Pain in the elderly is often unrecognized and undertreated. Ineffective pain management can have a significant impact on the quality of life of older adults, leading to depression, social isolation, and a loss of function. Proper assessment of older adults requires the physician to regularly ask about the presence of pain and be skillful in assessment strategies to evaluate the frequency and intensity of pain. Assessment of pain in older adults with dementia and communication disorders is especially challenging. Effective pain management in elderly patients should include both pharmacologic and nonpharmacologic strategies. Pharmacologic strategies call for administration of nonopioid analgesics, opioid analgesics, and adjuvant medication. Polypharmacy, drug-drug and drug-disease interactions, age-associated changes in drug metabolism, and the high frequency of adverse drug reactions need to be carefully considered in using medications in this population. Nonpharmacologic approaches such as cognitive-behavioral therapy, education, osteopathic manipulative treatment, and exercise should be applied in addition to pharmacologic therapy. Using a team approach and incorporating principles of pain management can effectively provide good analgesia for older adults.

(Key words: pain management, pain assessment, elderly)

Pain in the elderly is a common complaint. Although much data have been published on assessing and managing pain in patients with cancer and both acute and chronic pain syndromes, there has been little focus on the special aspects of pain in the elderly. However, studies have demonstrated that more than 25% of community-dwelling elderly report chronic pain. This rate is even higher in the nursing home setting, where more than 50% of these residents have chronic pain syndromes that are either untreated or undertreated. Pain in the elderly is usually multifactorial, and many barriers to appropriate assessment and management exist, including the high prevalence of dementia, disability, and sensory impairment. The consequences of chronic pain can have a negative impact on the health and quality of life of the elderly.

As with other age groups, pain in the elderly is classified pathophysiologically as pain that is either nociceptive or neuropathic in origin. Nociceptive pain can be visceral or somatic and is derived from stimulation of pain receptors. In the elderly, nociceptive pain is often due to inflammatory, musculoskeletal, or ischemic disorders. Commonly used opioid and nonopioid analgesics, as well as nonpharmacologic approaches to pain management, are often given to treat nociceptive pain. Neuropathic pain results from a pathophysiologic process of the peripheral or central nervous system. Examples include postherpetic neuralgia, phantom limb pain, and trigeminal neuralgia. These conditions are less likely to respond to traditional analgesics and often respond to adjuvant medications such as antidepressants, anticonvulsants, or topical local anesthetics. At times, chronic pain syndromes may be mixed, ie, of both nociceptive and neuropathic origin.

Pain perception and how it may be altered through the aging process is not clear. Although the elderly are often observed to present with painless manifestations of frequently painful disorders, it is believed that age-related changes in pain perception are probably not clinically significant. Although analgesic therapy is frequently the mainstay for treatment of pain in the elderly, these patients have largely been excluded from many clinical trials assessing the efficacy of various analgesics.

Consistent with pharmacologic therapy for the elderly at large, older persons are more likely to have adverse drug reactions to various analgesic agents. Likewise, the elderly are more likely to be have an increased sensitivity to the analgesic effect of these agents, especially the opiate analgesics. Opioids are effective in treating chronic pain in the elderly; however, there has been a reluctance to use them, often because of an exaggerated fear of addiction and concern about their indiscriminate use.

Effective pain management in the elderly requires the physician to be skillful in the appropriate assessment of pain in older adults, have the knowledge of and skill in the appropriate use of pharmacologic and nonpharmacologic interventions, and be aware of the unique aspects of pain management in the elderly.
in the elderly. Because older people may expect to have pain in the later years, they may fail to report the presence of pain or use different terms to describe it. They may be fearful that reporting their pain could lead to additional testing or added medication. Communication and cognitive disturbances are a frequent barrier to the articulation of the presence of pain. However, increased agitation, a loss of functional status, an altered gait, or social isolation may be indications of the presence of pain in the cognitively impaired elderly. 

A comprehensive pain assessment should include a careful history and physical and diagnostic studies aimed at identifying the precise etiology of pain. The characteristics of the pain, including intensity, frequency, and location, should be described. The initial evaluation should also include commonly accepted standardized assessment tools used in the elderly to assess function, gait, affect, and cognition. Standard pain measurement tools using a visual analog scale, numerical scale, or pain faces scale are particularly helpful. Whenever possible, incorporation of the geriatric multidisciplinary team approach to assessment and care is in order. Once the etiology of pain is established and therapy initiated, a pain diary or log is appropriate to assess the impact of treatment. Regular reassessment with the assessment scales previously administered is important. This reassessment should also include an assessment of medication compliance, side effects, and efficacy of therapeutic interventions

