

Practical and strategic pain management in residential care

Monitoring distress behavior, including need-driven behaviors and resistance-to-care behaviors, can help caregivers determine if patients with cognitive impairment are experiencing pain they are unable to describe.

ABSTRACT: Pain is highly prevalent in residential care and has a profound effect on every aspect of the older adult's life. Pain is reported less and undertreated in older adults with cognitive impairment. When distress behavior is noted in cognitively impaired residents, it is reasonable to assume pain exists and to commence a trial of analgesics. A trial of low-dose, long-acting opioids is indicated when distress behavior has not responded to neuroleptics or acetaminophen, either alone or in combination. Nonsteroidal anti-inflammatory agents should not be used for chronic pain in this population. Ongoing reassessment and titration is essential to determine if pain is the cause of the behavior and to achieve satisfactory pain control. Individual responses to opioids vary, so trying more than one agent is indicated. Using opioids to treat pain in older adults with cognitive impairment can improve social interaction and performance of activities of daily living without causing further decline in cognitive function.

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Prevalence of pain, particularly severe disabling pain, is greater in the older adult population than in the general population.^{1,2} Research suggests that pain-related disability may be due to a diminished ability to cope with the stress of chronic pain and the diminishing capacity of the central nervous system to modulate pain.³ Older adults also suffer from more degenerative musculoskeletal conditions, which predispose them to both acute and chronic pain.⁴

Unrelieved pain has a profound effect on the gait and ambulation of older adults, as well as on their mood, psychosocial function, appetite, ability to sleep, and on their self-reported degree of enjoyment of life.^{5,6} The extent to which chronic pain interferes with daily activities increases incrementally with age.²

With 32% of seniors aged 85 and older living in residential care facilities,⁷ and up to one-third of deaths in BC occurring in facilities, many older adults are spending the last weeks and months of their lives in residential care coping with a terminal illness. The pain experienced by these older adults should be aggressively managed to enhance their remaining life.

Identifying pain in older adults

Seniors in residential care are dying from multiple morbidities, with dementia being one of the most common terminal illnesses. Cognitive impairment exists in over 70% of those in residential care.⁸ Individuals with cognitive impairment report pain less and receive less analgesia than those who are cognitively intact.^{9,10} For the cognitively impaired, being unable to communicate leaves them vulnerable to much suffering from unrelieved pain. This vulnerability, their reliance on health care providers to treat their pain, and the terminal nature of their illnesses should compel us to err on the side of treatment at any sign of distress.¹¹

While a resident's intact cognitive abilities greatly assist the clinician who is assessing pain by history, cognitive impairment does not necessarily rule out the use of pain scales or verbal report.¹² Using simple language

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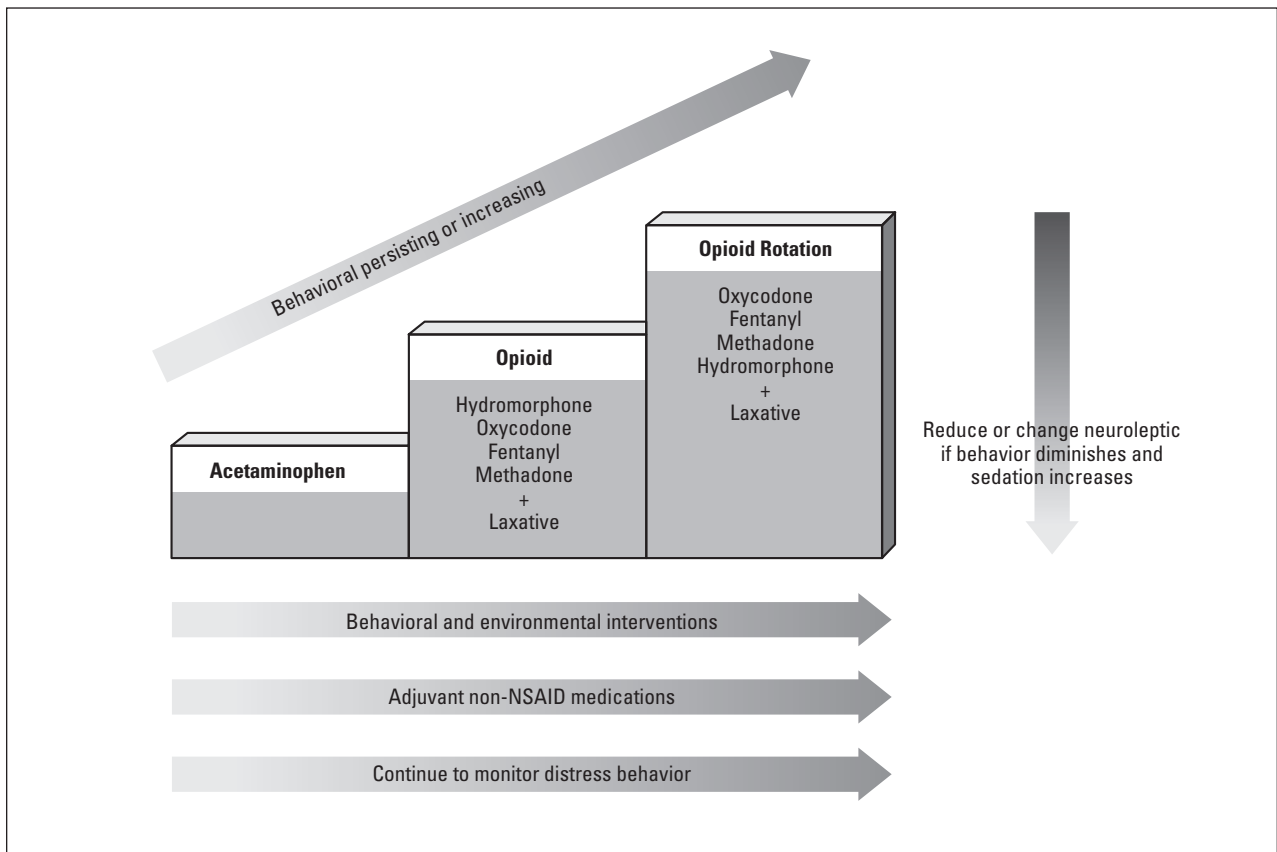


