# Assessing and Treating Pain in People Living with Dementia (PLWD)

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# Objectives

- Review issues unique to PLWD when assessing and treating pain
- Share screening tools for pain which can be used for PLWD
- Review the evidence for assessing and treating pain in PLWD
- Consider a stepwise approach when treating pain in PLWD

# Why should you care?

6.5 people living with dementia in the US (PLWD)

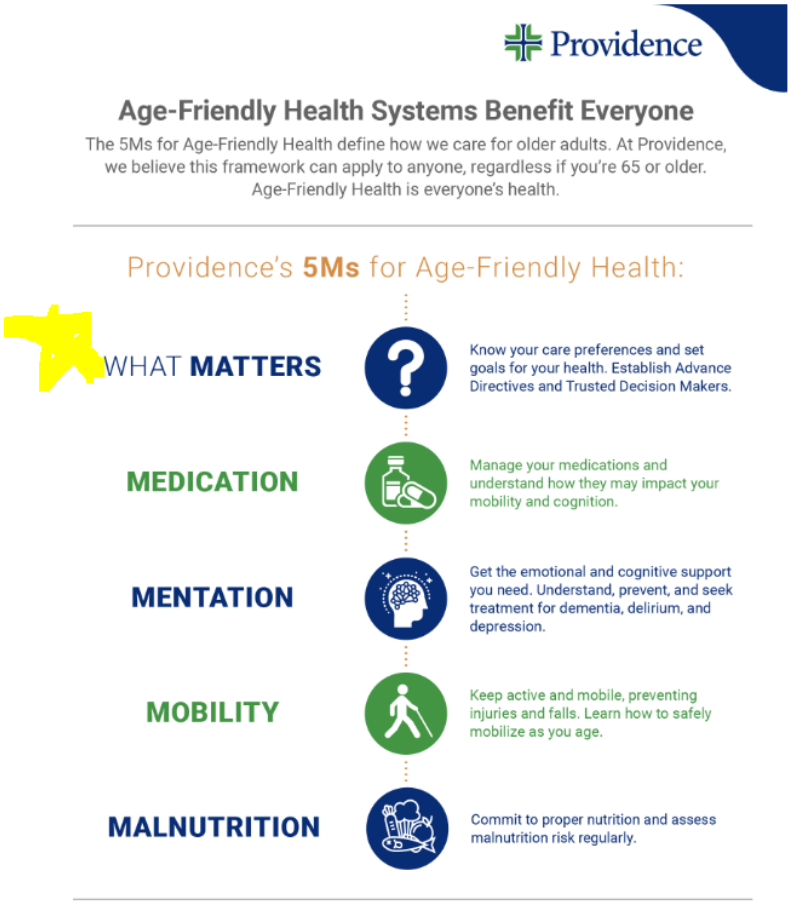
By 2050, the number of  people 65 and older with Alzheimer's dementia is projected to reach 12.7 million.

A common comorbidity associated with aging is painful conditions (eg, musculoskeletal pain)

It is estimated that approximately 50% of people with dementia have a painful condition, concordant to older adults without dementia.

# Why is this so important?

| | | |
|---|---|---|
| Behavioral Symptoms | Decreased function | Decrease QOL |
| Increased Caregiver Strain | Polypharmacy | Accelerated dementia |
| Falls | Institutionalization | |




Achterberg WP, Pieper MJ, van Dalen-Kok AH, et al. Pain management in patients with dementia. *Clin Interv Aging*. 2013;8:1471-1482. doi:10.2147/CIA.S36739

# Why is this so hard?

- Communication difficulties
- Delay in treatment
- Lack of Evidence
- Bias – Personhood

