Pain: Assessment and Management in Aging:

Article Review

4.0 Contact Hours California Board of Registered Nursing CEP#15122

Compiled by Terry Rudd RN, MSN

"Pain is whatever the experiencing person says it is, existing whenever the experiencing person say it does"

McCaffery and Beebe 1989

Points to Remember

- Pain is what the patient says it is (McCaffery)
- Our hospital uses the 0-10 pain scale
- Although this article is about the elderly it relates to all
- Nurses tend to under treat pain
- Treating pain at the onset of pain will provide better relief
- Patients need to be TAUGHT to ask for pain medication
- Call the physician if the pain med is not working
- Assess respirations with all pain meds
- You will have a better shift if your patient is pain free!

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Pain: Assessment and Management in Aging
Article Review

Self Study Module 4.0 C0NTACT HOURS CEP #15122

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1. _____	5. _____	9. _____	13. _____	17. _____
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EVALUATION FORM

		Poor									Excellent
1.	The content of this program was:	1	2	3	4	5	6	7	8	9	10
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5.	I learned something from this course:	1	2	3	4	5	6	7	8	9	10
6.	Would you recommend this program to others?				Yes				No		
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Pain: Assessment and Management in Aging: Article Review
Self Study Module Exam 4.0 C0NTACT HOURS

Choose the SINGLE best answer below and place on the answer sheet provided:

1. Barriers to pain management in older adult is a result of:
    a. Lack of education of health care professionals regarding pain management.
    b. Patient fears of medication side effects.
    c. Cost of treatment.
    d. All of the above.

2. Pain can lead to sleep deprivation which can decrease pain thresholds:
    a. True b. False

3. Nurses ability to perform a comprehensive pain assessment is critical because:
    a. The nurse is often the first health care provider to hear the report of pain.
    b. The nurse has the key to the narcotic drawer.
    c. Patients are not likely to report pain to other persons.

4. The only reliable indicator that the patient has pain is_____
    a. The nurse's observation of the pain.
    b. The patients self report about pain.
    c. The change in patient vital signs when in pain.

5. One of the best way to assess pain in the older adult is:
    a. Having a consistent nurse care for the patient.
    b. A 20% increase in pulse.
    c. A standardized pain assessment school.

6. Which of the following statements is true?
    a. All patients have the right to appropriate assessment and management of pain.
    b. Pain assessment requires a systematic and regular assessment of pain.
    c. Patients should be asked about pain after discharge on each visit.
    d. All of the above.

7. It is possible that the person with chronic pain may also be depressed.
    a. True b. False

8. Which of the following is true about assessing pain with the patient with cognitive impairment?
    a. The standardized pain scale tool is an accurate indicator.
    b. Self report is reliable.
    c. The process has many challenges for nursing personnel.
    d. Pain should only be treated if the person states they are having pain.

9. When the patient has pain, in the final assessment phase, the nurse should:
    a. Complete a head to toe assessment or complete physical examination.
    b. Assess only the area where pain is indicated.
    c. Assess pain only if the patient is at complete rest.

10. Pharmacologic therapies that may be useful in the older adult include:
    a. Nonopiods b. NSAIDs c. Opiods d. All of the above

11. Which of the following is an example of a nonopiod medication?
    a. Morphine
    b. Methadone
    c. Acetaminophen (Tylenol)
    d. Meperidine (Demerol)

12. Opiods are safe when used appropriately and in most cases are highly effective:
    a. True b. False

13. Nociceptive pain is described as:
    a. Aching, throbbing. b. Tingling, burning

14. Which agent should NOT be used in older adults for pain control?
    a. Morphine
    b. Demerol
    c. Methadone

15. Which opiod-related adverse affect would be of most concern to the nurse when assessing the patient?
    a. Constipation
    b. Diminished concentration
    c. Respiratory depression
    d. Urinary retention

16. An adjuvant agent is an agent or drug that was originally relased for other purposes than the management of pain.
    a. True b. False

17. Gabapentin is an adjuvant agent that originally was approved for _____ but has been shown to assist with pain.
    a. Anesthesia
    b. Antidepressant
    c. Anticonvulsant

18. Tricyclic antidepressants are contraindicated if the patient has a preexisting condition of:
    a. Depression
    b. Cardiac rhythm abnormalities
    c. Constipation

19. A nonpharmacologic management of pain technique that requires patient teaching of the skill is:
    a. Massage
    b. Guided imagery
    c. Transcutaneous electrical nerve stimulation

20. According to McCaffery, pain is:
    a. What the healthcare provider observes in the patient.
    b. A noticeable change in vital signs.
    c. whatever the experiencing person says it is, existing whenever the experiencing person say it does.

