

# Management of Chronic Pain Among Elderly Patients

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For many of the chronic, painful conditions that often accompany older age, the only available treatments are palliative care and pain management. Nonetheless, pain management for elderly patients is often inadequate (1). Persistent pain can interfere with physiological functions, increase suffering, and decrease quality of life. Improvements in the detection, assessment, and treatment of chronic pain can optimize the care that is provided to the elderly patient.

## Detection

The prevalence of persistent pain increases with age (2); increases in joint pain and neuralgias are particularly likely (3). A majority of elderly persons have significant pain problems (4,5). Persistent pain interferes with activities of daily living and quality of life, yet detection and management of chronic pain remain inadequate (4,6). In one study, 66 percent of geriatric nursing home residents had chronic pain, but it was not detected by the treating physician in 34 percent of cases (7).

Elderly patients tend to be reluctant to report pain-related symptoms. This reluctance may be due to the belief that pain is a necessary part of older life, to fear of being negatively

judged for having pain, or to the expectation that the clinician will give a low priority to pain, compared with other medical problems (8). Elderly patients may also fear that pain portends death or serious illness. It is imperative for the clinician to ask elderly patients directly about the presence of pain (9). Physicians should listen to pain complaints and also express an interest in hearing about them. Patients with impaired ability to communicate can be especially challenging. They may require particular attention to nonverbal pain behavior, such as changes in gait; changes in function, such as withdrawn or agitated behavior; and vocalizations, such as groaning or crying (10).

## Assessment

Inadequate assessment strategies result in inadequate pain management. It is important for the clinician to perform a careful history and physical examination, use appropriate pain assessment instruments, and evaluate the patient for psychiatric comorbidity.

A general medical history, including current and prior medications, especially analgesics, is a required part of the comprehensive pain evaluation. The pain-related history should include the location and duration of the pain, the time or circumstances in which it occurs, and the quality and intensity of the pain. A physical and neurological examination should emphasize identifying underlying nociceptive factors (11). This examination includes observation, palpation, and functional testing of the painful region. Laboratory and radiographic evaluation might be necessary to sup-

port or refute specific diagnostic possibilities that arise from the history and physical examination.

Pain assessment instruments include the visual analog scale, a commonly used 10-point scale consisting of a horizontal line ranging from "no pain" to "worst possible pain" (12). Patients indicate which point along the line best approximates their current level of pain. The visual analog scale assesses only the intensity of the overall pain experience. Comprehensive pain management should include assessments of other dimensions of pain as well, such as duration and quality.

The short form of the McGill Pain Questionnaire (SF-MPQ) (13) consists of 15 qualitative pain descriptors, such as "throbbing," "sickening," and "punishing-cruel," which represent the sensory and affective dimensions of pain. Each of the descriptors is rated for severity. The SF-MPQ uses a visual analog scale to assess pain intensity, and the usefulness of this tool has been demonstrated with elderly patients (5). The short form of the Brief Pain Inventory also combines specific pain descriptors with the visual analog scale (14) and may also be useful in assessing elderly patients (8). Elderly patients with cognitive impairments and poor communication abilities may benefit from using specialized pain assessment instruments, such as those developed for pediatric populations and speakers of a foreign language, and scales designed for visually impaired persons that do not require the use of visual-spatial skills (7,10).

The assessment should include an evaluation of psychiatric comorbidity,

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as both depression and anxiety are commonly associated with chronic pain. Anxiety is a predictor of pain levels. The highly anxious patient complains more of pain and rates it at greater intensity than the less anxious patient (15).

There is a high prevalence and severity of depressive symptoms among patients with chronic pain (16). Pain and depression intensify one another. Elderly depressed patients report more pain complaints and higher pain intensity than those who are not depressed (15,17). Conversely, patients with chronic pain have higher depression scores than those who are pain free (4).

### **Treatment**

Once the medical diagnosis underlying the pain has been established, any available treatments for specific conditions—for example, radiation to relieve painful bony metastases—must be considered. Often no treatment is available for many of the painful conditions, such as osteoarthritis, that afflict elderly persons, which leaves management of pain the mainstay of intervention. Modalities for treating pain can be divided into nonpharmacologic treatments and pharmacologic treatments.

#### **Nonpharmacologic treatment.**

Nonpharmacologic pain management strategies encompass a broad range of treatments and physical modalities. Heat, cold, biofeedback, and relaxation training can be beneficial, depending on the etiology of the pain. Transcutaneous electrical nerve stimulation (TENS) is indicated for both acute and chronic pain conditions. TENS is associated with endorphin release, which might contribute to its analgesic effects (18). There also is some justification for the use of acupuncture and trigger-point therapy for certain painful conditions (18). Patient education about the nature of pain, self-assessment, and treatment strategies can significantly improve overall pain management (10).