# Pain Types

| Pain Type | Nociceptive Somatic | Nociceptive Visceral | Neuropathic | Nociplastic |
|---|---|---|---|---|
| Examples | Arthritis, fracture, bone metastases, postopera-tive, etc | Renal colic, constipation, etc | Radiculopathy, drug toxicities, post-herpetic neuralgia, diabetic neuropathy, etc | Fibromyalgia, myofascial pain syndrome, complex regional pain syndrome |
| Palliative/provocative factors | Movement | Variable; may be provoked by oral intake | Position changes may provoke radiculopathy | Variable, may be provoked by movement, may be accompanied with sensory changes |
| Quality | Throbbing, aching, stabbing, gnawing | Cramping, tearing, dull, aching, squeezing, deep | Burning, numb, tingling, sharp, shooting, "electric shock" | Can have features of nociceptive and neuropathic |
| Radiation | Well localized | May refer to other sites | Nerve or dermatome distribution | May be localized or referred to other sites |
| Timing | Constant | Colicky, intermittent | Constant or paroxysmal | Constant or paroxysmal |

AGS Geriatrics Evaluation and Management Tools (Geriatrics E&M Tools), 2021

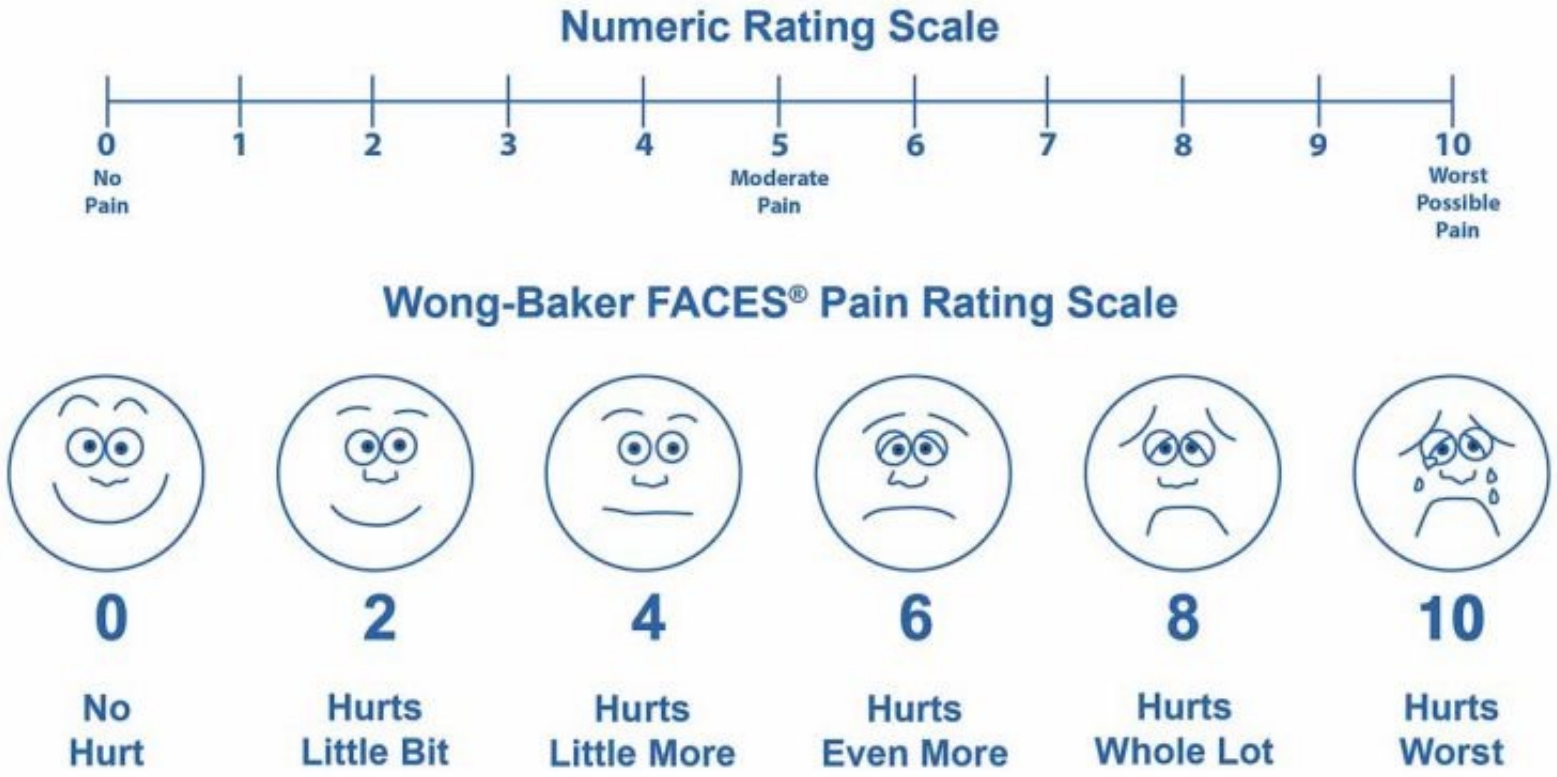
# How do we assess for pain in dementia?

