



Complete Summary

GUIDELINE TITLE

Acute pain management in older adults.

BIBLIOGRAPHIC SOURCE(S)

Herr K, Bjoro K, Steffensmeier J, Rakel B. Acute pain management in older adults. Iowa City (IA): University of Iowa Gerontological Nursing Interventions Research Center, Research Translation and Dissemination Core; 2006 Jul. 113 p. [469 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Young D. Acute pain management. Iowa City (IA): University of Iowa Gerontological Nursing Interventions Research Center, Research Dissemination Core; 1999 Apr 6. 37 p.

** REGULATORY ALERT **

FDA WARNING/REGULATORY ALERT

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory information has been released.

- [June 17, 2008, Antipsychotics \(conventional and atypical\)\]](#): The U.S. Food and Drug Administration (FDA) notified healthcare professionals that both conventional and atypical antipsychotics are associated with an increased risk of mortality in elderly patients treated for dementia-related psychosis. The prescribing information for all antipsychotic drugs will now include information about the increased risk of death in the BOXED WARNING and WARNING sections.
- [September 17, 2007, Haloperidol \(Haldol\)](#): Johnson and Johnson and the U.S. Food and Drug Administration (FDA) informed healthcare professionals that the WARNINGS section of the prescribing information for haloperidol has been revised to include a new Cardiovascular subsection.

COMPLETE SUMMARY CONTENT

** REGULATORY ALERT **

SCOPE

METHODOLOGY - including Rating Scheme and Cost Analysis

RECOMMENDATIONS

EVIDENCE SUPPORTING THE RECOMMENDATIONS

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS
CONTRAINDICATIONS
IMPLEMENTATION OF THE GUIDELINE
INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT
CATEGORIES
IDENTIFYING INFORMATION AND AVAILABILITY
DISCLAIMER

SCOPE

DISEASE/CONDITION(S)

Acute pain, defined as pain occurring from medical procedures, surgery, or medical conditions associated with acute pain such as hip fracture or trauma

GUIDELINE CATEGORY

Evaluation
Management
Treatment

CLINICAL SPECIALTY

Geriatrics
Nursing

INTENDED USERS

Advanced Practice Nurses
Nurses

GUIDELINE OBJECTIVE(S)

- Effective pain assessment of all older adults, including those with dementia
- Collaboration with the older adult/family to develop and implement a pain management plan
- Provision of appropriate education for the older adult/family
- Use of pharmacological and nonpharmacological techniques to control pain

TARGET POPULATION

Older adults 65 or more years of age with acute pain

INTERVENTIONS AND PRACTICES CONSIDERED

1. Initial, rapid & comprehensive pain assessment
2. Assess pain in cognitively impaired older adults
3. Develop pain management plan
4. Patient and family education

5. Pharmacologic management (refer to Appendices O, P and Q in the original guideline document for specific pharmacological agents)
6. Nonpharmacological management
7. Evaluate effectiveness
8. Discharge planning

MAJOR OUTCOMES CONSIDERED

- Incidence and severity of acute pain
- Complication rates
- Morbidity rates
- Patient function, comfort & satisfaction

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Research on assessment and management of acute pain in older adults from 2000 through February 2005 was located using MEDLINE (Abridged Index Medicus and pain and geriatric research journals), CINAHL, PsycInfo, The Cochrane Library Database, National Guideline Clearinghouse Database, and personal citation libraries of the authors.

Databases were searched using the following topics: pain, pain measurement, pain, postoperative, complementary therapies, analgesics, nonnarcotic analgesics, opioid analgesics, analgesia, patient-controlled analgesia and keywords massage, massage therapy and acute pain.

Inclusion/Exclusion Criteria

Publications evaluated for inclusion as evidence in this guideline revision were:

- Published in English
- Research studies of pain in older adults that focused on acute pain management
- Research articles and integrative reviews of research
- Evidence-based guidelines developed for the older adult or general adult population
- Articles and other publications by experts.

The publications evaluated for inclusion were primarily studies and reviews conducted in the older adult population 65 years of age and older. Although a growing number of studies are being conducted in this population, there is still a relative lack of research evidence on which to base recommendations. Thus, research studies, integrated reviews and meta-analyses in the adult population

were included when the mean age of subjects was ≥ 60 and standard deviation suggested a significant number of subjects was above 60.

Research studies focusing on chronic pain or persistent pain were excluded (except for those related to assessment practices), as were studies conducted in pediatric populations.

NUMBER OF SOURCE DOCUMENTS

Over 200 full-text articles and publications were accessed and reviewed by authors.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

- A. There is evidence of well-designed meta-analysis in older adults.
- B. There is evidence of well-designed controlled trials in the older adult population; randomized and nonrandomized, well-designed quasi-experimental and cohort studies in older adult populations with results that consistently support a specific action (e.g., assessment, intervention or treatment).
- C. There is evidence of observational studies (e.g., correlational, descriptive studies) or controlled trials in older adults with inconsistent results.
- D. There is evidence of integrative reviews, national clinical practice guidelines, or acute pain research in adults but not specific to older adults.
- E. There is evidence of expert opinion or multiple case reports regarding older adults.

METHODS USED TO ANALYZE THE EVIDENCE

Review
Review of Published Meta-Analyses

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Experts in the subject of the proposed guideline are selected by the Research Translation and Dissemination Core to examine available research and write the

guideline. Authors are given guidelines for performance of the systematic review of the evidence and in critiquing and weighing the strength of evidence.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

This practice guideline was reviewed by experts knowledgeable of research on management of pain in the older adult populations. The reviewers suggested additional evidence for selected actions, inclusion of some additional practice recommendations, and changes in the guideline presentation to enhance its clinical utility.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The grades of evidence (A - E) are defined at the end of the "Major Recommendations" field.

Pain Assessment and Management Plan

A baseline pain assessment is necessary prior to a known painful event, such as surgery or diagnostic procedures, to help manage the older adult's pain in a proactive manner. An example of an initial pain assessment tool is provided in Appendix A in the original guideline document. However, in some situations the older patient will present in moderate to severe acute pain (e.g., hip fracture) requiring a rapid pain assessment and prompt treatment prior to completing a more comprehensive pain assessment.

Initial, Rapid Pain Assessment

- 1. Complete an initial, rapid pain assessment for patients presenting in acute pain of moderate to severe intensity or who appear to be in significant distress including the following:**
 - Level of consciousness (LOC) including orientation to person/self, time and location.
 - Characteristics of the pain, including:

- Intensity of pain (see section for recommendations regarding tools)
- Location
- Duration of pain (onset and pattern)
- Quality
- Changes in vital signs, including:
 - Respiratory status
 - Heart Rate
 - Blood pressure
 - Temperature

Absence of these autonomic responses does NOT mean absence of pain. (AGS Panel on Persistent Pain in Older Persons, 2002; American Pain Society [APS], 2003; Kehlet, 1989; Pasero, Reed, & McCaffery, 1999; Veterans Health Administration/Department of Defense [VHA/DoD], 2002) *Evidence Grade = D*

2. **Obtain a self-report of pain from the older individual if at all possible.** The single most reliable indicator of the existence and intensity of pain is the patient's self report (AGS Panel on Persistent Pain in Older Persons, 2002; APS, 2003; VHA/DoD, 2002) *Evidence Grade = D*
3. **If a self-report of pain from the older adult cannot be obtained due to altered level of consciousness or possible cognitive impairment, assess pain with nonverbal cues of pain** (AGS Panel on Persistent Pain in Older Persons, 2002; Baker et al., 1996; Feldt, 2000; Feldt, Ryden, & Miles, 1998; Feldt, Warner, & Ryden, 1998; Hurley et al., 1992; Kovach et al., 2002; Miller et al., 1996; Pasero, Reed, & McCaffery, 1999; Prkachin, 1992; Simons & Malabar, 1995; VHA/DoD, 2002) *Evidence Grade = C*

(See section on pain assessment in cognitively impaired older adults for assessment methods.)

4. **Ask the patient to mark on a diagram or to point to the site of the pain.** Pain maps or drawings can be used with cognitively intact and impaired older adults to identify the location of pain (Weiner, Peterson, & Keefe, 1998; Wynne, Ling, & Remsburg, 2000) *Evidence Grade = C*

(See Appendix A in the original guideline document for an example of a pain assessment tool.)

5. **Investigate pain terminology typically used by the patient and use this term throughout assessment and management of pain.** While "pain" is the standard term used in this practice guideline, it is commonly recognized that many older individuals use other terms (e.g., "sore", "ache", "discomfort"). Ask about pain with a simple question to start, such as "Are you feeling pain?" If the individual denies pain when first asked, ask again in a different manner, such as "Are you uncomfortable right now?" or "Do you hurt anywhere?" (Closs & Briggs, 2002; Duggleby & Lander, 1994; Feldt, Ryden, & Miles, 1998; Giuffre et al., 1991; McCaffery & Pasero, 1999; McLeod et al., 2001; Miller et al., 1996; Pasero, Reed, & McCaffery, 1999; Raway, 1993; Sengstaken & King, 1993) *Evidence Grade = B*