Please place all answers on the answer sheet provided. We hope this module was helpful to you in the care of your patient.

Pain Assessment and Management in Aging

From the ANA Website
http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN/TableofContents/Volume92004/No3Sept04/ArticlePreviousTopic/PainAssessmentandManagementinAging.aspxMimi

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Abstract

Pain in the absence of disease is not a normal part of aging, yet it is experienced daily by a majority of older adults in the United States. Older adults are at high risk for undertreatment of pain due to a variety of barriers. These include lack of adequate education of health care professionals, cost concerns and other obstacles related to the health care system, and patient related barriers, such as reluctance to report pain or take analgesics. Unrelieved pain in the older adult has significant functional, cognitive, emotional, and societal consequences. Pain control begins with a thorough assessment, including an extensive history and physical examination. This information guides the plan of care, including both pharmacologic and nonpharmacologic therapies. Pharmacologic therapies include non-opioids, opioids, and adjuvant analgesics. Nonpharmacologic techniques include cognitive-behavioral strategies, such as distraction, guided imagery, education, and prayer, and physical measures, including heat, massage, bracing, and assistive devices. Health care professionals must be cognizant of the special pain-related needs of this fastest growing segment of the population.

Pain in the absence of disease is not a normal part of aging, yet the majority of older adults experience it on a regular basis (Jakobsson, Klevsgard, Westergren, & Rahm Hallberg , 2003). Awareness of the prevalence of pain in older adults is critical because people over age 85 are the fastest growing segment of the population in the United States. By the year 2020, this group is projected to include 7.5 million persons, and will double to 14 million by 2040 (U.S. Census Bureau, 2004).

Pain sensitivity may differ in adults of advanced age (Helme & Gibson, 2001). Research has demonstrated a modest age-related increase in pain threshold and a relative absence of pain symptoms accompanying myocardial complaints, intra-abdominal infections, various types of malignancy, and other conditions involving acute inflammation (Helme &Gibson). However, these studies have several methodological weaknesses that have led to several misconceptions and serious implications for the assessment and treatment of pain in the older adult population (Herr & Garand, 2001). One should not assume that older people experience less pain than their younger counterparts (Herr & Garand). The absence of a report of pain does not mean that pain does not exist. Furthermore, if there is a diminished sensitivity to pain threshold in an older adult patient, this does not mean that the older adult patient experiences less pain when they actually report it (Helme &Gibson).

Prevalence and Common Pain Syndromes

> the incidence of pain more than doubles once individuals surpass the age of 60 with pain frequency increasing with each decade.

Pain is both highly prevalent and undertreated in the older adult population (American Geriatric Society, 2002). The prevalence of pain varies with age, living arrangements, and the general health of the population (Jakobsson et al., 2003). For instance, the incidence of

pain more than doubles once individuals surpass the age of 60 with pain frequency increasing with each decade (American Geriatric Society, 2002; Miaskowski, 2000). Other studies reveal that 25-50% of community-dwelling seniors suffer from pain (American Geriatric Society, 2002). People living in long-term care facilities have even higher rates of undertreated pain, reported from 45 to 83%, (Ferrell, Ferrell, & Osterweil, 1990). Finally, many of the conditions that impact general health and cause pain occur more frequently in individuals over age of 65. Pain syndromes common in older adults are listed in Table 1.

Table 1. Pain Syndromes Common in Older Adults

- Fibromyalgia
- Gout
- Neuropathies
  - Diabetic neuropathy
  - Postherpetic neuropathy
- Vitamin B complex deficiencies
- Osteoarthritis
- Osteoporosis and fractures
- Polymyalgia Rheumatica

(Bernabei, Gambosi, & Lapane, 1998; Davis, Hiemenz, & White, 2002)

Barriers to Pain Management in the Older Adult

Barriers to adequate pain management in the older adult arise from three major sources: the patient, the health care community, and society at large. Patients, families and health care professionals hold strong personal beliefs and fears about the meaning of pain and pain treatment options. Table 2 lists many of the common barriers to adequate pain control in the older adult.