- Must be **multidimensional** approach to pain assessment
  - Self-report assessments – should always include if possible
  - Pain history information
  - Considering coping, psychological, attitude, belief
  - Physical examination - focus on common conditions that are painful in adults
  - Understand type of pain:
  - Informant-based ratings
  - Observation of pain behaviors

# What does the evidence say about assessment tools for pain in PLWD?

- In a 2014 systematic review article of 28 pain assessment tools for the individuals with dementia, it was noted that none had sufficient evidence of reliability and validity and, thus, there was no recommendation for the use of one tool over any of the others.

# Simplest Assessment Tools for Pain



# Assessing and Screening for Pain in PLWD

- Pain Assessment in Advanced Dementia Scale
- Simple to utilize and requires minimal, if any, training
- Breathing, negative vocalization, facial expression, body language, consolability
- Reliable and Valid when used with older adults with moderate to severe cognitive impairment without variance in the use of the measure across racial groups (Resnick, et al, 2021)

## PAINAD

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

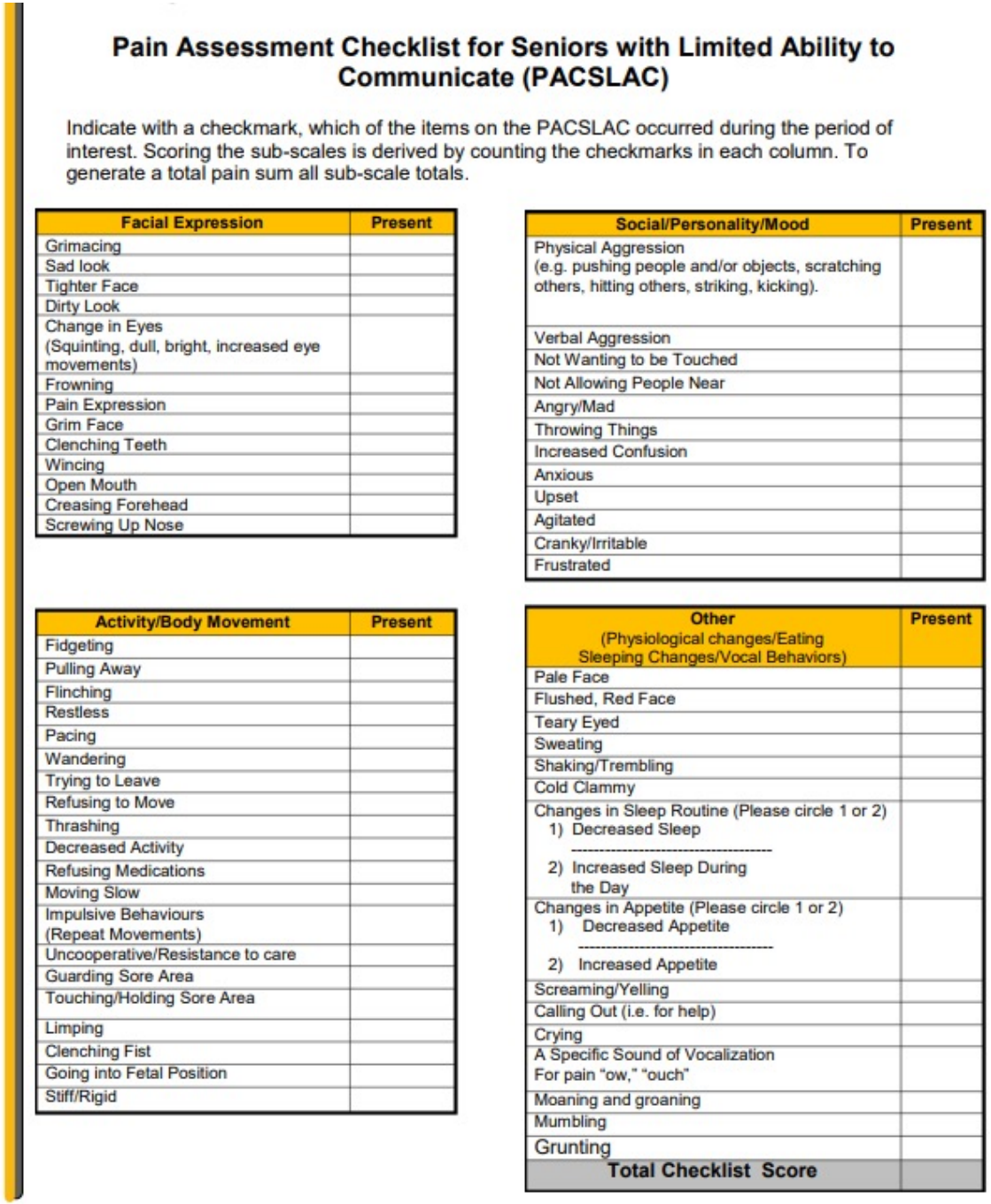
(Warden et al., 2003)