Figure. Trial of analgesics for older adults with advanced dementia exhibiting distress behavior.

Adapted from the World Health Organization's "Three-step analgesic ladder" for cancer pain relief¹⁷

such as "Do you have pain right now?" and "Where does it hurt?" to obtain a verbal report is a direct and concrete way to question that does not rely on the resident's memory or ability to summarize the past week's experience.

When communication is severely impaired, the health care provider must rely on different sources of information. Since proxy pain reports by caregivers and relatives can be unreliable,^{13,14} behavioral observation is thought to be the best method of assessing pain.¹⁵ Behavioral observation is a process of monitoring distress behavior throughout the day, sometimes for weeks, watching for associated events or activities that result in or exacerbate the distress behavior.

Since there are no specific behaviors known to reliably indicate pain, it is important that all distress behaviors be viewed as a possible sign of pain in this population. Thus, monitoring must also include the need-driven behaviors and resistance-to-care behaviors considered part of the behavioral and psychological symptoms of dementia (BPSD).

Though many behavioral observation scales have been developed,¹⁶ in cognitively impaired residents these scales need to be used in combination with a rational approach to diagnosis of pain. The rational approach incorporates multiple sources of information, including resident report of pain; professional staff, caregiver, or family report of pain; distress-related be-

havior that is not responding to other interventions; past or current medical history of painful conditions or use of analgesics; newly diagnosed conditions or potentially undiagnosed painful conditions; and physical examination and observation during care, transfer, or mobilization.

Although these sources of information may provide a complete picture of the pain history, its mechanism, and underlying pathology, it is more likely that the pain (nociceptive, neuropathic, or both) causing the distress behavior is due to one or more pathologies. In situations where the individual is distressed and the cause might be pain or BPSD, a trial of analgesics is the best strategy (see **Figure**).¹⁷

Even when there is not compelling evidence that a particular behavior of concern is related to pain, a trial of analgesics should be considered, based on reports that the prevalence of pain in residential care was found to be over 65%¹⁰ in one study and up to 83% in a systematic review.¹⁸

Pharmacological strategies for pain relief

The American Geriatrics Society has released an updated version of the clinical practice guideline on the pharmacological management of persistent pain in older adults (www.american geriatrics.org/files/documents/2009_Guideline.pdf).¹⁹ There are several key updates in accepted practice, and the 2009 guideline also adds the quality of evidence (QOE) and strength of recommendation (SOR) for each of its recommendations.

Acetaminophen is still recommended as first-line therapy for mild to moderate pain, particularly musculoskeletal pain. Previously, an NSAID trial was recommended if acetaminophen did not control the pain. The 2009 guideline, however, does not recommend the use of either COX-2 selective or nonselective NSAIDs because of gastrointestinal, renal, and cardiovascular toxicity in older adults (strong QOE, strong SOR). Instead, the 2009 guideline recommends that all older adults with moderate to severe pain, pain-related functional impairment, or diminished quality of life be considered for treatment with opioids (low QOE, strong SOR). Almost all older adults have a high risk of experiencing NSAIDs adverse events, so opioids are considered the safer choice for pain relief. NSAIDs should only be used for a day or two for inflammatory conditions. Otherwise, they have no role to play in managing chronic pain in the frail elderly.

Many clinicians have concerns

about the toxicity of opioids in older adults. A well-designed trial of 352 patients in residential facilities, with agitation secondary to moderate to severe dementia, were randomized to receive usual care or a step-wise pain-management intervention that included regular opioids and adjuvant medications.²⁰ The intervention group had a significant reduction in agitation and pain. There was no significant differ-

their efficacy or adverse events. One certainty for all opioids, however, is that there is significant variation in the optimal dose, so it is important to individually select and titrate opioids for the relief of pain and shortness of breath. There are also known changes in the older adult's metabolism and excretion that can have a significant impact on the pharmacokinetics of opioids.^{22,23}

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ence in activities of daily living or cognition between the two groups.