6. **Assess pain intensity by selecting a tool based on the patient's preferences and cognitive/functional abilities, and then use the same tool consistently.** Most older adults can use pain scales, depending on individual cognitive, education, psychomotor and sensory factors. Numeric rating scales, verbal descriptor scales, pain thermometers, and faces pain scales have acceptable validity and are preferred by many older adults. If the older adult is alert and oriented, use a 0-10 Numeric Rating Scale. If unsuccessful, try a Verbal Descriptor Scale or Faces Pain Scale (AGS Panel on Persistent Pain in Older Persons, 2002; Bergh et al., 2000, 2001; Carey et al., 1997; Choiniere & Amsel, 1996; Feldt, Ryden, & Miles, 1998; Gagliese & Katz, 2003; Gagliese et al., 2005; Herr & Mobily, 1993; Herr et al., 1998a; Herr et al., 2004; Kaasalainen & Crook, 2004; Pautex et al., 2005; Stuppy, 1998; VHA/DoD, 2002; Weiner et al., 1998; Zalon, 1999) *Evidence Grade = B*
- **Numeric Rating Scales (NRS)**
 - **Six-point Numeric Rating Scale (NRS 0-5)** (Morrison et al., 1998). *Evidence Grade = C*
 - **Eleven-point Numeric Rating Scale (NRS 0-10)** (Bergh et al., 2000, 2001; Closs et al., 2004; Gagliese et al., 2005; Kaasalainen & Crook, 2004; VHA/DoD, 2002). *Evidence Grade = B*
 - **Twenty-one point Numeric Rating Scale (NRS 0-20)** (Chibnall & Tait, 2001; Herr et al., 2004; Taylor & Herr, 2003). *Evidence Grade = B*
 - **Verbal Descriptor Scale (VDS) appears to be easiest and most preferred by older adults and easiest for those with cognitive impairment** (Bergh et al., 2000, 2001; Closs et al., 2004; Gagliese & Katz, 2003; Herr et al., 2004; Manz et al., 2000; Taylor & Herr, 2003). *Evidence Grade = B*
 - **Four-point Verbal Rating Scale (VRS)** (Closs et al., 2004). *Evidence Grade = C*
 - **Pain Thermometer (PT)** (Herr & Mobily, 1993; Taylor & Herr, 2003). *Evidence Grade = B*
 - **Present Pain Inventory Scale (PPI)** (Gagliese & Katz, 2003; Gagliese et al., 2005; Kaasalainen & Crook, 2004; Melzack & Katz, 1992; Pautex et al., 2005). *Evidence Grade = C*
 - **Seven-point Graphic Rating Scale (GRS)** (Bergh et al., 2000, 2001). *Evidence Grade = B*
 - **Faces Rating Scales**
 - **Faces Pain Scale (FPS)** (Bieri et al., 1990; Closs et al., 2004; Freeman et al., 2001; Herr et al., 2004; Kaasalainen & Crook, 2004; Stuppy, 1998; Taylor & Herr, 2002, 2003). *Evidence Grade = B*
 - **Wong-Baker FACES** pain rating scale (Wong & Baker, 1988, 1995; Wynne, Ling, & Remsburg, 2000). *Evidence Grade = C*
 - Faces Pain Scale is not equivalent in numbering to NRS or VDS, thus it cannot be assumed that a 6 on the Faces Pain Scale is equal to a 6 on NRS (Freeman et al., 2001; Gagliese & Katz, 2003). *Evidence Grade = C*
 - When faces scales are used, the patient should be taught to select the face that most represents the way they think they are feeling, not the way they think they look (Pasero, 2005). *Evidence Grade = E*

(See Appendix C in the original guideline document for examples of pain intensity tools recommended for use with older adults.)

7. **Consider racial/cultural sensitivity of tools for use with older adults of diverse racial/ethnic background.** Limited studies are available regarding validity and reliability of pain assessment tools for use with older adults of different racial/ethnic backgrounds. Studies conducted with African American older adults support appropriateness of faces rating scales, numeric rating scales and verbal descriptor scales. Faces pain scales appeared to be the most preferred by African American older adults (Stuppy, 1998; Taylor & Herr, 2002, 2003). *Evidence Grade = C*
8. **Adapt tools to compensate for sensory impairments.** Consider auditory impairment (e.g., position your face in view of the patient, speak in a slow, normal tone of voice, reduce extraneous noises, provide written instructions) and visual impairment (use simple lettering, at least 14 point font size, adequate line spacing, and nonglare paper such as buff-colored). Assure that the patient has eyeglasses, functioning hearing aids, and adequate time to respond to questions (AGS Panel on Persistent Pain in Older Persons, 2002; Manz et al., 2000; VHA/DoD, 2002). *Evidence Grade = C*
9. **Allow sufficient time for the older adult to process information and to respond** (AGS Panel on Persistent Pain in Older Persons, 2002, Bergh et al., 2000; Ferrell, 1995; Parmalee, Smith, & Katz, 1993; Wiener, Peterson, & Keefe, 1998). *Evidence Grade = C*
10. **Establish a comfort-function goal with the patient.** A comfort-function goal is used postoperatively to achieve and maintain adequate pain control. This should be established preoperatively by asking the patient to identify a level of pain that makes it easy to perform needed recovery activities that may be painful, such as coughing and deep breathing. Patients who are able are then asked to select the pain rating (e.g., on a scale of 0 to 10) that will make it easy to cough and deep breathe. Ratings of 4/10 or greater interfere significantly with function and above a 5 adversely affect quality of life. Explaining this to the patient helps him/her set realistic goals (Cepeda et al., "What decline," 2003; Pasero & McCaffery, 2004). *Evidence Grade = C*
11. **Document pain in a visible place that can be used by other health care providers.** This may be where vital signs are documented or on a separate pain flowsheet. Information important to document includes: date; time; pain intensity rating; quality (e.g., sharp, dull, burning, etc.); location; onset and duration; comfort-function goal; analgesic information (e.g., drug, dose, route, frequency); other pain interventions; vital signs and side effects (APS, 2003; Arnstein, 2002; Faries et al., 1991; McCaffery & Pasero, 1999; O'Connor, 2003; VHA/DoD, 2002; Voigt, Paice, & Pouliot, 1995). *Evidence Grade = B*

(See example of a pain flowsheet in Appendix B in the original guideline document.)

12. **Treat pain prior to completing comprehensive pain assessment** (VHA/DoD, 2002). *Evidence Grade = D*

Comprehensive Pain Assessment

1. **Complete a comprehensive assessment of the patient's pain with the assistance of the patient and/or the family.** In addition to rapid assessment factors, include the following:
 - **Physical examination.** Focus on the reported location of pain and existence of pathological conditions known to be painful (e.g., signs of inflammation, infection, acute illness, and chronic conditions). This is especially important for patients that cannot communicate their pain (Herr & Garand, 2001; Kane, Ouslander, & Abrass, 2004; Kovach et al., 1999; McCaffery & Pasero, 1999). *Evidence Grade = C*
 - **Cognitive status. Assess cognitive status in older adults and screen for cognitive impairment.** The cognitive status of the older adult will impact the approach to pain assessment, patient and family education, as well as pain treatment options. A baseline assessment of cognitive status will provide a basis for evaluating changes in cognitive status throughout an episode of illness. Older adults are at risk for development of delirium post-trauma (e.g., hip fracture) or post-operatively, a serious complication requiring careful intervention and treatment (see section on pain assessment in cognitively impaired older adults for screening methods) (AGS Panel on Persistent Pain in Older Persons, 2002; Maslow, 2004; Naylor et al., 2005; Souder & Beck, 2004). *Evidence Grade = C*
 - **Anxiety/fear and depression. Assess for anxiety/fear and depression that may be experienced in anticipation of pain or as a consequence of pain.** The relationships between anxiety/fear, depression and pain are complex and poorly understood. However, it is recognized that pain results in emotional distress (e.g., anxiety, depression, hostility), may alter pain perception and interferes with all aspects of quality of life (AGS Panel on Persistent Pain in Older Persons, 2002; Casten et al., 1995; Ferrell, 2003; Herr & Garand, 2001; Turk, Okifuji, & Scharff, 1995). *Evidence Grade = C*
 - The **Geriatric Depression Scale** (GDS) (Sheikh & Yesavage, 1986) is a simple screening tool that provides information on the presence of mood disorder (McDowell & Newell, 1996). *Evidence Grade = C*
 - A **Five-Item Geriatric Depression Scale** (Hoyl et al., 1999) (see Appendix J in the original guideline document) has shown to be a reliable alternative to the Geriatric Depression Scale (GDS) (Rinaldi et al., 2003). *Evidence Grade = C*
 - **Functional status**
 - **Assess the impact of pain on ability to perform postoperative routines: ability to turn, cough/deep breathe, ambulate, sleep, mood, appetite** (AGS Panel on Persistent Pain in Older Persons, 2002; McCaffery & Pasero, 1999; VHA/DoD, 2002). *Evidence Grade = D*
 - **Assess the impact of pain on the patient's ability to perform activities of daily living, (e.g., bathing, dressing, eating, rising, sitting, walking)** (AGS Panel on Persistent Pain in Older Persons,

2002; Pasero, Reed, & McCaffery, 1999; Sengstaken & King, 1993).
Evidence Grade = C

- **Assess functional abilities using the Katz Activities of Daily Living (ADL) Scale** (see Appendix K in the original guideline document) **or an institutional measure of functional abilities, remembering to include sensory assessment. Obtain family assistance as needed.** *Evidence Grade = D*
- **Assess the impact of pain on and interference with quality of life activities (e.g., appetite, concentration, physical activity, relationships with others, emotions, sleep)** (Mendoza et al., 2004). *Evidence Grade = C*
 - The **Brief Pain Inventory Short Form** (Mendoza et al., 2004) (see Appendix L in the original guideline document) has been shown to be a reliable measure of impact of pain in the postoperative context. *Evidence Grade = C*
- **Pain history (current pain and past experiences with painful conditions)**
 - **Assess factors that alleviate or aggravate the older person's pain** (AGS Panel on Persistent Pain in Older Persons, 2002; McCaffery & Pasero, 1999; VHA/DoD, 2002). *Evidence Grade = D*
 - **Assess for a history of other chronic disorders.** Chronic conditions (such as osteoarthritis, peripheral vascular disease, neuropathies) may cause pain and impact accurate assessment of acute pain (AGS Panel on Persistent Pain in Older Persons, 2002; Donovan, Dillon, & McGuire, 1987; VHA/DoD, 2002). *Evidence Grade = C*
 - **Assess sociocultural variables (e.g., ethnicity, acculturation, gender) that may influence pain behavior and expression.** For example, the healthcare provider can work closely with patients and families to identify mutual goals with regard to pain management that take into account ethnicity-based values of being pain free (Green et al., "The unequal burden," 2003; Green et al., "The effect of race," 2003; Green et al., 2004; Ibrahim et al., 2003; McCaffery & Pasero, 1999; Neill, 1993; Ng, 2002). *Evidence Grade = C*
- **Differentiate procedural pain from chronic pain or pain due to complications of a procedure (e.g., new pain, increased intensity of pain, pain not relieved by previously effective strategies) and direct treatment accordingly.** Conducting a pain history before a procedure can help discriminate procedural from chronic pain. The following procedures are likely to require analgesia: bone marrow aspiration or biopsy; burn debridement; cardioversion; chest tube placement or removal; dressing changes; endoscopy, incision and drainage of an abscess; lumbar puncture; paracentesis; placement or removal of implanted devices; placement of catheters, lines and tubing; reduction and immobilization of fractures; suturing of lacerations; thoracentesis; tissue biopsies; venipuncture; and weaning from mechanical ventilation (McCaffery & Pasero, 1999; Morrison et al., 1998; VHA/DoD, 2002). *Evidence Grade = C*
- **Past pain experience and knowledge**