***Scoring:***

The total score ranges from 0-10 points. A possible interpretation of the scores is: 1-3=mild pain; 4-6=moderate pain; 7-10=severe pain. These ranges are based on a standard 0-10 scale of pain, but have not been substantiated in the literature for this tool.

# PACSLACII

- More comprehensive than PAINAD
- 60 items/subscales
  - Facial expression, activity, personality, mood, change in behaviors



**Pain Assessment Checklist for Seniors with Limited Ability to Communicate (PACSLAC)**

Indicate with a checkmark, which of the items on the PACSLAC occurred during the period of interest. Scoring the sub-scales is derived by counting the checkmarks in each column. To generate a total pain sum all sub-scale totals.

| Facial Expression | Present |
|---|---|
| Grimacing | |
| Sad look | |
| Tighter Face | |
| Dirty Look | |
| Change in Eyes (Squinting, dull, bright, increased eye movements) | |
| Frowning | |
| Pain Expression | |
| Grim Face | |
| Clenching Teeth | |
| Wincing | |
| Open Mouth | |
| Creasing Forehead | |
| Screwing Up Nose | |

| Social/Personality/Mood | Present |
|---|---|
| Physical Aggression (e.g. pushing people and/or objects, scratching others, hitting others, striking, kicking). | |
| Verbal Aggression | |
| Not Wanting to be Touched | |
| Not Allowing People Near | |
| Angry/Mad | |
| Throwing Things | |
| Increased Confusion | |
| Anxious | |
| Upset | |
| Agitated | |
| Cranky/Irritable | |
| Frustrated | |

| Activity/Body Movement | Present |
|---|---|
| Fidgeting | |
| Pulling Away | |
| Flinching | |
| Restless | |
| Pacing | |
| Wandering | |
| Trying to Leave | |
| Refusing to Move | |
| Thrashing | |
| Decreased Activity | |
| Refusing Medications | |
| Moving Slow | |
| Impulsive Behaviours (Repeat Movements) | |
| Uncooperative/Resistance to care | |
| Guarding Sore Area | |
| Touching/Holding Sore Area | |
| Limping | |
| Clenching Fist | |
| Going into Fetal Position | |
| Stiff/Rigid | |

| Other (Physiological changes/Eating Sleeping Changes/Vocal Behaviors) | Present |
|---|---|
| Pale Face | |
| Flushed, Red Face | |
| Teary Eyed | |
| Sweating | |
| Shaking/Trembling | |
| Cold Clammy | |
| Changes in Sleep Routine (Please circle 1 or 2)<br>1) Decreased Sleep<br>---<br>2) Increased Sleep During the Day | |
| Changes in Appetite (Please circle 1 or 2)<br>1) Decreased Appetite<br>---<br>2) Increased Appetite | |
| Screaming/Yelling | |
| Calling Out (i.e. for help) | |
| Crying | |
| A Specific Sound of Vocalization For pain "ow," "ouch" | |
| Moaning and groaning | |
| Mumbling | |
| Grunting | |
| **Total Checklist Score** | |