Table 2. Barriers to Pain Management in Older Adults

Health Care Professional Barriers

- Lack of education regarding pain assessment and management
- Concern regarding regulatory scrutiny
- Fears of opioid related side effects
- Assumption that pain is part of the aging process and cannot be managed
- Lack of ability to assess pain in cognitively impaired

Patient and Family Barriers

- Fear of medication side effects
- Concerns related to addiction
- Concerns that by discussing pain they will be perceived as a "bad patient"
- Fatalism that pain is part of the aging process

Health Care System Barriers

- Cost
- Time
- Cultural biases regarding opioid use

(Anderson et al., 2000; Davis & Srivastava, 2003; Ersek, 1999; Ferrell, 2000; Fujimoto, 2001; Miaskowski, 2000; Ward et al., 1993; Weiner & Hanlon, 2001; Weiner & Rudy, 2002).

Consequences of Pain

> Unrelieved pain has significant functional, cognitive, emotional, and societal consequences.

Unrelieved pain has significant functional, cognitive, emotional, and societal consequences. Function is impaired due to decreased activity and ambulation leading to deconditioning, gait disturbances and injuries from falls. Sleep is crucial to a sense of well-being, especially in the older adult.

Pain can lead to sleep deprivation, which can decrease pain thresholds, limit the amount of daytime energy and increase the incidence and severity of depression and mood disturbances (Jakobsson et. al., 2003). Societal consequences of pain include increased financial and caregiving burdens placed on families and friends as well as the increased utilization of health care services (Weiner & Hanlon, 2001). All of these consequences of pain further diminish quality of life by isolating individuals from important social stimulation, amplifying the functional and emotional losses already experienced from undertreated pain.

Poorly treated pain now has significant consequences for health care professionals and institutions. In 1999, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) published national standards and guidelines for pain management that apply to all health care settings, including long term care (JCAHO, 2004). Revisions have been approved and have been effective since January 1, 2001 (Berry & Dahl, 2000). Failure to adequately comply with JCAHO standards in the assessment and treatment of pain can lead to loss of accreditation of an institution. Several key legal cases involving undertreatment of older adults have resulted in increased attention to appropriate pain management (Pasero & McCaffery, 2001). For example, in one case in California, a family successfully sued a physician who was reluctant to prescribe sufficient quantities of opioid to treat their father's cancer pain. As a result of this case, a law effective January 2002 requires all physicians in that state to obtain at least 12 hours of continuing medical education in the area of pain management and end-of-life issues (Hanson, n.d.).

Assessment

Because nurses are often the first health care providers to hear a patient's report of pain, their ability to perform a comprehensive pain assessment in the older adult is critical. A comprehensive pain assessment incorporates a thorough pain history, a complete physical examination, and laboratory or other diagnostic procedures when indicated.

General history

> Without any known biological markers or diagnostic tests that measure pain, the patient's self-report remains the only reliable indicator of the existence of pain and its intensity.

An accurate pain assessment includes the patient's age, past medical and surgical history, medications, allergies, and baseline cognitive and functional status. The increased rate of chronic health disorders in advanced age is related to the high prevalence of pain in older adults (Table 1).

Furthermore, pain management among older adults is complicated by multiple, concomitant causes and locations of pain (Horgas, 2003), making it difficult to distinguish acute pain

caused by a new illness from that of an old condition. Knowing the patient's baseline level of functioning and taking a focused history will help make this differentiation.

Nursing communication skills play an important role in pain assessment. Good communication depends on the nurse's ability to recognize sensory and cognitive impairments. Decreased hearing and vision may limit verbal communication as well as use of written pain assessment tools. Patience also helps. Some patients require extra time to consider the posed question and formulate an appropriate answer. In turn, the nurse may need to adapt his or her method of communication by speaking more slowly or distinctly in a quiet setting. Without any known biological markers or diagnostic tests that measure pain, the patient's self-report remains the only reliable indicator of the existence of pain and its intensity (McCaffery & Pasero, 1999). Family members or caregivers can provide information about the patient's baseline cognitive and physical functioning and validate history if the patient displays impaired cognition or communication.

Pain assessment tools

> The most important components of pain assessment in older adults are regular assessment, standardized tools, and consistent documentation.

The most important components of pain assessment in older adults are regular assessment, standardized tools, and consistent documentation (Horgas, 2003). Pain rating scales and pain behavior scales have been developed for use with the older adult in a variety of clinical settings. Regardless of which tool is chosen, the key to effective measurement of pain intensity is to find the most appropriate scale then use the same standardized tool to document pain intensity and locations, to measure change, to evaluate pain treatment, and to communicate findings to other care providers (Horgas).