Pharmacologic pain management in the elderly

Despite the high risk for adverse drug reactions in the elderly, pharmacologic interventions remain the primary modality for treating pain in the geriatric population. In prescribing drug therapy for pain management in older persons, the physician must consider age-associated changes in drug metabolism, the increased incidence in adverse drug reactions with age, and the increased likelihood of drug-drug and drug-disease interactions. Despite these obstacles, chronic pain in older adults could be well controlled, realizing, however, that achieving this control often requires trial and error and titration of medication dosages. Older patients may actually have an increased sensitivity to the pharmacologic effects of analgesics, thereby enabling them to require lesser medication dosages than younger patients. This effect is particularly true of opioid analgesics.

As specific initial and titrating dosage regimens for the elderly are not readily available, the “start low and go slow” approach to drug prescribing in the elderly is particularly important as it applies to pain management. Although pharmacologic approaches are used most often in the management of pain, nonpharmacologic approaches should be recommended to supplement drug prescribing. Polypharmacy and the frequency of comorbid conditions in the elderly are important factors to be considered when making decisions regarding drug therapy. Careful monitoring of elderly patients taking multiple medications is important not only to assess
effectiveness, but also to monitor the possibility of the development of an adverse drug reaction.\(^3\)

Acetaminophen should be considered the drug of choice for mild to moderate musculoskeletal pain in older adults.\(^6\) The long-term use of nonsteroidal anti-inflammatory drugs (NSAIDs) should be avoided when possible because of their high frequency of adverse effects; eg, risks of gastrointestinal (GI) bleeding and renal dysfunction are significantly higher in older adults than in the younger population. Although drugs such as misoprostol and histamine receptor antagonists may reduce the risk of GI bleeding, these medications do not reduce the likelihood of the development of drug-induced renal disease or drug interactions associated with NSAIDs.\(^7\)

The newer cyclooxygenase-2 inhibitors are believed to be associated with a lower side effect profile in the elderly. Clearly, NSAIDs should be avoided in the elderly patients who have renal dysfunction and a history of peptic ulcer disease.\(^3\)

Administration of opioid analgesics to treat chronic noncancer pain in the elderly is becoming more widely used. These agents can be effective in treating moderate to severe nociceptive pain in the elderly. Concerns about drug addiction

**Checklist**

- Consider topical agents that have little risk of systemic side effects or drug-drug interactions.
- Consider age-related alterations of drug metabolism resulting in increased drug sensitivity and adverse reactions in the elderly.
- Keep in mind that pain is often unrecognized and undertreated in the elderly.
- Start with the lowest possible dose and proceed slowly.
- Consider acetaminophen as the drug of choice for mild to moderate musculoskeletal pain.
- Use NSAIDs with caution because of the limitations of the ceiling effect and its renal and gastrointestinal adverse reactions.
- Avoid NSAIDs in older patients with renal dysfunction, a history of peptic ulcer disease, or bleeding disorders.
- Consider opioid analgesics for moderate to severe nociceptive pain in the elderly.
- Use sustained-release opioids for continuous pain and short-acting preparations for breakthrough or episodic pain.
- Titrate opioid dosage based on the use of medications for breakthrough pain.
- Prevent constipation with opioid use by recommending a prophylactic bowel regimen.
- Anticipate and manage opioid side effects such as sedation, confusion, and nausea until tolerance develops.
- Avoid the use of opioids that have frequent adverse reactions in the elderly, such as propoxyphene and meperidine.
- Monitor patients on long-term analgesic therapy closely for side effects, drug-drug interactions, and drug-disease interactions.
- Consider adjuvant analgesics such as anticonvulsants, topical lidocaine patch, and antidepressants for neuropathic pain, using agents with the lowest side effect profile.

**Checklist**

- Realize the importance of nonpharmacologic approaches to pain management, both alone or in combination with analgesics, as a means of avoiding the high incidence of adverse drug reactions in the elderly.
- Recognize the importance and efficacy of patient and caregiver education in the management of pain to enable the patient and caregiver to understand:
  - Goals of therapy
  - Method of pain assessment
  - Appropriate use of analgesics
  - Self-help techniques.
- Incorporate the appropriate use of osteopathic manipulative treatment to reduce pain and enhance function.
- Consider the role of cognitive-behavioral therapy in the elderly as a means of
  - Education
  - Enhancement of coping skills
  - Prevention of pain.
- Recognize the role of exercise targeted to the individual as a means of pain management to maintain and enhance functioning and avoid deconditioning.
- Consider the role of physiatry and physical and occupational therapy to:
  - Avoid dysfunction
  - Improve muscle strength
  - Aid in identifying the appropriate use of heat, cold, and massage therapy.
- Recognize that some older patients may be helped by other nonpharmacologic modes of therapy such as acupuncture and transcutaneous electric nerve stimulation.
- Appreciate the spiritual aspects of pain in the elderly, and provide counseling and refer to a clergy person if appropriate.