# PEG-3 Pain Screening Tool

ORIGINAL ARTICLE

Medical Care April 2016 54(4) 414-421

Comparative Responsiveness of the PROMIS Pain Interference Short Forms, Brief Pain Inventory, PEG, and SF-36 Bodily Pain Subscale

Jacob Kean, PhD,*† Patrick O. Monahan, PhD,‡ Kurt Kroenke, MD,§‖¶ Jingwei Wu, PhD,‡ Zhangsheng Yu, PhD,‡ Tim E. Stump, MS,‡ and Erin E. Krebs, MD#**

What number best describes your pain on average in the past week?

| No Pain | | | | | | | | | | Pain as bad as you can imagine |
|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | **10** |

What number best describes how, during the past week, pain has interfered with your enjoyment of life?

| Does not interfere | | | | | | | | | | Unable to carry on any activities |
|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | **10** |

What number best describes how, during the past week, pain has interfered with your general activity?

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

# electronic Pain Assessment Tool (ePAT)

- A point-of-care App, it utilizes facial recognition technology to detect facial micro-expressions indicative of pain. ePAT also records the presence of pain-related behaviors under five additional domains (Voice, Movement, Behavior, Activity, and Body)
- ePAT has psychometric properties which make it suitable for use in people with moderate to severe dementia.
- Now called:
  **PainChek® Universal**



Image 1. Face detection and tracking in the ePAT App during a clinical encounter.

Image 2. Facial features extraction of the ePAT App.

# How do we use these tools?

- People with dementia should be assessed for pain problems on a regular basis.
- Self-reporting tools (like the PEG-3) are appropriate for people with early to middle stage dementia
- Professionals should consider that pain is most probably present in patients who have conditions that usually accompany pain.
- All direct caregivers should have specialized training in pain recognition and management in this population.

# What do we know about **treatment** of pain in PLWD?

- Widely accepted that PLWD are underrecognized and undertreated for pain
- In nursing home settings, evidence to date has found people with dementia are prescribed less pain medication than their matched controls.
  - Systematic review of hip and pelvic fracture found 50% less pain medication in PLWD vs cognitively intact older adults (Moschinski, 2017)
- There is conflicting evidence from neuropathological, neuroimaging, experimental, and clinical research regarding the impact of dementia neuropathology on pain processing and perception.
- Experimental evidence suggests people with dementia may require more analgesia to reach the appropriate level of pain relief

# What else do we know about **treatment** of pain in PLWD?

- Small study on treating agitation in PLWD with opioid: 13/25 people improved in 4 weeks (Manfredi, 2003)
- Study on PLWD in NH and treatment of pain (Husebo, 2014, N=352)
  - Stepwise protocol pain assessment and behavior
  - Less pain
  - Improved ADL function

# Prescribing principles for pain

- Educate that need multimodal approach.
  - Meds are one of several approaches
- Ask about beliefs and attitudes
- Ask about goals and expectations, with emphasis on FUNCTION
- Use shared decision making to agree on management goals
- Low threshold when deprescribing – esp polypharmacy

