nausea	Formulated with paracetamol, which can increase liver toxicity
Morphine	Strong	3	Hepatic/ renal	Constipation, nausea, vomiting, appetite loss	Metabolites accumulate in renal insufficiency
Oxycodone	Strong	3	Hepatic(CYP 3A4)/ renal	Constipation, dizziness, drowsiness, heartburn, nausea, vomiting	No parenteral preparation available
Fentanyl	Strong	3	Hepatic/ renal	Anxiety, confusion, constipation, headache, indigestion, nausea	Prolonged elimination may occur; structurally different than morphine, thus can be used in morphine allergy
Buprenorphine	Strong	3	Hepatic/ faecal	Less constipation, nausea, and respiratory depression than other opioids	Can be used safely in the context of renal failure

PHARMACOLOGICAL MANAGEMENT

ADJUVANTS

Anti depressants

Tricyclic antidepressants	AMITRIPTYLINE	CAUTION OR CONTRAINDICATED IN OLDER PERSONS	Urinary retention, postural hypotension and sedation (both increasing the risk of falls), glaucoma and cardiac arrhythmias
Selective Serotonin Reuptake Inhibitors	ESCITALOPRAM SERTRALINE	PAIN RELIEF IS CONTROVERSIAL	Drowsiness, nausea, dry mouth, insomnia, dizziness
Serotonin Noradrenaline Reuptake Inhibitors	DULOXETINE	NEUROPATHIC PAIN BETTER TOLERATED THAN TCAs	30 mg → 60 mg/day after 2 weeks Avoid hepatic impairment or heavy alcohol consumption

Anti-epileptics

	GABAPENTIN PREGABALIN	NEUROPATHIC PAIN POST HERPETIC NEURALGIA DIABETIC PERIPHERAL NEUROPATHY CENTRAL PAIN SYNDROMES	Dose adjustment required in renal impairment Start lowest possible dose and increase slowly based on response and side effects
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NON-PHARMACOLOGICAL MANAGEMENT

TOPICAL THERAPY

- ✓ LIGNOCAINE: PHN, LOCALISED NEUROPATHIC PAIN
- ✓ NSAIDS – PERSISTENT NON-NEUROPATHIC PAIN
- ✓ CAPSAICIN – OA, NEUROPATHIC PAIN

MINIMALLY INVASIVE PROCEDURE

- ✓ INTRA-ARTICULAR (IA) PERIHERAL JOINT INJECTIONS
 - Corticosteroids
 - Viscosupplementation (intra-articular hyaluronic acid injection)
- ✓ INTRATHECAL METHYLPREDNISOLONE

NON-PHARMACOLOGICAL MANAGEMENT

Occupational therapy
Cognitive Behavioural Therapy/Approach
Mindfulness
Coping strategies
Coordination/dexterity/strengthening task
Desensitization technique/sensory re-education
Active movement mobilization technique
Functional splinting
Oedema modalities
Proprioceptive neuromuscular facilitation/re-education
Breathing technique
Ergonomics (Home,Work,Equipment)
Environmental Modification
Activity (Task) Adaptation/Therapeutically Activity
Pacing/Graded Activity
Sleep Hygiene

NON-PHARMACOLOGICAL MANAGEMENT

Physiotherapy	
Transcutaneous Electrical Nerve Stimulation	Muscle Energy Technique
Shortwave Diathermy	Manual Lymphatic Drainage
Shortwave Therapy	Ambulation
Ultrasound Therapy	Gait Training
LASER therapy	Taping/Bandaging
Infra Red Therapy	Breathing exercise
Wax bath	Relaxation Technique
Hot Pack	Hydration Therapy
Cryotherapy/Ice Pack	Pre-operative Education
Cervical / Lumbar traction	Patient Education
Cervical / Lumbar stabilization	Cognitive Behaviour Therapy
Active, Passive, Resisted Exercise	Soft Tissue Mobilization
Mechanical Exercise	Myofascia release
Sequential Pump Therapy	Proprioceptive Neuromuscular Facilitation
Suspension Therapy	Joint Mobilization
Therapeutic Ball Exercise	

NON-PHARMACOLOGICAL MANAGEMENT

Traditional and Complimentary Medicine

Acupuncture

Massage

Ayurveda

Breathing technique

Varmam

Chiropractor

Homeopathy

Osteopathy

Others

(In Community)

Yoga

Tai Chi

TAKE HOME MESSAGE

- Pain is prevalent among older persons
- Pain management in older persons is fundamentally complex due to complexity of ageing
- It is mandatory to adequately assess pain in comprehensive manner and intervention should be multimodal in approach based on geriatric principles



THANK YOU



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