The ideal pain tool is a standardized tool validated for use in the older adult. It should be sensitive to cognitive, language, and sensory impairments. Cognitive impairment and dementia are not barriers to adequate pain assessment, since patients with these conditions have been assessed without difficulty using simple questions and screening tools. A variety of verbal descriptor scales, pain thermometers, numeric rating scales, and facial pain scales have validity and are acceptable for many older adults (American Geriatric Society, 2002). A good first choice is the verbally administered 0-10 numerical rating scale (NRS), especially if the patient's low vision causes difficulty with visual scales. Some cognitively impaired older adult patients are, in fact, able to use the NRS (Herr, 2002). For older adults with mild to moderate cognitive impairment who do not understand the NRS, the following pain rating scales should be tried in the following order:

- Verbal Descriptor Scale: adjectives describing pain, such as "mild", "moderate", and "severe"
- Pain Thermometer: diagram of a thermometer with word descriptors that shows increasing pain intensities
- Faces Pain Scale: a series of faces that best express the level of pain being experienced (Herr, 2002).

> Cognitive impairment and dementia are not barriers to adequate pain assessment...

Some of these tools can be used if the patient has mild to moderate cognitive impairment. Because the Pain Thermometer and the Faces Pain Scale depend on visual acuity because of their pictorial nature, they may need to be enlarged for visually impaired patients. Although

the Faces Pain Scale is a good choice for patients with cognitive impairment unable to use an analog scale, it may be difficult to determine if pain or mood is being measured.

Unfortunately, no valid tool provides objective ratings of the behaviors associated with pain in cognitively impaired older adults who are unable to provide self-reports. Current behavioral assessment tools have been developed but require further validation for use in clinical practice (Herr, 2002). The Checklist on Nonverbal Pain Indicators (Feld, 2000) and The Assessment of Discomfort in Dementia Protocol (Kovach, Noona, Griffie, Muchka, & Weissman, 2002) are two examples of behavioral tools that provide the clinician with objective ratings of the behaviors associated with pain. The Checklist on Nonverbal Pain Indicators requires the clinician to observe the patient both at rest and during movement and to evaluate six pain-related behaviors (vocalizations, grimaces, bracing, rubbing, restlessness, and verbal complaints). The Assessment of Discomfort in Dementia Protocol (ADD) is a systematic tool used by nurses in long-term care facilities to assess and treat patients with dementia who cannot clearly or consistently report on their physical pain and affective discomfort. Affective discomfort refers to an unpleasant internal state resulting from nonphysiologic stimuli (Kovach et al., 2002).

Pain History

JCAHO states that all patients have the right to appropriate assessment and management of pain and requires systematic and regular assessment of pain in all hospitalized patients (JCAHO, 2004). During an outpatient visit, it is appropriate to inquire about pain on each visit. If a patient has increased pain, increase the assessment frequency using clinical judgment (Herr & Garand, 2001).

Studies of both community-dwelling and nursing home populations found that older people commonly have several sources of pain. This is not surprising since older patients commonly have multiple medical problems (American Geriatric Society, 2002). For any type of acute or persistent pain, a comprehensive ongoing assessment of pain and response to treatment of previous pain is imperative to effective pain management. The assessment should include both subjective and objective information and may need to involve the patient and the patient's advocate, family members, and caregivers. Along with the ongoing assessment of pain, response to side effects and adverse effects of treatment also need to be carefully monitored on an ongoing basis.

For the older adult patient who can give a self-report of pain, the next step is to focus on the specific pain complaint. The nurse should inquire about the six main characteristics of pain: location, intensity, quality, onset (pattern), duration (frequency), and exacerbating and alleviating features. Questions related to alleviating features should include a thorough analgesic history and the effects of past treatments (McCaffery & Pasero, 1999). The patient's response to previous or current pain treatments, and the effect of pain on the patient's physical, mental, social, and functional status should be determined.

> Often it is not clear whether chronic pain is causing depression or anxiety, or if depression or anxiety is causing chronic pain.

Understanding the effect of pain on the older adult's independence, functioning, and quality of life will further support effective pain management strategies. Persistent pain in older adults can have negative consequences for basic activities of daily living (ADLs) (bathing, dressing, transferring, going to the toilet, being continent, feeding oneself), instrumental activities of daily living (IADLs) (shopping, managing finances, using telephone, cooking, housekeeping, using public transportation, housekeeping), mobility, socialization, mood, appetite, sleep, and concentration. Functional abilities can be assessed using valid and

reliable tools such at the Katz ADL Scale (Katz, Ford, & Moskowitz, 1963) and the Lawton IADL scale (Lawton & Brody, 1969).

An older adult patient experiencing persistent pain may also have a diagnosis of depression or anxiety. Often it is not clear whether chronic pain is causing depression or anxiety, or if depression or anxiety is causing chronic pain. When this situation occurs, obtain a brief psychological history on the patient. If there is no past history of psychological problems, perform a depression assessment using the short form of the Geriatric Depression Scale (GDS) (Yesavage, 1988).