# Changing Pharmacokinetics and Pharmacodynamics

Table 1—Age-Associated Changes in Pharmacokinetics and Pharmacodynamics

| Parameter | Age effect | Disease factor effect | Prescribing implications |
|---|---|---|---|
| Absorption | Rate and extent are usually unaffected | Achlorhydria, concurrent medications, tube feedings | Drug-drug and drug-food interactions are more likely to alter absorption |
| Distribution | Increase in fat:water ratio; decreased plasma protein, particularly albumin | Heart failure, ascites, and other conditions increase body water | Fat-soluble drugs have a larger volume of distribution; highly protein-bound drugs have a greater (active) free concentration |
| Metabolism | Decrease in liver mass and liver blood flow decrease drug clearance; may be age-related changes in CYP2C19, while CYP3A4 and 2D6 are not affected | Smoking, genotype, other medications, alcohol, and caffeine have more effect than aging on metabolism | Lower dosages may be therapeutic |
| Elimination | Primarily renal; age-related decrease in glomerular filtration rate | Acute and/or chronic kidney impairment, decreased muscle mass can result in worse kidney function than serum creatinine (Cr) levels might suggest | Serum Cr not a reliable measure of kidney function; best to estimate Cr clearance using formula |
| Pharmacodynamics | Less predictable and often altered drug response at usual or lower concentrations | Drug-drug and drug-disease interactions may alter responses | Prolonged pain relief with opioids at lower dosages; more sedation and postural instability from benzodiazepines; altered sensitivity to β-blockers |

# General Principles of Pharmacologic Management of Pain in Older Adults LWD

| |
|---|
| Treat to improve function and quality of life |
| High risk of adverse effects due to age related changes should lead to cautious prescribing but not limit consideration |
| Use the least invasive and reliable method |
| Start low and go slow |
| De-prescribe when appropriate |

## NONPHARMACOLOGIC MANAGEMENT

**NONPHARMACOLOGIC TREATMENT OF PERSISTENT PAIN**

| Intervention* | Problems Studied | Outcomes |
|---|---|---|
| Exercise | Lower extremity osteoarthritis, chronic pain | Positive |
| Acupuncture | Back, knee, shoulder, neck pain | Positive |
| Massage | Back, neck pain | Positive |
| Cognitive behavioral training | Chronic pain | Positive |
| Guided imagery with progressive muscle relaxation | Chronic osteoarthritis pain | Positive |
| Music | Chronic pain | Positive |
| Self-management education | Chronic pain, low back pain | Positive |
| TENS | Knee, back pain | Mixed |
| Qigong | Back, neck pain | Mixed |
| Mindfulness-based meditation | Low back pain | Mixed |

*All interventions have shown short-term efficacy and are typically well tolerated, with low risk and low cost.

The Geriatrics Review Syllabus: A Core Curriculum in Geriatric Medicine, **10th** Edition (**GRS10**)

# Interventional pain management

- I couldn’t find any studies looking at these interventions in PLWD
  - ***Joint and Soft-Tissue Injection***
  - ***Trigger Point Injection***
  - ***Epidural Injection***
  - ***Pulsed Radiofrequency (PRF) Treatment of Chronic Pain***

# Topicals

Cochrane Library

Cochrane Database of Systematic Reviews

**Topical analgesics for acute and chronic pain in adults - an overview of Cochrane Reviews (Review)**

Derry S, Wiffen PJ, Kalso EA, Bell RF, Aldington D, Phillips T, Gaskell H, Moore RA

- Diclofenac
- Lidocaine
- Capsaicin

Cochrane Database of Systematic Reviews

# Paracetamol for low back pain

Review | Intervention

Bruno T Saragiotto, Gustavo C Machado, Manuela L Ferreira, M
Christopher G Maher

**First published:** 6 June 2016

**Editorial Group:** Cochrane Back and Neck Group

**DOI:** 10.1002/14651858.CD012230 View/save citation

*We found high-quality evidence that paracetamol (4 g per day) is no better than placebo for relieving acute LBP in either the short or longer term.*

- First Line
- Safer
- Minimal toxicity

- Effective?

# Acetaminophen (not specifically in PLWD)

# What about acetaminophen for PLWD?

- Mixed evidence!
- One included 25 participants (mean age 85.9 years, 88% female) living in LTCFs in which the authors concluded that paracetamol improved social interaction
- The second study included 39 participants (mean age 85.7, 87% female, mean Global Deterioration Score 5.7) living in LTCFs. The researchers of this study found no significant difference in discomfort between the placebo and paracetamol groups

van Dam, P.H., Achterberg, W.P., Husebo, B.S. *et al.* Does paracetamol improve quality of life, discomfort, pain and neuropsychiatric symptoms in persons with advanced dementia living in long-term care facilities? A randomised double-blind placebo-controlled crossover (Q-PID) trial. *BMC Med* **18,** 407 (2020).