- **Investigate prior use of analgesics for pain control (including over the counter [OTC] analgesics), particularly their effectiveness and side effects** (AGS Panel on Persistent Pain in Older Persons, 2002; McCaffery & Pasero, 1999). *Evidence Grade = D*
- **Investigate prior use of nonpharmacological methods used by the patient to relieve and cope with pain and their effectiveness.** Ask about use of folk/home remedies, heat, cold, massage, distraction, prayer, relaxation (AGS Panel on Persistent Pain in Older Persons, 2002; Ferrell, 1995; McDonald & Sterling, 1998; Pasero, Reed, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = D*
- **Investigate prior use of complementary and alternative medications that were used for treatment of pain.** Be aware that younger adults use complementary and alternative medications more often than older adults (Lewis et al., 2001; Wang, Caldwell-Andrews, & Kain, 2003; Wren, Kimball, & Norred, 2002). *Evidence Grade = D*
- **Assess patient and family attitudes and beliefs regarding pain and analgesics and previous experiences with analgesics.** Expectations regarding pain and stress during hospitalization; fear of addiction and analgesic side effects; fear of tolerance and side effects; and beliefs related to ageism, passivity of patient role, and stoicism. These beliefs and attitudes can interfere with the patient's report of pain and effective pain treatment (AGS Panel on Persistent Pain in Older Persons, 2002; Brockopp et al., 1996; Ferrell, Ferrell, & Osterweil, 1990; Ferrell, Rhiner, & Ferrell, 1993; Hofland, 1992; VHA/DoD, 2002; Ward et al., 1998, 1993; Yates, Dewer, & Fentiman, 1995). *Evidence Grade = C*
- **Assess the patient/family's current knowledge of pain management strategies that may be implemented during hospitalization** (VHA/DoD, 2002). *Evidence Grade = D*
- **Assess bowel and bladder functions (e.g., usual frequency and quality of bowel movements, use of laxatives)** (Hert & Huseboe, 1998). *Evidence Grade = D*
- **Medication history**
 - **Investigate medication use for chronic conditions that may interact or interfere with analgesic use (e.g., opioids, nonsteroidal anti-inflammatory drugs [NSAIDs], antidepressants, antipsychotics, hypnotics, sedatives)** (AGS Panel on Persistent Pain in Older Persons, 2002; Ashraf et al., 2004). *Evidence Grade = D*
 - **Investigate allergies to analgesics.** Analgesic side effects are often misinterpreted as allergic reactions (e.g., pruritus and nausea associated with opioids are usually due to mechanisms other than allergy) (McCaffery & Pasero, 1999). *Evidence Grade = E*
 - **Ask about alcohol consumption.** Alcohol consumption is important information as it can impact analgesia selection. Be careful to ask in a nonjudgmental manner (e.g., How much alcohol do you drink? Do you drink two six-packs of beer over the course of a day?) (AGS Panel on Persistent Pain in Older

Persons, 2002; Antai-Otong, 1995; Martin et al., 2002; Pasero, Reed, & McCaffery, 1999). *Evidence Grade = C*

- Consider CAGE questionnaire (Ewing, 1984) (See Appendix M in the original guideline document) for evaluation of potential alcoholism in initial interview (Adams, Barry, & Fleming, 1996; Martin et al., 2002; Moore et al., 2002; Sarfraz, 2003). *Evidence Grade = C*

2. Involve the family in all aspects of assessment and planning for pain management. Provide opportunity for individualized patient/family and nurse interaction (AGS, 2002; Ferrell et al., 1991; Sengstaken & King, 1993; VHA/DoD, 2002; Weiner, Peterson, & Keefe, 1999; Werner et al., 1998). *Evidence Grade = C*

Pain Assessment of Cognitively Impaired Older Adults

This section regarding the special pain assessment needs of cognitively impaired older adults should be used to supplement the previous section on pain assessment. In principle, the following hierarchy of importance of basic measures of pain presence and intensity should be considered when assessing pain:

1. Patient's self-report using a pain rating scale (e.g., VDS, Faces, NRS 0-10)
2. Pathological conditions or procedures that usually cause pain
3. Behaviors (e.g., facial expressions, crying)
4. Report of pain from a family member or others close to the patient
5. Physiological measures such as blood pressure or heart rate are the least sensitive indicators of pain

(McCaffery & Pasero, 1999). *Evidence Grade = E*

1. **Assess cognitive status of older adult patients. Screen for cognitive impairment using reliable tools. Differentiate between delirium and dementia as managing pain and other aspects of care may vary depending on condition.** The cognitive status of the older adult will impact approach to pain assessment, patient and family education, as well as pain treatment options. A baseline assessment of cognitive status will provide a basis for evaluating changes in cognitive status throughout the period of illness. Older adults are at risk for development of delirium post-trauma (e.g., hip fracture) or post-operatively, a serious complication requiring careful evaluation and treatment. Pain may be a contributing factor (AGS Panel on Persistent Pain in Older Persons, 2002; Duggleby & Lander, 1994; Gustafson et al., 1991; Kane, Ouslander, & Abrass, 2004; Miller et al., 1996; Naylor et al., 2005; Parikh & Chung, 1995; Strömberg et al., 1997). *Evidence Grade = C*

(See Appendix F in the original guideline document for definition and criteria for delirium and dementia.)

- The **Mini Mental State Examination** (Folstein, Folstein, & McHugh, 1975) has been shown to be a reliable measure of cognitive

impairment (Naylor et al., 2005; Tombaugh & McIntyre, 1992).
Evidence Grade = B

- The **Six-Item Mental Status Screener** (Callahan et al., 2002) is a short simple screening tool that requires minimal time to complete and correlates with other more formal assessment approaches (Callahan et al., 2002). *Evidence Grade = C*

(See Appendix G in the original guideline document)

The **Confusion Assessment Method** (Inouye et al., 1990) has been shown to be a reliable measure of delirium in older adults (Laurila et al., 2002; Schuurmans et al., 2003). *Evidence Grade = B*

(See Appendix H in the original guideline document)

2. **Ask the family for information on cognitive status.** The family may provide vital information regarding cognitive impairment of the patient (Herr & Garand, 2001; Jorm, 1994, 2004; Naylor et al., 2005). *Evidence Grade = B*
 - The **Informant Questionnaire on Cognitive Decline in the Elderly (Short IQCODE)** (Jorm, 1994) has been shown to be a reliable tool for assessing cognitive status in older persons using information provided by the family or caregiver (Jorm, 1994, 2004). *Evidence Grade = B*

(See Appendix I in the original guideline document).

3. **Ask about pain in the present.** Older adults with memory impairment may often be able to report reliably in the here and now, but have difficulty remembering past pain experiences, including their earlier ratings of pain (AGS Panel on Persistent Pain in Older Persons, 2002; Bergh et al., 2000; Feldt, Ryden, & Miles, 1998; Miller et al., 1996). *Evidence Grade = B*
4. **Elicit pain statements from cognitively impaired patients, and attempt to use a selected assessment tool.** Older adults with mild to moderate cognitive impairment are often able to rate pain using self-report instruments and individual patient ability to do so should be assessed. It may be necessary to try several tools to evaluate which one is most easily used by the cognitively impaired individual. Also many severely impaired persons can respond to simple questioning about presence of pain and may be able to use a simple rating scale. Scales that are the simplest and most usable for cognitively impaired older adults include verbal descriptor scales, pain thermometers, and faces pain scales (Briggs & Closs, 1999; Buffum et al., 2001; Chibnall & Tait, 2001; Closs et al., 2004; Feldt, Ryden, & Miles, 1998a; Ferrell, 1995; Herr & Mobily, 1993; Herr et al., 2004b; Kaasalainen & Crook, 2003; Krulewitch et al., 2000; Manz et al., 2000; McCaffery & Pasero, 1999; Porter et al., 1996; Scherder, Sergeant, & Swaab, 2003a; Taylor et al., 2005; Taylor & Herr, 2003; Weiner et al., 1998b; Wynne, Ling, & Remsburg, 2000). *Evidence Grade = C*
5. **For older adults with cognitive impairment unable to report pain, assess for the presence of factors that cause pain.** Whenever an older adult with cognitive impairment shows a change in mental status, pain should

be considered a potential etiology. Potential sources of pain include distended bladder, incision, infection, inflammation, fracture, positioning, urinary tract infection (UTI), and constipation. Treat the underlying cause of pain using etiology specific interventions (Closs & Briggs, 2002; Kovach et al., 1999; Miller et al., 1996; Pasero, Reed, & McCaffery, 1999; VHA/DoD, 2002).
Evidence Grade = B

6. **Observe behavior when the patient is engaged in activity (e.g., transfers, ambulation, repositioning) as observation at rest can be misleading** (Bell, 1997; Feldt, 2000; Feldt, Ryden, & Miles, 1998; Hadjistavropoulos et al., 2000; Raway, 1993). *Evidence Grade = C*
7. **Observe nonverbal, cognitively impaired patients for essential information on which to make a judgment regarding the presence of pain.** Failure to assess and treat pain in these individuals is often due to the misbelief by healthcare providers that the perception of pain is decreased in individuals with cognitive impairments (Hurley et al., 1992; Kovach et al., 2002; Kovach et al., 1999; Volicer & Hurley, 2003). *Evidence Grade = C*
8. **Observe for the following behavioral indicators of pain in patients who are unable to provide self-report.** The most common indicators are underlined. Behavioral indicators can be used to help assess pain in all patients, but they do not take precedence over self-report.
 - **Nonverbal cues/behaviors:** restlessness, agitation, withdrawing, rapid blinking, rocking, rubbing, fidgeting, guarding or splinting operative or injured site, bracing, repositioning, tense body language, distorted posture, noisy breathing (Baker et al., 1996; Bell, 1997; Closs et al., 2005; Feldt, 2000; Feldt, Ryden, & Miles, 1998; Fuchs-Lacelle & Hadjistavropoulos, 2004; Hurley et al., 1992; Kovach et al., 2002; Kovach et al., 1999; Manfredi et al., "Pain assessment," 2003; Manfredi et al., "Opioid treatment," 2003; Marzinski, 1991; Mateo & Krenzischek, 1992; Miller et al., 1996; Raway, 1993; Simons & Malabar, 1995; Weiner, Peterson, & Keefe, 1999). *Evidence Grade = C*
 - **Facial expressions of pain:** brow lowering with jawdrop or mouth open; brow lowering with narrowing or closing eyes, clenched teeth, sad or distorted expression, frowning, grimacing, wincing, wrinkling of the forehead (Baker et al., 1996; Feldt, 2000; Hadjistavropoulos et al., 2000; Hurley et al., 1992; Kovach et al., 1999; Manfredi et al., "Pain assessment," 2003; Mateo & Krenzischek, 1992; Prkachin, 1992; Raway, 1993; Scherder et al., "Pain assessment with patients," 2003). *Evidence Grade = C*
 - **Vocalizations:** groaning, moaning, crying, yelling, sighing, grunting, perseverant vocalizations, verbal outbursts such as use of profanity or words of protest (Closs et al., 2005; Feldt, 2000; Feldt, Ryden, & Miles, 1998; Hurley et al., 1992; Kovach et al., 1999; Mateo & Krenzischek, 1992; Raway, 1993). *Evidence Grade = C*
 - **Mental status changes:** new onset or increased severity of delirium, agitation/irritability, anxiety, depression (AGS Panel on Persistent Pain in Older Persons, 2002; Kovach et al., 1999; Manfredi et al., "Pain assessment," 2003; Manfredi et al., "Opioid treatment," 2003). *Evidence Grade = C*