Pain Assessment in Cognitive Impairment

> Identifying pain in the cognitively impaired older adult depends heavily on knowing the patient and paying attention to slight changes in behavior.

Assessing pain among cognitively impaired, noncommunicative older adults poses many challenges for the nurse since no standardized tool for assessing pain in this population exists (Cohen-Mansfield, 2002). Health care facilities need to develop a protocol that requires clinicians to document their cognitively impaired patient's baseline behaviors and activity patterns and regularly monitor the subtle changes that warrant further pain assessment (Herr, 2002). Identifying pain in the cognitively impaired older adult depends heavily on knowing the patient and paying attention to slight changes in behavior (Soscia, 2003).

Patients who cannot give a verbal self-report of pain due to communication problems or cognitive impairment should be directly observed for pain behaviors and a proxy should be utilized where appropriate. Manifestations of pain behavior include agitation, confusion, social withdrawal, or apathy (Herr & Garand, 2001). Other indicators of pain include the following: facial expressions (grimacing, frowning); vocalization (shouting, moaning); body movements (pacing, rocking); changes in interpersonal interactions (eating alone, easily annoyed); changes in activity (no longer exercising, protecting a body part); mental status changes (increased confusion, new agitation). Proxies should be used to identify pain only if patients are unable to reliably communicate their pain.

Physical and functional examination

In the final assessment phase, a complete physical examination, with special attention to the site of pain and surrounding areas, may provide useful information. Due to the high prevalence of musculoskeletal pain in the older adult, the physical examination should involve a thorough musculoskeletal evaluation of the site involved, along with a neurological examination.

In addition to a physical examination of the area specific to the pain complaint, the nurse should perform a cognitive, social, functional, and psychiatric assessment. The cognitive assessment can be performed using the Mini Mental State Exam (MMSE) (Folstein, Folstein, & McHugh, 1975). The functional assessment includes range of motion, gait, and mobility. The timed "Up and Go" test (Podsiadlo & Richardson, 1991) is a helpful performance measure for mobility. The patient is observed and timed while he rises from an armchair, walks 3 meters, turns, walks back, and sits down again. This test is a reliable and valid test for quantifying functional mobility that may also be useful in following clinical change over time. Watching the patient ambulate and reposition has added benefit since pain may be more evident with mobility than at rest (Herr, 2002).

Pharmacologic Therapies

> All nurses need to be aware of the medications used to treat pain, whether they are staff nurses...or advanced practice nurses...

The information derived from the pain assessment helps form the plan of care, including pharmacologic therapies. All nurses need to be aware of the medications used to treat pain, whether they are staff nurses administering pharmacologic therapies, or advanced practice nurses making recommendations regarding specific agents. The goals of pharmacologic therapies in the older adult include relief of pain, prevention and early management of adverse effects of analgesics, and enhancement of quality of life (American Pain Society, 2003). Pharmacologic therapies that can be useful in the older adult include: nonopioids, including acetaminophen and nonsteroidal anti-inflammatory drugs (NSAIDs); opioids; and adjunct drugs. Ablative procedures, such as nerve blocks and other invasive techniques, may be indicated in select cases.

Nonopioids

Nonopioids include acetaminophen and nonsteroidal anti-inflammatory drugs (NSAIDs). The American Geriatric Society recommends acetaminophen as a first line treatment for pain (American Geriatric Society, 2002). While acetaminophen has both analgesic and antipyretic properties, it has little effect in reducing inflammation, a primary mechanism of pain due to arthritis and other inflammatory syndromes common in the older adult. In large doses (10 grams) acetaminophen can lead to hepatic necrosis; therefore, maximum daily doses should not exceed 4 grams (4000 mg) (Schiodt, Rochling, Casey, & Lee, 1997). Patients inadvertently exceed this limit when supplementing admixtures of opioids and acetaminophen (such as hydrocodone or codeine with acetaminophen) with over-the-counter pain, sleep, cold or other preparations containing acetaminophen.

NSAIDs interfere with the enzyme cyclooxygenase (prostaglandin synthetase), which blocks the conversion of arachidonic acid to prostaglandins (PGE1), prostacyclins (PGI2), and thromboxane (TXA2). Prostaglandins are known to sensitize tissues to the effects of inflammatory mediators. Inhibition of prostaglandin synthesis leads to relief of inflammation and pain (Garcia, 1997). Additionally, these agents are antipyretic.