# Prescribing Considerations for NSAIDs

- Choose when other safer therapies have failed in those with relatively lower risk
- Ongoing assessments of risks and therapeutic benefits
- Use at low effective dosage for shortest period of time

# Non-opioid Meds and Starting Doses

| | |
|---|---|
| Acetaminophen 325–500 mg every 4 h or 500–1,000 mg every 6 h | Maximum dose usually 4 g daily. Reduce maximum dose 50% to 75% in patients with hepatic insufficiency or history of heavy alcohol use. |
| Naproxen 220 mg twice daily | Several studies implicate this agent as possessing less cardiovascular toxicity. |
| Ibuprofen 200 mg three times a day | Food and Drug Administration indicates concurrent use with aspirin inhibits aspirin's antiplatelet effect |


# Comment on Skeletal Muscle Relaxants

Poorly tolerated, **anticholinergic effects**, sedation, increased risk of fractures, cannot tolerate effective dosing

Do not use in PLWD (except for rare circumstances)

# Starting Doses of Short Acting Opioids

**Oxycodone 2.5–5 mg every 4–6 h**

- Daily immediate-release dose limited by fixed-dose combinations with acetaminophen or NSAIDs. Immediate-release oxycodone is available without added co-analgesics

**Morphine Immediate release 2.5–10 mg every 4 h**

- Available in tablet form and as concentrated oral solution, commonly used for episodic or breakthrough pain and for patients unable to swallow tablets.

**Hydromorphone 1–2 mg every 3–4 h**

- For breakthrough pain or for around-the-clock dosing.

**Hydrocodone 2.5–5 mg every 4–6 h**

- Daily dose limited by fixed-dose combinations with acetaminophen or NSAIDs. Prescribers need to consider the amount of nonopioid agent in each of these preparations

# Butrans Patch

Clin Interv Aging. 2018; 13: 935–946.
Published online 2018 May 16. doi: 10.2147/CIA.S161052
PMCID: PMC5960239
PMID: 29805252

Tolerability of buprenorphine transdermal system in nursing home patients with advanced dementia: a randomized, placebo-controlled trial (DEP.PAIN.DEM)

Ane Erdal,[1] Elisabeth Flo,[2] Dag Aarsland,[3,4] Geir Selbaek,[5,6,7] Clive Ballard,[8] Dagrun D Slettebo,[1] and Bettina S Husebo[1,9]



- Favorable pharmacodynamics/kinetics
- Does not require renal/hepatic dosing changes
- Important interaction in this study with antidepressants
- Led to reduced daytime activity

# Adjuvant Therapies

All patients with neuropathic pain are candidates for adjuvant analgesics, can be considered in all undertreated pain

TCAs – generally avoid in older adults, especially those with dementia

Gabapentin (100mg) and Pregabalin (50mg)– need renal dosing if GFR<60 (prescribing cascade)

The effects of these medications are enhanced when used in combination with other pain analgesics and nondrug strategies