- **A change in usual behavior:** aggression, withdrawal, impaired mobility or change in activity, altered sleep, fatigue, attention seeking, change in appetite or refusal to eat, withdrawal, resistance to care (Baker et al., 1996; Feldt, 2000; Feldt, Warner, & Ryden, 1998; Fuchs-Lacelle & Hadjistavropoulos, 2004; Kovach et al., 1999; Marzinski, 1991). *Evidence Grade = C*
9. **Use a pain assessment tool to assess presence of pain based on behavioral pain indicators when severely cognitively impaired older adults are unable to self-report.** Several behavioral scales have been developed for assessing pain in the nonverbal older adults with severe dementia (Herr, Bjoro, & Decker, 2006; Herr, Decker, & Bjoro, 2004); however only one has been tested for use in the acute care setting. *Evidence Grade = D*
 - **The Checklist of Nonverbal Pain Indicators (CNPI)** (Feldt, 2000). CNPI is an observational tool developed for use with nonverbal older adults and includes six pain behavioral items commonly observed in older adults with acute pain. Preliminary tool testing has provided initial support for use of the tool with older adults in the acute care setting (Feldt, 2000; Feldt, Ryden, & Miles, 1998; Herr, Bjoro, & Decker, 2006; Herr, Decker, & Bjoro, 2004) (See Appendix E in the original guideline document). *Evidence Grade = C*
 10. **Be aware that older adults with dementia may not exhibit pain behaviors.** These patients show fewer physiological signs and behaviors and exhibit distorted facial expressions that are difficult to interpret (Fisher-Morris & Gellatly, 1997; Porter et al., 1996). *Evidence Grade = C*
 11. **If the patient is verbally unresponsive or noncommunicative, try to elicit from the family or caregiver the patient's usual pain behaviors such as withdrawal, agitation, facial grimacing, guarding, moaning** (AGS Panel on Persistent Pain in Older Persons, 2002; Herr & Garand, 2001; Hurley et al., 1992; Manfredi et al., "Pain assessment," 2003; Manfredi et al., "Opioid treatment," 2003; Prkachin, 1992; Shega et al., 2004; Zalon, 1999). *Evidence Grade = C*

Pain Management Plan

1. **Develop and document the pain management treatment plan as early in the course of the acute pain episode as possible (e.g., preoperatively).** Pain management is a complex and multimodal process. A systematic comprehensive treatment plan is necessary to achieve adequate pain control. The pain management interventions to be implemented should be selected in collaboration with the older adult (VHA/DoD, 2002). *Evidence Grade = D*
2. **Set realistic comfort-function goals in collaboration with the older person.** Older adults will often accept too high a pain score as acceptable. It is important to carefully explain that pain creates stress, which can interfere with the healing process, and that determining what level of pain is acceptable (on the scale they have chosen to use) allows them to engage in activities comfortably (McCaffery & Pasero, 1999; Pasero & McCaffery, "Comfort-function goals," 2004; VHA/DoD, 2002). *Evidence Grade = D*

3. **Include multiple strategies in the comprehensive pain management plan** including patient education, choice of pharmacologic and nonpharmacologic treatment options, and discharge plan. Specific recommendations regarding these different treatment options may be found in separate sections of this practice guideline including Education of the Older Adult and family, Pharmacologic Management, Nonpharmacological Management (AGS Panel on Persistent Pain in Older Persons, 2002; VHA/DoD, 2002). *Evidence Grade = D*
 - Be aware that older individuals often suffer from chronic pain in addition to acute pain and implement strategies to relieve pain from chronic disorders as much as possible (AGS Panel on Persistent Pain in Older Persons, 2002; VHA/DoD, 2002). *Evidence Grade = D*

Education of the Older Adult and Family

1. **Educate older adult and/or family to promote positive outcomes.** Psychoeducational care, including health care information, skills training and psychosocial support, can decrease postoperative pain, decrease analgesic use, and decrease health-care resource use (e.g., length of stay, cost) (AGS Panel on Persistent Pain in Older Persons, 2002; APS, 2003; Devine, 1992; Devine & Cook, 1986; Ferrell et al., 1994; Ferrell et al., 1995; Ferrell, Rhiner, & Ferrall, 1993; VHA/DoD, 2002). *Evidence Grade = A*
2. **Plan timing and depth of education based on the older adult's current pain state. Teach when pain is relatively well-controlled with analgesics.** Pain relief must be a priority. Provide ongoing explanations of procedures or treatments as knowing what to expect can allay fear and anxiety and help to decrease pain (Devine, 1992; Devine & Cook, 1986; Ferrell et al., 1995; McCaffery & Pasero, 1999; Morrison et al., 1998; VHA/DoD, 2002). *Evidence Grade = C*
3. **Plan a comprehensive educational program including the following areas in the educational program:**
 - **General information about pain**
 - **Provide information regarding planned procedures and associated painful sensations to the older adult and family prior to the upcoming procedure or surgery.** Then offer opportunities for the older adult and family to discuss fears/concerns regarding the diagnostic procedure or surgery (VHA/DoD, 2002; Wachter-Shikora, 1983). *Evidence Grade = D*
 - **Explain to the older adult and family that pain can be managed and/or relieved, the importance of reporting pain and establishing a comfort-function goal, and the benefit of pain control in the recovery process.** Older adults and their families may not be aware of the importance of pain relief or how much pain relief to expect. Unrelieved pain can have harmful effects on the older adult's activity level, appetite, sleep, mood and relationships with others. Pain can also delay the older adult's recovery. Pain relief allows the older adult to ambulate and breathe deeply, activities vital to recovery and promotion of healing, and avoiding complications such as pneumonia and thrombosis (APS, 2003; Kehlet, 1989; McCaffery & Pasero, 1999; Pasero, 2004; VHA/DoD, 2002;

Yates, Dewar, & Fentiman, 1995; Zalon, 1993). *Evidence Grade = C*

- **Explain to the older adult and family the importance of preventing rather than 'chasing' pain in effective pain management.** When pain is anticipated (such as postoperatively), it is better to medicate and control pain than to wait until pain is severe when larger doses of analgesic may be needed (APS, 2003; Cepeda et al., "What decline," 2003; Ferrell et al., 1994; Kemper, 2002; VHA/DoD, 2002). - *Evidence Grade = B*
- **Provide older adult/family with written information (e.g., a brochure) or a video.** Repeating information and presenting information in more than one way reinforces learning and helps to achieve the desired effect (VHA/DoD, 2002; Watt-Watson et al., "Impact of preoperative education on pain management," 2000; Watt-Watson et al., "Impact of preoperative education on pain outcomes," 2004). *Evidence Grade = C*
- **Pain Assessment**
 - **Explain that pain assessment helps providers evaluate effectiveness of the pain management plan. Explain the pain assessment schedule, method of pain assessment utilizing selected pain intensity assessment tool(s). Assess the older adult's and family's understanding and accurate use of the selected pain intensity tool.** Explain to the older adult that they must tell their nurses or physicians if they have pain that interferes with their accomplishing the identified functional goals (Ferrell et al., 1994; McDonald et al., 2001; Pasero, 2004a; Puntillo & Weiss, 1994; VHA/DoD, 2002; Ward & Gordon, 1994; Wilkie et al., 1995). *Evidence Grade = B*
 - **Establish a comfort-function goal with the older adult.** A comfort-function goal is defined as a pain intensity rating required for the older adult to perform activities related to satisfactory recovery or improved quality of life. A pain rating of 4 or higher on a 0-10 scale suggests the need for pain intervention. Assure the older adult that reported pain ratings above this level should result in consideration of change in treatment plan such as an increase in dose, or change in drug (Kemper, 2002; McCaffery & Pasero, 1999; Pasero, 2004a; VHA/DoD, 2002). *Evidence Grade = C*
- **Pharmacologic Management**
 - **Avoid terminology such as 'narcotic' or 'drug', which contributes to fears about drug addiction** (McCaffery & Pasero, 1999). *Evidence Grade = E*
 - **Allay fears/misconceptions regarding opioid use, such as addiction, tolerance, and respiratory depression** (Brockopp et al., 1996; Ferrell et al., 1994; Greer et al., 2001; VHA/DoD, 2002). *Evidence Grade = B*
 - **Explain common side effects (e.g., constipation, sedation, nausea) and plans for prevention and/or treatment** (Kemper, 2002; VHA/DoD, 2002). *Evidence Grade = D*

- **Describe and demonstrate an example of an analgesic regimen.** For example, describe and demonstrate patient-controlled analgesia (PCA), what it is and how it functions, what is expected of the older adult, when PCA will be made available and for how long, and the benefits and risks of PCA. Emphasize to the older adult and family the importance of older adult-only use of PCA (Chumbley et al., 2002; VHA/DoD, 2002) (See later discussion of PCA). *Evidence Grade = D*
 - **Nonpharmacologic Management**
 - **Provide careful explanations for nonpharmacological strategies that the older adult chooses to use.** Repeat instructions if necessary and ask the older adult to demonstrate the procedure to assure an understanding (MacIntyre & Jarvis, 1996; McCaffery & Pasero, 1999). *Evidence Grade = E*
 - **Describe and demonstrate cognitive-behavioral methods only when pain is reasonably well-controlled with analgesics** (McCaffery & Pasero, 1999). *Evidence Grade = E*
 - **Explain/demonstrate routine post-procedure exercises/activities (e.g., coughing and deep breathing) and methods to decrease discomfort from these (e.g., splinting)** (VHA/DoD, 2002). *Evidence Grade = D*
 - **Explain to the older adult and family that nonpharmacological methods should complement, not replace pharmacological interventions.**
Nonpharmacological strategies alone are not appropriate for moderate to severe pain (VHA/DoD, 2002). *Evidence Grade = D*
4. **Anticipate and address pain management informational/teaching needs of older adults at discharge.** Be sure the older adult knows how to take analgesics, when and who to call if pain is unrelieved after discharge (Hughes et al., 2000; Kemper, 2002; Pasero, Portenoy, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = C*

Pharmacological Management

Analgesics are the cornerstone of acute pain management of older adults. This section addresses dosing, route of administration, analgesic selection, analgesics to avoid in older adults and side effects of analgesics.