**Figure 2.** A guide to effective pharmacologic pain management in the elderly.

**Figure 3.** A guide to effective nonpharmacologic pain management in the elderly.

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are probably overemphasized in the elderly and are not a reason to justify undertreatment of pain in older adults. Short-acting opioids can be used to treat intermittent pain. Sustained-release opioids should be used for the treatment of continuous pain while using short-acting preparations for breakthrough pain. Sustained-release opioids can be titrated based on the frequency of short-acting opioid use for breakthrough pain. Both morphine and oxycodone are commonly used and are available in both short-acting and sustained-release preparations.

Side effects of opioids need to be anticipated, prevented, and managed. Prevention of constipation through the use of stool softeners and other bowel regimens should be initiated whenever opioid therapy is started. Sedation and confusion should be expected when initiating opioid therapy until tolerance develops. Although tolerance to respiratory depression occurs rapidly, naloxone hydrochloride could be given for profound respiratory depression and sedation. Antimetics may be needed early on with the initiation of opioid therapy. Eventually, the analgesic effect of opioids is preserved while tolerance develops to its side effects. Opioids such as propoxyphene and meperidine hydrochloride, with unacceptable side effect profiles in the elderly, should be avoided.

Adjuvant medications are often used to treat chronic pain syndromes in older adults. These agents, while not classically categorized as analgesics, may be effective in treating certain chronic pain syndromes. Steroids, anticonvulsants, topical local anesthetics, and antidepressants are adjuvant agents. Particularly, neuropathic pain may be treated effectively with anticonvulsants such as carbamazepine and gabapentin, the topical lidocaine patch, or antidepressant medication such as amitriptyline hydrochloride or nortriptyline hydrochloride. Agents in these categories with the lowest side effect profile for the elderly should be used. Patients taking these medications should be monitored carefully for side effects and drug toxicity. Dosages should be titrated slowly to achieve the maximal therapeutic effect with the lowest possible side effects (Figure 2).

**Nonpharmacologic pain management in the elderly**

Although most elderly patients require pharmacologic interventions to treat pain, nonpharmacologic interventions should be incorporated whenever possible. This inclusion is particularly important in the geriatric population because of the high frequency of adverse drug reactions. Although there is a paucity of controlled clinical trials documenting the effectiveness of many nonpharmacologic approaches to pain management, effective outcomes have been described when such approaches are used in combination with pharmacologic therapy.

Patient and caregiver education in the management of pain is extremely important, and the effectiveness of patient education programs in improving overall pain management has been documented. This education can be achieved through group education, one-on-one training, or the provision of written material enabling both patient and respective caregiver to understand that approaches to pain management include both pharmacologic and nonpharmacologic state-
gies. Cognitive-behavioral therapy has also been shown to be beneficial by enhancing coping skills and preventing pain.22

Clearly, osteopathic manipulative treatment is effective in reducing pain.23,24 The extent of intervention and the types of techniques used must be tailored to the individual. The holistic philosophy of osteopathic medicine underscores the need for a team approach to the care of the elderly patient with chronic pain.25

Targeted exercise programs as a means of pain management by enhancing functioning and avoiding deconditioning are helpful.13 In patients with chronic pain, an assessment by a physiatrist, physical therapist, or occupational therapist may be helpful not only in recommending ways to improve muscle strength and avoid dysfunction, but also to identify the appropriate use of heat, cold, or massage therapy in the management of pain. In addition, both acupuncture and transcutaneous electrical nerve stimulation have been used for management of chronic pain in older adults.

Finally, for many patients, a spiritual dimension to chronic pain exists. Appropriate counseling or referral to clergy may be helpful in pain management in the elderly3,15,25 (Figure 3).

Comment

Pain in the elderly is frequently inadequately treated because of barriers to assessment, a fear of drug addiction, and a failure to use all available pharmacologic and nonpharmacologic modes of therapy. Proposed principles for effective management of pain in the geriatric population can aid the clinician to optimize pain management in the elderly (Figure 4). Good care for the elderly involves proper diagnosis of chronic pain syndromes, the initiation of appropriate pharmacologic and nonpharmacologic therapy, and careful assessment and reassessment of patients with chronic pain.

References