Gastrointestinal effects ranging from dyspepsia to hemorrhage, prolonged bleeding time, renal dysfunction, and hypertension are significant side effects associated with NSAIDs (Wolfe, Lichtenstein, & Singh, 1999; Mercadante, 2001). Advanced age, along with a history of ulcer, concomitant use of corticosteroids or anticoagulants, higher NSAID doses, and cigarette and alcohol use are additional risk factors for gastrointestinal bleeding (Perez Gutthann, Garcia Rodriguez, Raiford, Duque Oliart, & Ris Romeu, 1996). Proton pump inhibitors are effective in preventing gastrointestinal ulceration. Prolonged bleeding times are reversible once the drug is cleared from the plasma, except for aspirin, which has an irreversible effect on platelet aggregation. Thus, aspirin should be discontinued approximately 1 week before planned invasive procedures. Dehydrated patients are at increased risk for renal dysfunction secondary to NSAIDs. In most cases, renal dysfunction is corrected once the NSAID is cleared from the plasma (Perez Gutthann et al., 1996).

The new generation of NSAIDS, called cyclooxygenase-2 or COX-2 inhibitors, have efficacy approximately equal to traditional or non-selective NSAIDs. Controversy exists regarding their safety and whether gastrointestinal side effects are truly decreased with extended use (Mukherjee, Nissen, & Topol, 2001; Juni, Rutjes, & Dieppe, 2002). Thus, cost-benefit ratios (the cost of the drug vs. the potential benefit and risk of side effects) must be considered when choosing between traditional NSAIDs and COX-2 inhibitors.

Nonopioids used alone or in conjunction with adjuvant agents may provide sufficient relief of mild pain; however, as pain increases to become moderate or severe, opioids must be added to the treatment regimen.

Opioids

> Opioids are safe when used appropriately, and, in the majority of cases, highly effective.

Opioids are safe when used appropriately, and, in the majority of cases, highly effective. Unfortunately, misconceptions regarding their use leads to significant stigmatization and resultant undertreatment. Table 3 provides the definitions of terms that lead to much of these misunderstandings. Nurses are uniquely prepared to educate older adults about appropriate opioid use and clarify that addiction is rare when these drugs are used appropriately.

Table 3. Tolerance, Physiologic Dependence, and Addiction

Tolerance is a "state of adaptation in which exposure to a drug induces changes that result in a diminution of one or more of the drug's effects over time" (Definitions related to the use of opioids, 2001, p.).

Physiologic dependence is a "state of adaptation that is manifested by a drug class specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood level of the drug, and/or administration of an antagonist." (Definitions related to the use of opioids, 2001,p.)

- Opioid withdrawal signs include agitation, abdominal cramping and diarrhea, rhinorrhea, piloerection, and return of pain.
- Physiologic dependence is not addiction
- If an opioid is no longer necessary, the dose should be reduced by 25% daily to prevent the abstinence syndrome.
- A common cause of the abstinence syndrome is the use of opioid antagonists (such as naloxone).

Addiction, or psychological dependence, is "a primary, chronic, neurobiological disease with genetic, psychological, and environmental factors influencing its development and manifestations, characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm and craving" (Definitions related to the use of opioids, 2001, p.; American Pain Society, 2003).

> Nurses are uniquely prepared to educate older adults about appropriate opioid use and clarify that addiction is rare...

Opioids have been shown to relieve a variety of pain syndromes, including both nociceptive and neuropathic pain. Nociceptive pain is described as "aching" or "throbbing" and typically derives from musculoskeletal etiologies. Neuropathic pain is reported as "tingling" or "burning" and often occurs as a result of damage to the peripheral or central nervous system. It has been referred to as "opioid-nonresponsive pain." However, newer studies suggest that opioids are effective in relieving neuropathic pain, particularly when higher doses are used (Cherny et al.,1994; Rowbotham et al., 2003).

Numerous opioids are available for clinical use in various formulations, including immediate-release tablets, long-acting pills and capsules, liquids, suppositories, and parenteral solutions. Intramuscular injection is not recommended, particularly due to variability in uptake of the drug and pain upon administration. The choice of opioid is based upon the patient's previous response to a particular agent, including both efficacy and adverse effects, as well their present or future need for alternate routes of delivery. Scheduled dosing, or around-the-clock delivery, is preferred over as needed, or p.r.n., administration. The older adult should begin with a low dose, with the dosage titrated upward based upon the analgesic effect as well as adverse effects. Because great variability exists in responsiveness to different opioids, rotation (or switching to another opioid) often provides relief with a reduction in adverse effects (Indelicato & Portenoy, 2002).