Dosing Recommendations

Information for dosing of specific pharmacological agents for treatment of acute pain is in Appendices O, P, and Q in the original guideline document.

1. **Schedule opioid and nonopioid pain medication with acute pain around-the-clock (ATC).** Scheduled around-the-clock (ATC) administration of pain medication helps maintain a stable analgesic blood level and gives structure to the pain management plan. ATC pain medication administration is thus superior to as needed (prn) dosing.

- **Administer analgesics on an as needed (prn) basis later in the course of treatment of the acute pain episode, as indicated by the patient's pain status.**
 - **If analgesics are prescribed for as needed (prn) administration, offer them regularly and administer analgesia 30 minutes prior to activities** (e.g., physical therapy, ambulation and routine care). Administering analgesia prior to activity may improve the older adult's ability to perform the activity and may reduce post activity analgesic requirements (AGS Panel on Persistent Pain in Older Persons, 2002; APS, 2003; Flory, Fankhauser, & McShane, 2001; Paice et al., 2005; Popp & Portenoy, 1996). *Evidence Grade = B*
2. **Consider preemptive analgesia.** Initiating analgesia prior to surgery may reduce postoperative analgesic requirements and prevent development of chronic pain syndromes (e.g., phantom limb pain). Preemptive epidural analgesia appears to be the first choice of preemptive method, followed by local anesthetic wound infiltration and NSAID administration. Preemptive analgesia may be particularly beneficial in frail older adults at high risk for opioid-induced side effects (APS, 2003; Bekker et al., 2002; Buvanendran et al., 2003; Gloth, 2001; Katz et al., 1992; McQuay, Carroll, & Moore, 1988; Ong et al., 2005; Pasero & McCaffery, 1996; Peacock et al., 2000; Woolf & Chong, 1993). *Evidence Grade = B*

Route of Administration

1. **Choose the least invasive and safest route that can relieve pain given the etiology and severity of pain.** Consider oral route first (APS, 2003; Pasero, Reed, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = D*
2. **Intravenous (IV) administration is the parenteral route of choice after major surgery.** Use of IV route promotes quick onset, increased potency, and ease of titration. This route can support bolus and continuous infusion (including PCA). Use IV or intraspinal analgesia for rapid control of severe pain (APS, 2003; Conner & Deane, 1995; Pasero, Reed, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = D*
3. **Avoid intramuscular (IM) administration in older adults.** Because of muscle wasting and less fatty tissue in older as compared to younger adults, intramuscular absorption of analgesics in older adults is slowed and may result in delayed/prolonged effect of IM injections, altered analgesic serum levels and possible toxicity with repeated injections. This is more common with IM meperidine than IM morphine (Austin, Stapleton, & Mather, 1980; Conner & Deane, 1995; Egbert et al., 1990; Erstad et al., 1997; Pasero, Portenoy, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = B*
4. **Epidural and intrathecal analgesia can be used with older adults.** Doses of opioids administered epidurally are much smaller than those required by the parenteral route, which can benefit cognitive function, improve bowel activity, decrease risk of postoperative cardiac and pulmonary complications, and improve function post-operatively (e.g., range of motion, ease of mobility and independence) (Ballantyne et al., 1998; Beattie, Buckley, & Forrest, 1993; Burstal et al., 1998; Carli et al., 2002; de Leon-Casasola et al., 1994; Foss et al., 2005; Gurlit, Reinhardt, & Mollmann, 2004; Kehlet, 1998; Liu, Carpenter, & Neal, 1995; Mahoney et al., 1990; Major et al., 1996; Mann et al., 2000; McLeod et al., 2001; Murphy et al., 2003; Park,

Thompson, & Lee, 2001; Rigg et al., 2002; VHA/DoD, 2002; Yeager et al., 1987). *Evidence Grade = B*

- **Appropriate personnel (e.g., anesthesiologist, certified registered nurse anesthetist) should insert intraspinal catheters and verify placement and function preoperatively to assure its effectiveness intra- and postoperatively.** Patients should be systematically assessed for adequate pain control and proper functioning of equipment throughout the course of treatment (Burstal et al., 1998; McLeod et al., 2001; VHA/DoD, 2002). *Evidence Grade = C*
- Long-acting local anesthetics, such as bupivacaine (Marcaine) and ropivacaine (Naropin), can be combined with opioids intraspinally to allow better pain relief at lower doses of each drug than would be possible with one drug alone. Lower doses can result in fewer adverse effects and improved mental status and bowel activity (Pasero, Portenoy, & McCaffery, 1999; Pasero, Reed, & McCaffery, 1999). *Evidence Grade = E*
- In addition to monitoring for motor and sensory deficits, adverse hemodynamic effects, and urinary retention, **older adults should be monitored for systemic accumulation of local anesthetics** that can result in orthostatic hypotension and cognitive impairment (Ng & Goh, 2002; Pasero, Portenoy, & McCaffery, 1999; Pasero, Reed, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = C*
- **Observe frail older individuals closely for increased sedation and respiratory depression.** The risk for clinically significant sedation and respiratory depression is greatest during the first 24 hours of therapy but may also develop gradually later in the course of therapy when lipophilic opioids, such as fentanyl, accumulate during continuous infusion or patient controlled epidural analgesia (PCEA) (Pasero, Portenoy, & McCaffery, 1999), urinary retention and masked cardiac or intra-abdominal emergencies due to higher risk for these complications (Bays, Barry, & Vasilenko, 1991; Choi et al., 2004; Dershwitz & Sherman, 1991; Klink & Lindop, 1982; Walts et al., 1985; Weller et al., 1991). *Evidence Grade = B*

5. **Neural block techniques with local anesthetics can be used safely with older adults.** Neural block techniques reduce use of opioids, decrease postoperative cognitive impairment and decrease paralytic ileus. Monitor for local toxicity of the anesthetic and for block failure

(Eledjam et al., 2002; Haddad & Williams, 1995; Jones & White, 1985; Kehlet & Holte, 2001; Kehlet, 1998; Pasero, 2004; Pasero, Reed, & McCaffery, 1999; Singelyn & Gouverneur, 2000; VHA/DoD, 2002). *Evidence Grade = B*

6. **Patient-controlled analgesia (PCA) can be used with older adults particularly during the immediate post-procedure period (e.g., 48 hours) to provide adequate pain control** (Ballantyne et al., 1993; Bedder, Soifer, & Mulhall, 1991; Duggleby & Lander, 1992; Egbert, Lampros, & Parks, 1993; Egbert et al., 1990; Gagliese et al., 2000; Hoare et al., 2000; Lebovits et al., 2001; Mann et al., 2000; Mann, Pouzeratte, & Eledjam, 2003; Monk, Parker, & With, 1990; VHA/DoD, 2002; Weller et al., 1991). *Evidence Grade = B*

- **Address patient's expectations on pain relief preoperatively for best results** (Lebovits et al., 2001). *Evidence Grade = B*
- **Screen for cognitive and physical ability to manage pain by PCA.** Patients who understand the relationships between pain, pressing a button, and pain relief and who can physically use the PCA pump should be considered candidates for PCA. It is important to allocate extra time to teach use of PCA preoperatively and to reinforce its correct use postoperatively. Emphasize to the patient and family the importance of patient-only use of PCA. Although nurse assisted or family-controlled use of PCA has not been studied in cognitively impaired older adults, these methods have been safely used in cognitively impaired older adults (Egbert, Lampros, & Parks, 1993; Egbert et al., 1990; Mann et al., 2000; Mann, Pouzeratte, & Eledjam, 2003; Pasero, Portenoy, & McCaffery, 1999; Pasero, Reed, & McCaffery, 1999; Silvasti & Pitkanen, 2001; VHA/DoD, 2002). *Evidence Grade = B*

(See Sections on Education of the Older Adult and Family and Pain Assessment for more information.)

7. **Intravenous PCA is safe to use in selected older adults. Monitor and titrate cautiously due to an increased potential for toxicity** (Ballantyne et al., 1993; Bedder, Soifer, & Mulhall, 1991; Duggleby & Lander, 1992; Egbert, Lampros, & Parks, 1993; Egbert et al., 1990; Gagliese et al., 2000; Hoare et al., 2000; Lebovits et al., 2001; Mann et al., 2000; Mann, Pouzeratte, & Eledjam, 2003; Monk, Parker, & With, 1990; VHA/DoD, 2002; Weller et al., 1991). *Evidence Grade = B*
 - Patient age of 65 years and older and PCA doses greater than 1 mg have been cited as risk factors for hypoxemia and respiratory depression during IV PCA therapy (Sidebotham, Dijkhuizen, & Schug, 1997). Therefore, incremental PCA doses of 1 or less of morphine (or equivalent) with a lockout (delay) interval of 5 to 10 minutes (8 is most common for morphine) is an appropriate starting prescription for older opioid-naïve adults (those who have not been taking regular daily doses of opioids for several days) after acute pain is under control (Lavand'Homme & De Kock, 1998; MacIntyre & Jarvis, 1996). *Evidence Grade = C*
 - **Do not use basal infusion with IV PCA in opioid-naïve older adults unless the patient is awakened by pain during sleep.** Due to an increased risk of drug accumulation and toxicity in older adults, the routine use of basal infusion with IV PCA is not recommended (APS, 2003; Fleming & Coombs, 1992; Hoare et al., 2000; Owen et al., 1989; Parker, Holtmann, & White, 1991; Pasero, Reed, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = C*
 - If basal rate is used, it should be low (e.g., 0.5 mg/hour of morphine or equivalent), sedation and respiratory status monitored hourly during infusion, and the opioid dose reduced (e.g., basal rate discontinued) if increased sedation is detected (APS, 2003; Pasero & McCaffery, 2004; Pasero, Portenoy, & McCaffery, 1999; Pasero, Reed, & McCaffery, 1999). *Evidence Grade = D*

(See Appendix S in the original guideline document for Sedation Scale.)