Low-level activity programs, such as walking a short distance, can be beneficial physically while enhancing confidence and a sense of well-being (5). Carefully guided flexion and extension exercises also are beneficial,


especially for low-back pain. Fitted appliances such as canes, walkers, bathtub rails, and modified eating utensils can be quite helpful to patients with limited functioning.

**Pharmacologic treatment.** Compared with younger patients, elderly patients show measurable pharmacokinetic differences that result in higher, more prolonged plasma drug concentrations, which may cause more adverse effects, toxicity, and unfavorable drug interactions. In addition, drug effects can be different for elderly patients, even when their plasma drug concentrations are similar to those of younger patients (11). The



### **Assessment**

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clinician should start analgesics at low doses—in general, half of the usual adult dose—and slowly titrate upward. Medications with a short half-life decrease the risk of overaccumulation while they are being titrated to steady state. Prescribing one drug at a time avoids unnecessary additive effects.

It is important to establish whether the pain is nociceptive or neurogenic. Nociceptive pain originates from the mechanical, chemical, or thermal stimulation of peripheral sensory receptors. Nociceptive pain often responds to nonopioid analgesia, such as nonsteroidal anti-inflammatory drugs (NSAIDs). Neurogenic pain originates from damage to the central or peripheral nervous system; this

type of pain has a worse prognosis and is more difficult to treat. Anticonvulsants and tricyclic antidepressants can be helpful, although opioids sometimes are required. Examples of neurogenic pain include neuropathies, neuralgias, and central pain syndromes following stroke. Pain associated with malignant disease, as well as certain spinal disorders such as vertebral canal stenosis, may have mixed pathogenesises (5).

NSAIDs work primarily by inhibiting cyclooxygenase, thereby inhibiting prostaglandin production. Commonly prescribed NSAIDs include naproxen, ibuprofen, and nabutone. Dose escalation beyond a certain level does not produce additional analgesia (11). Adverse effects include dyspepsia, gastrointestinal ulceration, interference with platelet aggregation, reversible azotemia, and central nervous system toxicity (19). These drugs should be titrated gradually. Determination of efficacy often takes weeks.

Acetaminophen is related to the NSAIDs in that it inhibits prostaglandins. It does not adversely effect gastric mucosa or platelet aggregation, making it the treatment of choice for mild to moderate musculoskeletal pain (10). It can cause serious hepatic toxicity at dosages that exceed 4,000 mg per day.

Opioid analgesics are often the first line of treatment for pain associated with malignancy. They also are used for other types of pain, especially when other agents have not worked. Opioid agonists, such as morphine, codeine, oxycodone, and hydrocodone, commonly cause sedation, nausea, and constipation. Respiratory depression is a serious, dose-limiting side effect. Mixed agonist-antagonist opioids cause less respiratory depression and have less abuse potential. Pentazocine is the only one that is available in an oral preparation, but its use is limited by a high incidence of psychotomimetic side effects. For all opioids, physical dependence with repeated usage is expected. However, opioid abuse is relatively uncommon when these drugs are appropriately prescribed (10,11).

Tramadol is a centrally acting analgesic that both binds to opioid recep-

tors and inhibits the uptake of catecholamines. Despite its mechanism of action, it is not scheduled as an opioid medication. Respiratory depression is not a side effect, and the drug has little potential for abuse. The major side effects—nausea, dizziness, and agitation—occur early and are often diminished by slow titration. Administration of tramadol may enhance the risk of seizure when administered to patients taking other medications that lower the seizure threshold, such as neuroleptics, monoamine oxidase inhibitors, and other psychotropic agents. Tramadol is effective for several pain conditions, including osteoarthritis (19).

Tricyclic antidepressants, such as imipramine, amitriptyline, nortriptyline, and doxepin, are effective in treating chronic pain, especially when there is a neurogenic component. They potentiate serotonin and norepinephrine in descending pain-suppression pathways in the spinal cord and enhance the analgesic effects of opioid agents (19). As all tricyclics have anticholinergic, antihistaminic, and alpha-adrenergic side effects, elderly patients should be monitored closely during initial dosing and titration. Anticonvulsants, such as carbamazepine and gabapentin, also are useful in the treatment of neurogenic pain, although their mechanisms of action are less well understood (19).

Capsaicin is useful topically in the treatment of diabetic neuropathy and postherpetic neuralgia pain. It causes direct stimulation and eventual degeneration of small unmyelinated sensory fibers with an accompanied release of substance P, a neurotransmitter thought to modulate pain (19).

## Conclusions

Chronic pain is a multidimensional experience that transcends several domains of functioning. Elderly patients are particularly vulnerable to several pain-related illnesses. Several assessment instruments and treatment options are available for evaluating and managing pain. Increased knowledge about detection, assessment, and treatment should improve the adequacy of pain management in geriatric populations. ♦

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