Several agents should not be used in older adults. Meperidine is metabolized in the liver to normeperidine, which is then excreted through the urinary system. Excretion is altered in those individuals with renal dysfunction, leading to accumulation of normeperidine, and resulting in effects of central nervous system toxicity such as seizures (Szeta et al., 1977; Kaiko et al., 1983). Furthermore, meperidine has poor oral bioavailability, with 50 mg of oral meperidine approximately equianalgesic (or provides equal analgesic effect) to two aspirin tablets (650 mg). Propoxyphene is another agent that should be avoided. Its metabolite, norpropoxyphene, can accumulate and lead to central nervous system toxicity. It also produces a very weak analgesic effect. Mixed agonist-antagonists, such as butorphanol, are not appropriate for chronic use in the older adult due to adverse cognitive effects.

Morphine has been considered the opioid of choice, yet recent evidence suggests that morphine metabolites may accumulate with renal dysfunction.

Morphine has been considered the opioid of choice, yet recent evidence suggests that morphine metabolites may accumulate with renal dysfunction. Morphine-3-glucuronide and morphine-6-glucuronide may lead to myoclonus, hyperalgesia, nausea and vomiting, and sedation (Anderson et al., 2002). Opioid switching, or converting to an alternate opioid, is recommended if these effects occur, or preventatively if significant renal impairment develops. Alternate agents include hydromorphone, fentanyl, or methadone if parenteral routes are necessary; alternate oral agents include hydrocodone, hydromorphone, or oxycodone. Transdermal fentanyl is an additional option when considering alternatives to morphine.

Methadone, an agent that has regained popularity in the past few years, may have unique properties that promote its effectiveness in the management of neuropathic pain. Methadone may antagonize the N-methyl-D-aspartate (NMDA) system, and bind to opiate receptors. Additionally, methadone is very inexpensive, an important attribute in the older adult with limited financial resources.

Methadone...may have unique properties that promote its effectiveness in the management of neuropathic pain.

Methadone has a long half life and conversion from another opioid to methadone is complicated by an unclear equianalgesic ratio. The equianalgesic dose of methadone seems to vary based upon the patient's previous dose of opioid. The ratio is approximately 1:1 in acute pain, but when existing doses of morphine are higher, for example greater than 300 mg per day, the ratio may be 20 mg morphine: 1 mg methadone. Conversion and titration should occur very gradually, over 7 days or longer to prevent excessive sedation or other

untoward events (Bruera & Neumann, 1999). Additional studies of the use of methadone are warranted, particularly in older adults.

Treatment with opioids can cause adverse effects (see Table 4). Opioid-related adverse effects include constipation, respiratory depression, nausea and vomiting, sedation and others. The goal is prevention of adverse effects, particularly constipation, and early identification and management when prevention is not possible.

Table 4. Opioid-Related Adverse Effects

- Constipation
- Respiratory depression
- Nausea and vomiting
- Sedation
- Diminished concentration
- Pruritus
- Urinary retention
- Myoclonus

(Cherny, 2000)

Adjuvant Agents

Originally released for other purposes, adjuvant agents have been useful in the management of complex pain syndromes.

Anticonvulsants. Gabapentin, an anticonvulsant approved for treatment of complex partial seizures, has demonstrated analgesic properties in both animal and human models of neuropathic pain. Two randomized, controlled, multi-center studies evaluated the efficacy of gabapentin in postherpetic neuropathy and diabetic neuropathy, pain syndromes common in elders (Backonja et al., 1998; Rowbotham, Harden, Stacey, Bernstein, & Magnus-Miller, 1998). Doses of 2400 to 3600 mg/day significantly decreased mean daily pain intensity scores and other outcome measures, such as sleep and mood, improved when compared to the placebo groups. Dizziness and somnolence, the most common adverse effects, appear to be reduced with slower upward dose titration. Older adults may require even slower dose titration.

Tricyclic Antidepressants. Tricyclic antidepressants block the reuptake of serotonin and norepinephrine (Max et al., 1992). The anticholinergic effects of amitriptyline may not be well tolerated, particularly in the older adult. Alternative agents with fewer adverse effects include nortriptyline and desipramine. Older adults with preexisting conduction abnormalities should have a baseline electrocardiogram to determine the extent of the abnormality, as the tricyclic antidepressants can alter cardiac conduction. If severe abnormalities exist, these drugs may be avoided. In all patients, a low dose should be started, usually at bedtime, and titrated every three to seven days based upon the patient's response. Newer serotonin selective reuptake inhibitors, such as fluoxetine, appear to have little efficacy in relieving neuropathic pain (Max et al., 1992).