- Fentanyl PCA is an option for older adults because of decreased side effects of cognitive impairment and urinary retention. Though fentanyl has a half-life of three to four hours, at steady state, slow release of the drug from tissue storage sites can result in a longer half-life of up to 12 hours, which can produce late or prolonged sedation and respiratory depression (APS, 2003; Herrick et al., 1996; Marshall & Longnecker, 1996; Mather & Denison, 1992; Pasero, Portenoy, & McCaffery, 1999; VHA/DoD, 2002; Willens & Myslinski, 1993). *Evidence Grade = B*
- **Patient Controlled Epidural Analgesia (PCEA) is safe to use in selected older adults.** Several studies have demonstrated effective pain relief, decreased opioid use, and increased patient satisfaction with pain relief with PCEA (opioids and local anesthetics). The epidural route of administration bypasses the blood spinal cord barrier and therefore requires significantly lower doses of medications (APS, 2003; Gopinathan et al., 2000; Lebovits et al., 2001; Mann et al., 2000; Mann, Pouzeratte, & Eledjam, 2003; Silvasti & Pitkanen, 2001; VHA/DoD, 2002). *Evidence Grade = B*
 - There is a ten-fold difference between the effective IV and epidural dose of morphine and between the epidural and intrathecal dose of morphine (i.e., morphine 10 mg IV, 1 mg epidural, and 0.1 mg Intrathecal) are thought to be roughly equal in terms of afforded pain relief (APS, 2003; VHA/DoD, 2002). *Evidence Grade = D*
 - A combination of a local anesthetic and opioid allows lower doses of each, which may decrease risk of opioid-related adverse effects (Mann et al., 2000; Mann, Pouzeratte, & Eledjam, 2003). *Evidence Grade = B*
 - **Monitor blood pressure regularly** (e.g., every 4 hours) with older adults receiving PCEA. Although gastrointestinal (GI) side effects are reduced with the use of PCEA over IV PCA, hypotensive episodes have been found to be more prevalent with PCEA (Mann et al., 2000). *Evidence Grade = B*

8. **Transition from parenteral or intraspinal analgesia to oral analgesics as soon as the older adult can tolerate oral intake.** If unable to tolerate oral medication, alternative routes such as rectal and sublingual administration can be used (APS, 2003; Coyle, Cherny, & Portenoy, 1995; Segstro, Morely-Forster, & Lu, 1991; Tramèr et al., 1998). *Evidence Grade = B*

Analgesic Selection

1. General

- **Pharmacologic management for mild to moderate acute pain should begin, unless contraindicated, with a nonopioid (acetaminophen or NSAID)** (APS, 2003; VHA/DoD, 2002). *Evidence Grade = D*

- **Opioid analgesics should be added to nonopioid analgesics for the treatment of moderate to severe acute pain** (APS, 2003; VHA/DoD, 2002). *Evidence Grade = D*
- **Administer acetaminophen or a NSAID with an opioid (unless contraindicated) because of their dose-sparing effects on postoperative pain and a consequent reduction in incidence or severity of opioid-induced side effects** (APS, 2003; Hyllested et al., 2002; Kehlet & Holte, 2001; Malan et al., 2003; Reynolds et al., 2003; Schug et al., 1998; VHA/DoD, 2002). *Evidence Grade = B*
- **Select analgesic based on a thorough medical history, considering coexisting morbidities and drug treatments that might interact with or impact the effect of analgesic treatment** (APS, 2003; VHA/DoD, 2002). *Evidence Grade = D*
- **Assess the patient's hepatic and renal function to guide selection of analgesics for older adults with concurrent medical conditions.** Decreased hepatic and/or renal function can lead to decreased elimination of NSAIDs and opioids, excess accumulation and increase toxicity necessitating increased intervals between doses (APS, 2003; VHA/DoD, 2002). *Evidence Grade = D*

2. **Nonopioids. Nonopioid analgesic drugs are effective and appropriate for a variety of acute pain conditions in older adults.** The analgesic effects of acetaminophen and NSAIDs supplement the analgesic effects of opioids and produce an opioid-sparing effect, thereby allowing a reduction in the dose of opioid that is required for effective pain management. Lower doses can result in fewer or less severe opioid-induced side effects. For example, adding nonopioids when opioids are administered reduces the risk of opioid-induced respiratory depression in older adults (AGS Panel on Persistent Pain in Older Persons, 2002; APS, 2003; Barden et al., 2003; Barden et al. "Single dose oral paracetamol," 2004; Barden et al. "Single dose oral rofecoxib," 2004; Bradley et al., 1991; VHA/DoD, 2002). *Evidence Grade = B*

(See Appendix O in the original guideline document for dosing and comparative efficacy of selected nonopioids)

- **Acetaminophen**
 - **Consider acetaminophen as the preferred nonopioid for mild to moderate pain in older adults.** Although acetaminophen has no anti-inflammatory properties, it is often used for postoperative pain management because it is cost-effective, has no effect on platelets, and has fewer adverse effects than NSAIDs. Acetaminophen is also used as an antipyretic agent in older adults (Barden et al., "Single dose oral paracetamol," 2004; Bradley et al., 1991; Gloth, 2001; Hyllested et al., 2002; Moore et al., 1997; VHA/DoD, 2002). *Evidence Grade = B*
 - **Total daily dose must not exceed 4 gm per day, with a maximum dose of 3 gm in frail older adults.** Monitor the amount of acetaminophen administered in combination drugs (e.g., Darvocet, and combination hydrocodone, oxycodone, or codeine preparations) (AGS Panel on Persistent Pain in Older Persons, 2002; APS,

2003; Gloth, 2001; VHA/DoD, 2002). *Evidence Grade = D*

- **Reduce maximum acetaminophen dose 50%-75% in older adults with reduced hepatic metabolism or a history of alcohol abuse due to increased risk of toxicity** (AGS Panel on Persistent Pain on Older Persons, 2002; APS, 2003). *Evidence Grade = D*
- **Nonsteroidal Antiinflammatory Drugs (NSAIDs)**
 - There are two groups of NSAIDs: the nonselective NSAIDs (e.g., ibuprofen, ketoprofen, naproxen, ketorolac) and the COX-2 selective NSAIDs (e.g., celecoxib).
 - **Use all NSAIDs with caution and within recommended maximum doses.** NSAIDs are effective analgesics with anti-inflammatory properties; however, due to potential adverse effects careful selection and monitoring is required. Administer the lowest effective NSAID dose for the shortest possible time postoperatively (e.g., depending on surgical procedure, consider discontinuing or lowering the dose of NSAID after 24 to 48 hours if pain is well controlled with other analgesics) (APS, 2003; Strom et al., 1996; VHA/DoD, 2002). *Evidence Grade = C*
 - **Carefully monitor older adults for NSAID complications.** The risk for gastric and renal toxicity from NSAIDs is increased among older adults, as are unusual drug reactions, including cognitive impairment, constipation and headaches (AGS Panel on Persistent Pain in Older Persons, 2002; Camu, Lauwers, & Vanlersberghe, 1996; Griffin et al., 1991; Mallet & Kuyumjian, 1998; Pérez-Gutthann et al., 1999; Solomon et al., 2003; Zhou, Tang, & White, 2001). *Evidence Grade = B*
 - **Gastrointestinal (GI) bleeding: Monitor closely for signs of GI bleeding when initiating or increasing doses of NSAIDs** (AGS Panel on Persistent Pain in Older Persons, 2002; APS, 2003; Camu, Lauwers, & Vanlersberghe, 1996; Griffin et al., 1991; Griffin, Ray, & Schaffner, 1988; Pérez-Gutthann et al., 1999; Pookarnjanamorakot, Laohacharoensombat, & Jaovisidha, 2002; VHA/DoD, 2002). *Evidence Grade = C*
 - Avoid use if the patient has a history of peptic ulcers (Gloth, 2001; Roth, 1989). *Evidence Grade = D*
 - In patients at risk for GI bleed use lowest effective dose of nonselective NSAID, "platelet sparing" NSAIDs (e.g., nabumetone, salsalate, choline magnesium trisalicylate) or COX-2 selective NSAIDs (based on risk/benefit analysis) to lessen the risk of GI bleeding and gastric/duodenal ulcers (Bjorkman, 1996; Higa, 1997). *Evidence Grade = D*
 - **Co-administration of misoprostol (Cytotec) or a proton pump inhibitor with nonselective NSAIDs lessens incidence of gastroduodenal lesions** (AGS Panel on Persistent Pain in Older

Persons, 2002; Piette et al., 1997; Raskin et al., 1995). *Evidence Grade = B*

- **Bleeding disorders: Avoid nonselective NSAIDs use if patient has a history of bleeding disorders or is taking anticoagulants concurrently. Acetaminophen or a platelet sparing NSAID (e.g., salsalate, diflunisal or celecoxib) may be used in patients not on anticoagulant therapy)** (APS, 2003; Battistella et al., 2005; Mamdani et al., 2004; Roche & Forman, 1994). *Evidence Grade = B*
- **Nephrotoxicity: Avoid use of NSAIDs if patient has a history of renal impairment, congestive heart failure, concurrent volume depletion or diuretic use.** NSAIDs may cause a reduction in a patient's renal function during the early postoperative state (Camu, Lauwers, & Vanlersberghe, 1996; Gloth, 2001; Lee et al., 2004; Murray & Brater, 1993; Perneger, Whelton, & Klag, 1994). *Evidence Grade = B*
- **Delirium: Monitor patient for new onset of delirium or increased delirium in older adults with dementia during initial use** (AGS Panel on Persistent Pain in Older Persons, 2002; Goodwin & Regan, 1982; Naylor et al., 2005; Roth, 1989). *Evidence Grade = C*
- **Aspirin**
 - **Avoid use of aspirin as an analgesic for most older adults.** Due to increased risk of gastric disturbances, bleeding and toxicity secondary to age-associated physiologic changes (e.g., reduced renal and/or liver function), aspirin is not recommended for most older adults for the treatment of acute pain (APS, 2003; Edwards et al., 2004; VHA/DoD, 2002). *Evidence Grade = D*
- **Ibuprofen**
 - **Ibuprofen and naproxen are preferred nonselective NSAIDs for use with older adults when the oral route is permitted due to lower side effect profiles compared to other nonselective NSAIDs.** (Topol, 2005) *Evidence Grade = D*
 - Low dose ibuprofen (under 1,600 mg/d) was associated with the lowest relative risk of GI complications of NSAIDs in a meta-analysis (Henry et al., 1996). *Evidence Grade = D*
- **Ketorolac**
 - **Ketorolac (Toradol) IV may be used safely for many older adults unable to take oral nonopioids, however, the following considerations should be taken into account:**
 - Ketorolac is contraindicated for frail older adults with dehydration, preexisting renal dysfunction, cirrhosis or heart failure.
 - Decrease dose to 50% of the recommended dose in younger adults. Do not exceed a total daily dose of 60 mg, and do not use for longer than 5 days. As soon as the patient is able to tolerate oral analgesics, switch to ibuprofen or naproxen, which provide similar analgesia

and are less costly (Strom et al., 1996; Topol, 2005; Traversa et al., 1995; Turturro, Paris, & Seaberg, 1995).
Evidence Grade = C