Acetaminophen alone is not adequate as a trial of analgesics, as many older adults live with moderate to severe pain. If the acetaminophen has no effect on distress behavior, a low-dose, long-acting opioid or a short-acting opioid given every 4 hours should be added to the resident's regimen and titrated upwards slowly. It is essential to titrate the dose up to either a significant reduction in distress-related behavior or intolerable side effects. If the resident exhibits intolerable side effects with no reduction in distress behavior, try another opioid, since individual response to opioids varies significantly.²¹

No studies have compared different opioids in older adults for either

Codeine and tramadol require enzymatic conversion to the active analgesic and are not drugs of choice in analgesic trials, as they have ceiling doses and cannot be titrated like opioids with the parent drug as the analgesic.

Opioids of choice for frail older adults are those that have no significant active metabolites, such as oxycodone, fentanyl, buprenorphine, and methadone. Active metabolites are thought to contribute to opioid-induced neurotoxicity,²⁴ a syndrome that ranges from drowsiness to myoclonus, hallucinations, and delirium. Hydromorphone, despite active metabolites similar to those in morphine, is preferred in older adults and in those with renal failure, as its active metabolites are cleared more rapidly than those in morphine.

Table. Opioid equianalgesics and starting doses for frail older adults.

Opioid	Equianalgesic dose	Starting dose [†]	Active metabolites
Acetaminophen and codeine (Tylenol #3)	2 tablets	Avoid	+++
Morphine	10 mg	2.5–5 mg every 4 hours	+++
Hydromorphone	2 mg	0.5–1 mg every 4 hours	+
Oxycodone	7.5 mg	2.5–5 mg every 4 hours	0
Fentanyl transdermal*	See note		0
Buprenorphine**	See note		0
Methadone [†]	1 mg	1 mg every 12 hours	0

*Fentanyl transdermal patch is *not* recommended for opioid-naïve patients. Previous opioid should be continued for first 12 hours of fentanyl patch as absorption is delayed. Recommended conversion from morphine to fentanyl is as follows:

12 µg fentanyl patch = 50 mg oral morphine;
25 µg fentanyl patch = 100 mg oral morphine.

Calculate breakthrough dose based on morphine equivalents of the patch.

**Opioid-naïve start at 5 patch and titrate q2 weeks up to maximum of 20 patch. Equivalence of 20 patch is approximately 20 mg of oral oxycodone/day. Effective for moderate pain. Not covered by Pharmacare.

[†] Need special licence to prescribe. Variable half-life and dosing.

[†]Starting doses also apply in cases of chronic renal failure.

Long-acting opioids are preferable because they provide long-lasting relief, reduce adverse effects, and take less time to administer than short-acting opioids.²⁵ Ideally, an individual would be started on a short-acting opioid and be titrated up to the optimal dose before switching to a long-acting opioid, but this process requires higher staffing levels than most facilities can provide. There are long-acting opioids in low enough doses to initiate these formulations in frail elders, especially if they have been using short-acting opioids on an as-needed basis prior to the initiation of the regular opioid. A recent addition, buprenorphine transdermal patch, is also a good choice in older adults because it can be started in opioid-naïve patients, does not need dosage adjustment in older adults, and needs changing only once weekly²⁶ (see **Table**).

Methadone can be an ideal opioid for frail elders, provided the physician

is familiar with its pharmacology and drug interactions.²⁷ It can be started at a dose of 1 mg every 12 hours and titrated upwards no sooner than once weekly. Any physician can apply for an exemption to prescribe methadone for pain, but education and mentoring are essential to learning how to use it safely. Collaboration between physicians and pharmacists will help prevent drug interactions and ensure safe use.

Frequent reassessment is necessary, as it is rare that the initial dose of an analgesic will result in satisfactory pain control. Applying the maxim “Start low and go slow” assures safe and effective use of opioids for the treatment of pain and shortness of breath in frail older adults, including those with cardiopulmonary disease.²⁸

Because much of the pain in older adults involves a neuropathic component, adjuvant medications should be considered in addition to analgesics. There is good evidence supporting the

effectiveness of anticonvulsants to treat neuropathic pain, but often older adults cannot tolerate the side effects of a therapeutic dose.²⁹ Antidepressants are a better choice because they improve mood, sleep, and appetite in addition to reducing pain. Although the evidence shows tricyclic antidepressants to be more effective, newer antidepressants with noradrenaline receptor action are thought to work best for pain in older adults, since many have cardiac conditions or do not tolerate the side effects of tricyclic antidepressants. Mirtazepine, venlafaxine, and duloxetine are better choices for older adults.³⁰

Regardless of the pharmacological strategy chosen, it is important to titrate one agent or therapy at a time so that a change can be clearly attributed to the intervention.

Conclusions

There is ample evidence that pain is highly prevalent in residential care and needs to be identified and managed. Distress behavior should be noted and a trial of analgesics considered. Studies demonstrate that using opioids to treat pain in older adults with dementia results in improved social interaction and performance of activities of daily living with no decline in cognitive function.³¹ Aggressive management of pain to enhance the quality of life should be a strategy used by all clinicians working in residential care.

Competing interests

None declared.

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