Received: 17 November 2021 | Revised: 10 March 2022 | Accepted: 25 March 2022

DOI: 10.1111/jgs.17910

CLINICAL INVESTIGATION

Journal of the American Geriatrics Society

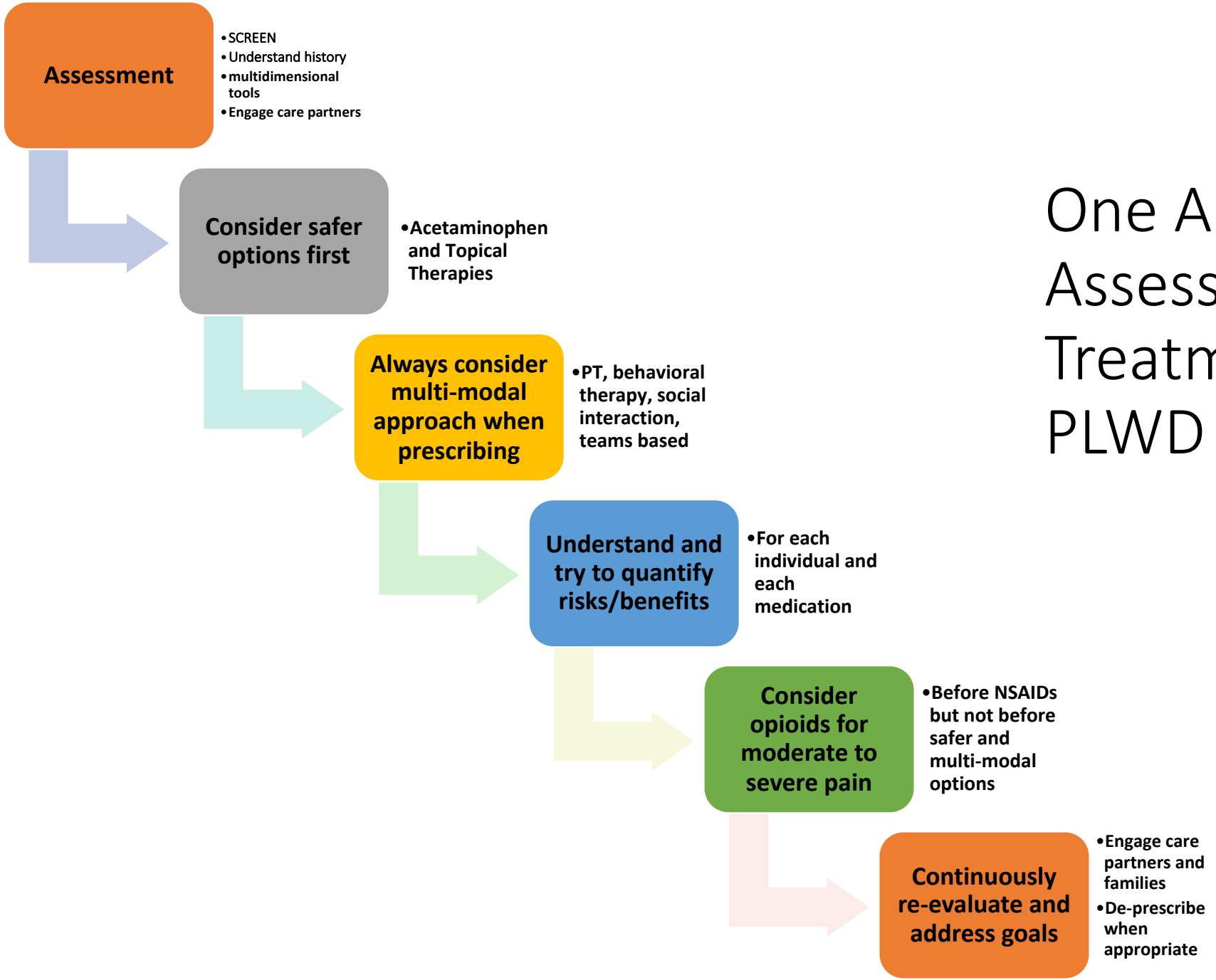
# Elderspeak communication and pain severity as modifiable factors to rejection of care in hospital dementia care

Clarissa A. Shaw PhD[1] | Caitlin Ward PhD[2,3] | Jean Gordon PhD[4] | Kristine N. Williams PhD, FNP-BC[5] | Keela Herr PhD, AGSF[1]


**Key points**

- Hospitalized patients with dementia exhibited rejection of care (RoC) in nearly half of the care encounter with pulling away, crying, and grabbing objects occurring most frequently.
- RoC was more likely and more severe when elderspeak communication by nursing staff was more frequent.
- RoC was more likely and more severe when patients were experiencing greater pain.

# One Approach for Assessment and Treatment of Pain in PLWD



# Summary

- High index of suspicion for pain in PLWD, it’s very common
- Routine assessment for pain in PLWD
- Stepwise treatment of pain for PLWD
- Don’t forget the issue of personhood and training/education of direct caregivers

# Thank you!

- Resources on Padlet