- **COX-2-selective NSAIDs (celecoxib, parecoxib [IV formulation not yet available in the U.S.]**
 - **COX-2 selective NSAIDs are an option for short term use in patients with contraindications to nonselective NSAIDs.** This class of NSAIDs provides effective analgesia with possibly less gastric mucosal damage and bleeding than nonselective NSAIDs with short-term use (APS, 2003; Ehrich et al., 1999; Kaplan-Machlis & Klostermeyer, 1999; Langman et al., 1999; Leese et al., 2000; Simon et al., 1999). *Evidence Grade = B*
 - COX-2-selective NSAIDs are effective analgesics alone for mild and some moderate pain. They produce an opioid-sparing effect and are effective when used in combination with opioids for the management of moderate to severe acute pain (Barden, et al., 2003; Barden et al., "Single dose oral paracetamol," Barden et al. "Single dose oral rofecoxib," 2004; Bekker et al., 2002; Camu et al., 2002; Ekman et al., 2002; Malan et al., 2003; Reynolds et al., 2003; Tang et al., 2002). *Evidence Grade = B*
 - As with the nonselective NSAIDs, use COX-2 selective NSAIDs with caution in older adults with impaired renal function due to nephrotoxicity (Brater, 1999). *Evidence Grade = D*
 - **Bleeding disorders: Avoid COX-2 selective NSAIDs use if patient is taking anticoagulants (e.g., aspirin, warfarin) concurrently** (Battistella et al., 2005; Laine et al., 2004). *Evidence Grade = B*
 - **Do not use COX-2 selective NSAIDs in patients with cardiovascular disease or for postoperative pain management following coronary artery bypass graft surgery (and possibly other vascular surgeries) due to an increased risk of adverse cardiovascular events (e.g., myocardial infarction, stroke or congestive heart failure)** (Bresalier et al., 2005; Juni et al., 2004; Kimmel et al., 2005; Mamdani et al., 2004; Nussmeier et al., 2005; Solomon et al., 2005; Topol, 2005). *Evidence Grade = B*
 - **A COX-2 selective NSAID can be given preoperatively.** Most analgesics taken preoperatively for chronic pain including nonselective NSAIDs and aspirin should be discontinued prior to surgery. However, opioids and COX-2 selective NSAIDs should be continued as usual. Patients who are taking a nonselective NSAID preoperatively for chronic pain can be switched to a COX-2 selective NSAID if not contraindicated (Ashraf et al., 2004; Reuben & Connelly, 2000; Reuben et al., 2002). *Evidence Grade = B*

3. Opioids: General principles

- **Use opioids in the management of moderate to severe acute pain in older adults.** The mu agonist opioids (e.g., morphine, hydromorphone, fentanyl, oxycodone) are the first line opioid analgesics (APS, 2003; Aubrun et al., 2003, 2002; Bourke et al., 2000; Kaiko, 1980; Kaiko et al., 1982; Pasero, Portenoy, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = B*
- **Opioids with short half-lives are the best choices for older adults (e.g., morphine, hydromorphone and oxycodone)** (AGS Panel on Persistent Pain in Older Persons, 2002; APS, 2003; Pasero, Reed, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = D*
- **Initiate opioid therapy at a 25% to 50% lower dose than that recommended for younger adults and slowly titrate dosage by 25% on an individual basis until there is either a 50% reduction in the patient's pain rating, or the patient reports satisfactory pain relief.** Older adults generally receive greater peak and longer duration of action from opioids than younger individuals. Balance analgesic need with undesirable effects. A repeat dose can be safely administered at the time of the peak if the previous dose is ineffective and side effects are minimal (AGS Panel on Persistent Pain in Older Persons, 2002; APS, 2003; Bellville et al., 1971; Forman, 1996; Giuffre et al., 1991; Kaiko, 1980; Kaiko et al., 1982; Koh & Thomas, 1994; Pasero, Reed, & McCaffery, 1999; Viganó et al., 1998). *Evidence Grade = B*
 - There is no maximum dose for the mu agonist opioid analgesics, however, opioid side effects are dose-related, and require prevention whenever possible and systematic monitoring (e.g., respiratory depression, sedation, constipation, nausea, vomiting, and urinary retention) (APS, 2003; Pasero, Portenoy, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = D*
- **Use an immediate-release (fast-acting) mu agonist opioid analgesic with a short half-life for treatment of breakthrough pain.** Whenever possible, use the same route and opioid for breakthrough pain as are used ATC for the ongoing pain. Immediate release oxycodone is appropriate for controlled-release oxycodone (APS, 2003; McCaffery & Pasero, 1999). *Evidence Grade = D*
 - **Breakthrough (rescue) doses may be made available every 1 to 2 hours during oral opioid therapy and every 30 to 60 minutes during parenteral or intraspinal therapy. Breakthrough doses may be taken at any time, even at the same time as the ATC opioid. Recommended dosing for breakthrough pain is 10%-15% of the total daily dose of ATC oral opioid analgesic and 25%-50% of the hourly parenteral or intraspinal dose** (APS, 2003; McCaffery & Pasero, 1999). *Evidence Grade = D*
- **Avoid using more than one opioid at the same time.** It is easier to identify the cause of an adverse effect or toxicity if one opioid analgesic is used to treat acute pain. The incidence of delirium and other adverse reactions increases with the number of prescription drugs administered (Agency for Health Care Policy and Research [AHCPR], 1992; Doucet et al., 1996; Hutchinson et al., 1986). *Evidence Grade = C*

- **Understand the differences between addiction, physical dependence, and tolerance.** (See Appendix N in the original guideline document for accepted definitions.)
 - Addiction (psychological dependence) is rare when opioids are taken for pain relief (APS, 2003; Pasero, Portenoy, & McCaffery, 1999). *Evidence Grade = D*
 - Physical dependence takes several days of regular daily opioid dosing to develop. It is easily treated with gradual daily reductions in opioid dose. Physical dependence is not addiction; do not label a patient "addicted" if physically dependent on opioid analgesics (Pasero, Portenoy, & McCaffery, 1999). *Evidence Grade = E*
 - **Monitor for analgesic tolerance.** Tolerance to opioid analgesia may occur within the first few days of dosing and is relatively uncommon after several days after treatment. Analgesic tolerance is treated with an increase in the opioid dose or decrease in the interval between doses. The need to increase doses early in the course of therapy may simply reflect the normal titration process rather than analgesic tolerance. Regardless, tolerance is not addiction: do not label a patient "addicted" if tolerant to opioid analgesics. Tolerance to opioid side effects develops within a few days of regular opioid dosing (e.g., tolerance to opioid-induced respiratory depression usually develops after 72 hours of regular daily doses of opioids) (APS, 2003; McCaffery & Pasero, 1999; Pasero, Portenoy, & McCaffery, 1999). *Evidence Grade = D*
 - **Use an equianalgesic table to estimate the new dose when changing to a new opioid or a different route of administration.** Standard equianalgesic conversion tables developed for adults are appropriate for use with older adults.
 - **Use the standard equianalgesic conversion table to make an initial estimate of the new dose.** (See Appendix R in the original guideline).
 - **Carefully titrate the new regimen based on the observed clinical response. Compare the analgesic effectiveness and side effects of the new with the previous regimen.** If the previous regimen provided insufficient analgesia and the side effect profile was acceptable, the initial estimate of the new dose may be increased. If the initial regimen provided adequate pain relief but intolerable side effects, the estimate may be decreased (APS, 2003; Forman, 1996). *Evidence Grade = D*
4. **Opioids: Selected Analgesics.** Selected opioid analgesics that are appropriate for use with older adults are discussed below. (See Appendix P and R in the original guideline document for dosing and considerations when using selected opioids for acute pain in older adults).
- **Morphine Sulfate**
 - **Morphine sulfate is the opioid analgesic of choice for most older adults. IV and oral morphine can be safely administered and titrated in older adults.** Avoid use in patients with history of morphine sensitivity or allergy (APS, 2003; Aubrun et al., 2003; Aubrun et al., 2002; Bourke et al.,

2000; Ferrell, 1995; Kaiko, 1980; VHA/DoD, 2002). *Evidence Grade = B*

- Although morphine's metabolites (M-3, M-6-G) usually are not clinically significant when morphine is used for short-term pain management, its use in patients with impaired renal or hepatic function can result in accumulation and prolonged effects and toxicity (APS, 2003; Forman, 1996). *Evidence Grade = D*
- **Hydromorphone**
 - **Hydromorphone is an acceptable alternative to morphine for use with older adults.** Because of its short half-life, hydromorphone is a good choice in older adults with renal impairment. Adverse effects are similar to other opioids. Hydromorphone's metabolite (HM-3-G) usually is not clinically significant when hydromorphone is used for short-term pain management (APS, 2003; Dellasega & Keiser, 1997; Popp & Portenoy, 1996; Quigley, 2004; Thwaites, McCann, & Broderick, 2004; VHA/DoD, 2002). *Evidence Grade = D*
- **Oxycodone**
 - **Oxycodone is an acceptable opioid for use with older adults.** Oxycodone provides excellent pain relief with no clinically significant metabolites and can produce the typical opioid side effects in older adults (Edwards, Moore, & McQuay, 2000; Kalso et al., 1991). *Evidence Grade = D*
 - Controlled-release oxycodone (OxyContin) is an option for postoperative pain management with immediate-release opioids made available for breakthrough pain (Curtis et al., 1999; Pasero, Portenoy, & McCaffery, 1999; Reuben, Conelly, & Maciolek, 1999). *Evidence Grade = D*
 - Oxycodone is metabolized to oxymorphone. Patients with decreased CYP 2D6 activity may experience inadequate pain control with oxycodone (APS, 2003; VHA/DoD, 2002). *Evidence Grade = D*
- **Hydrocodone**
 - **Hydrocodone is an acceptable opioid for short term mild and some moderate acute pain in older adults.**
 - Hydrocodone can provide effective pain relief, but is only available in combination with nonopioids; therefore, it is not appropriate for severe, escalating pain because the maximum daily nonopioid dose can be easily exceeded. Closely monitor the total dose of nonopioid in the combination product to avoid hepatotoxic doses.
 - It is metabolized to hydromorphone. Patients with decreased CYP 2D6 activity may experience inadequate pain control with hydrocodone (APS, 2003; VHA/DoD, 2002). *Evidence Grade = D*
- **Tramadol**
 - **Tramadol can be used with caution for mild and some moderate pain in older adults.** Tramadol has a dual mechanism of action: it binds weakly mu-opioid receptors and inhibits the reuptake of serotonin and norepinephrine (APS, 2003; VHA/DoD, 2002). *Evidence Grade = D*