Local Anesthetics. Five percent lidocaine patches reduce pain related to postherpetic neuropathy, a common source of pain in the older adult. The benefit of using a patch is the local action of the drug and the mechanical barrier produced by the cloth-like patch. There are no significant plasma levels of drug even with application of up to three patches per day (Galer, Rowbotham, Perander, & Friedman,1999). Epidural or intrathecal administration of a

local anesthetic, alone or in conjunction with an opioid, may provide pain relief in those patients who are candidates for intraspinal drug delivery.

Corticosteroids. Corticosteroids have long been used to treat a variety of neuropathic pain states. Dexamethasone has the least mineralocorticoid effect (substances that effect retention or excretion of sodium or potassium) and, due to the long duration of effect, dosing can be scheduled once per day (Sindrup & Jensen, 1999). Typical doses range from 8 to 20 mg per day. Unfortunately, immunosuppressant and endocrine effects limit long-term use, and proximal muscle wasting occurs after 4 to 6 weeks of therapy. Therefore, the choice to use dexamethasone or other corticosteroids must be made carefully.

Interventional Techniques.
Intrathecal or epidural opioids, alone or in combination with local anesthetics, produce effective analgesia with minimal side effects (Staats & Dougherty, 2000). Neuroablative techniques such as chemical or surgical rhizotomy likewise can be effective in resistant pain. However, because of the plasticity of the nervous system, alternate pathways can transmit pain over time. Thus, ablative procedures are generally reserved for patients with a life expectancy of less than 12 months.

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Nonpharmacologic Management of Pain

Non-pharmacologic treatments (NPTs) include various physical and emotional therapies for both acute and persistent pain. NPTs are most effective when paired with analgesic medications and function as adjuvant pain treatment. Selection of the appropriate NPT depends on the individual and the family, the type of pain being experienced, and preexisting medical problems. Research of the use NPTs has been sparse and results are inconclusive, therefore, claims of dramatic pain relief from any NPT must be viewed with caution. The older adult may be susceptible to unfounded claims about new NPT products; the nurse can educate seniors about the validity of such claims.

Physical NPTs include the use of physical movement, heat, cold, massage, acupuncture or acupressure, and transcutaneous electrical nerve stimulation (TENS). Physical movement such as sports, dance, or Tai Chi decreases pain from chronic pain syndromes such as osteoarthritis, fibromyalgia, or peripheral vascular disease (Bunch, 2004). Activity improves joint function and flexibility, increases muscle strength for improved alignment and reduced muscle spasms, and promotes collateral circulation, minimizing symptoms of claudication.
The application of heat or cold can be helpful as well. Care must be taken to avoid skin damage or burns in this susceptible population. Cold is appropriate for acute injuries, especially during the first 48 hours post injury. Cold therapy is also appropriate to decrease bleeding or hematoma formation, edema, and chronic back pain. Heat works well for relief of muscle aches and abdominal cramping.

Massage offers many therapeutic effects that reduce pain, including release of muscle tension, improved circulation, increased joint mobility, and decreased anxiety. Many small studies have been published about the efficacy of acupuncture and acupressure and the reduction of pain. However, results remain inconclusive due to poor study design (Pan, Morrison, Ness, Fugh-Berman, & Leipzig , 2000).

guided imagery and relaxation can be effective but require the ability to learn new skills and the motivation to practice...

Cognitive NPTs, such as guided imagery and relaxation, can be effective but require the ability to learn new skills and the motivation to practice these techniques (Kerns, Otis, & Marcus, 2001). Once learned, guided imagery and active relaxation can be practiced individually or with the aid of a coach and are most effective in reducing pain by relieving anxiety and reducing muscle tension (Kwekkeboom, Kneip, & Pearson, 2003). Distraction also helps reduce the sensation of pain. Some watch television, play cards, work with their hands, listen to music, or interact with friends, families, or pets. Attending to personal fears or concerns of family, finances, or spirituality can also help to decrease pain levels (Weiss, Emanuel, Fairclough, & Emanuel, 2001).

Conclusion

Due to barriers in the health care system, the patient, and society, elders are at great risk for undertreatment of pain. To meet the special pain-related needs of this fastest growing segment of the population, nurses must be able to assess and treat pain in elderly persons. A thorough pain assessment is critical, as the information obtained guides the plan of care, including both pharmacologic and non-pharmacologic therapies.

This is the end of the module: Please complete the evaluation and answer sheet and fax to Terry Rudd at 909 980-0643

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