- Tramadol causes less respiratory depression in older adults and has opioid-sparing effects. However, caution must be exercised in patients with hepatic or renal disorders (VHA/DoD, 2002). *Evidence Grade = D*
- Using acetaminophen with tramadol may provide additional analgesic relief. Tramadol is commercially available in combination with acetaminophen for short-term mild and some moderate acute pain; however, this formulation is not appropriate for more severe pain because the recommended maximum daily dose of both acetaminophen and tramadol can be easily exceeded (Edwards, McQuay, & Moore, 2002). *Evidence Grade = D*
- When tramadol is initiated at maximum doses, prominent side effects may occur (APS, 2003; Gloth, 2001). *Evidence Grade = D*
 - **Very slow titration (over weeks) is recommended, which limits the usefulness of tramadol for acute pain management** (APS, 2003). *Evidence Grade = D*
 - A high incidence of nausea and vomiting has been reported, resulting in recommendations of low dosing (25-50 mg per day) for the first 2-3 days.
 - **Do not exceed 300 mg per day in patients over 75 years of age.** Doses that exceed 400 mg have been associated with seizures (APS, 2003; Gloth, 2001; Katz, 1995; McCaffery & Pasero, 1999; Webb et al., 2002). *Evidence Grade = D*
 - **Caution should be taken when used in combination with other medications that affect serotonin** (e.g., serotonin reuptake inhibitors and tricyclic antidepressives) since it may increase the risk of seizures and serotonin syndrome (APS, 2003; Katz, 1995; McCaffery & Pasero, 1999; Webb et al., 2002). *Evidence Grade = D*

5. Adjuvants

- **Local anesthetics can be used to treat acute pain in older adults.**
 - Use of long-acting local anesthetics, such as bupivacaine (Marcaine) and ropivacaine (Naropin), to infiltrate of the surgical site before incision, infuse next to or into the surgical site, or add to epidural opioids for postoperative pain management, can reduce the amount of opioid needed and improve postoperative pain control (Brodner et al., 2000; Jørgensen et al., 2004; Pasero, 2004a; Pasero, Reed, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = D*
 - **Observe for signs of local anesthetic toxicity**, including circumoral tingling and numbness, ringing in ears, metallic taste, slow speech, irritability, twitching, seizures, and/or cardiac dysrhythmias. Stop local anesthetic administration if signs are present. Older adults are at higher risk for toxicity from accumulation due to decreased ability to clear local anesthetics (McCaffery & Pasero, 1999). *Evidence Grade = E*

- **Observe for orthostatic hypotension**, which may result from accumulation of local anesthetic infusion, and motor/sensory block and muscle weakness due to spinal or epidural local anesthetic. Assure safety of the patient (e.g., assess ability to bear weight prior to ambulation) (Ben-David et al., 2000; Paice et al., 2005; Pasero, Portenoy, & McCaffery, 1999; Pasero, Reed, & McCaffery, 1999). *Evidence Grade = D*
- **Ropivacaine may be the best choice for regional and epidural local anesthetic techniques in older adults because it produces less motor blockage and central nervous system (CNS) and cardiac toxicity than bupivacaine** (Bertini et al., 2001; Covina & Wildsmith, 1998; Scott et al., 1997). *Evidence Grade = B*
 - However, be aware that motor blockade may still occur at high concentrations (Brodner et al., 2000). *Evidence Grade = D*
- Various topical agents are available to reduce discomfort of procedural pain, including Eutectic Mixture of Local Anesthetics (EMLA), vapocoolant anesthetic sprays, and lidocaine gel, and may be useful in older adults (McCaffery & Pasero, 1999). *Evidence Grade = E*
- **Benzodiazepines**
 - **Use benzodiazepines with caution: they do not provide analgesia for acute tissue injury and can cause severe adverse effects in older adults.** Benzodiazepines can diminish skeletal muscle spasm, reduce anxiety, and, at high doses, produce procedural amnesia (APS, 2003; Marcantonio et al., 1994; Pasero, Reed, & McCaffery, 1999; Ray, Griffin, & Downey, 1989). *Evidence Grade = C*
 - Short-acting agents such as alprazolam (Xanax), lorazepam (Ativan), and oxazepam (Serax) are preferred; the use of long-acting benzodiazepines, such as diazepam, has been associated with postoperative delirium (Marcantonio et al., 1994). *Evidence Grade = C*
 - Postoperative confusion was significantly more common in long-term (daily use for more than one year) than short-term benzodiazepine users or nonusers of benzodiazepines (Kudoh et al., 2004). *Evidence Grade = C*

Drugs to Avoid or Use with Extreme Caution

1. Codeine

- **Avoid codeine use with older adults because the doses required for effective pain relief are associated with an increased incidence of side effects (e.g., nausea).**
- Codeine is ineffective in patients with impaired CYP-2D6 activity because codeine cannot be converted to morphine.
- The addition of codeine may provide additional pain relief but may also increase the risk of side effects (e.g., drowsiness, sedation, and constipation) (APS, 2003; Moore et al., 2004; VHA/DoD, 2002; Wheeler et al., 2002). *Evidence Grade = D*

2. **Meperidine: Avoid use in older adults.** Meperidine's metabolite, normeperidine, is toxic to the central nervous system (CNS) and can cause tremors, seizures, mood alterations, and confusion. The incidence of these adverse effects is higher in older patients, especially if the patient has coexisting congestive heart failure (CHF) or renal impairment (APS, 2003; Erstad et al., 1997; Fick et al., 2003; Kaiko et al., 1983; Latta, Ginsburg, & Barkin, 2002; Pasero, Reed, & McCaffery, 1999; Szeto et al., 1977; VHA/DoD, 2002). *Evidence Grade = B*
 - IM meperidine is poorly absorbed, and leads to variable analgesic response. It has been shown to cause tissue irritation and muscle fibrosis in older adults due to reduced tissue mass (Austin, Stapelton, & Mather, 1980; Conner & Deane, 1995; Latta, Ginsberg, & Barkin, 2002; VHA/DoD, 2002). *Evidence Grade = D*
 - Meperidine has been shown to be related to the development of postoperative delirium in older adults (Adunsky et al., "Meperidene," 2002; Francis, 1992; Gloth, 2001; Marcantonio et al., 1994; Morrison et al., 2003). *Evidence Grade = B*
 - Meperidine has been associated with a higher incidence of nausea and vomiting compared with morphine (Ezri et al., 2002). *Evidence Grade = D*
 - Symptoms are managed by switching to another opioid, or for severe symptoms, treating with anticonvulsants (Latta, Ginsberg, & Barkin, 2002). *Evidence Grade = D*
 - Naloxone should **NOT** be administered for treatment of normeperidine toxicity (APS, 2003; Pasero, Reed, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = D*

3. **Transdermal fentanyl: Do not use in the management of acute pain.** Transdermal fentanyl is used in older adults with chronic pain but is not indicated as a first-line opioid for acute pain in opioid-naive older adults because of its potential for delirium and respiratory depression (Ferrell & McCaffrey, 1997; VHA/DoD, 2002). *Evidence Grade = D*
 - It can take as long as 24 hours to reach appreciable analgesia after transdermal fentanyl patch application and dose titration is achieved over several days to weeks; therefore, transdermal fentanyl is not indicated for the treatment of acute pain (Ferrell, 1995; Gloth, 2001; Wakefield et al., 1998). *Evidence Grade = D*

4. **Oral Transmucosal Fentanyl Citrate (OTFC): Do not use in the management of acute pain in older adults.** Transmucosal fentanyl was developed to provide rapid analgesia for treatment of breakthrough cancer pain. The pharmacokinetics and pharmacodynamics of OTFC in older adults is unknown. In one preliminary study the side effect profile showed increased incidence of respiratory depression, nausea and vomiting in older compared to younger healthy volunteers (Kharasch, Hoffer, & Whittington, 2004). *Evidence Grade = C*

5. **Avoid the use of agonist, antagonist opioids in older adults as their side effects can be pronounced.** These drugs act as antagonists at the mu opioid receptor site and should therefore not be used with mu agonist opioids (e.g., morphine) (APS, 2003). *Evidence Grade = D*

- Butorphanol (Stadol) and pentazocine (Talwin) produce psychotomimetic effects and may lead to delirium (APS, 2003; Gloth, 2001). *Evidence Grade = D*
 - Pentazocine (Talwin) causes hallucinations, dysphoria, delirium and agitation in older adults and has been shown to be no more effective than aspirin or acetaminophen (Ferrell, 1991; VHA/DoD, 2002). *Evidence Grade = D*
6. **Avoid the use of analgesics with a long, highly variable half-life (e.g., opioids, such as methadone and levorphanol, and NSAIDs such as piroxicam).** Drugs with a long half-life can readily accumulate in older adults and result in toxicity (i.e. respiratory depression, sedation). If used, they should be titrated with great caution (APS, 2003; Egbert, 1996; Pasero, Reed, & McCaffery, 1999; Wheeler et al., 2002). *Evidence Grade = D*
 7. **Propoxyphene (Darvon, Darvocet): Avoid in older adults.** Propoxyphene has toxic metabolites that rely on renal clearance, contributing to increase central nervous system adverse effects. Propoxyphene has been shown to be no more effective than acetaminophen (APS, 2003; Collins et al., 2004; Fick et al., 2003; Forman, 1996; Pasero, Portenoy, & McCaffery, 1999; Pasero, Reed, & McCaffery, 1999; Willcox, Himmelstein, & Woolhandler, 1994). *Evidence Grade = C*
 8. **Long-acting benzodiazepines (e.g., Librium, Valium, Tranxene, Dalmane): Avoid in older adults due to increased risk for delirium and the potential for resulting injury** (Fick et al., 2003; Marcantonio et al., 1994; Ray, Griffin, & Downey, 1989). *Evidence Grade = C*
 9. **Placebos: Do not use placebos to assess or treat pain** (AGS Panel on Persistent Pain in Older Persons, 2002; APS, 2003; American Society for Pain Management Nursing (ASPMN), 1996; McCaffery & Pasero, 1999). *Evidence Grade = D*

Overview of Opioid Side Effects

1. **Assess for presence of common opioid side effects and treat prophylactically when possible.** The potential for side effects is high in older adults due to altered ability to distribute and excrete drugs. Common opioid side effects include nausea, vomiting, constipation/ileus, delirium, respiratory depression, sedation, pruritus, urinary retention (especially if there is coexisting benign prostatic hypertrophy), hypotension. Patients with Parkinson's Disease may warrant close monitoring for signs of increased muscle rigidity during opioid administration (AGS Panel on Persistent Pain in Older Persons, 2002; APS, 2003; Ferrell, 1995; Nicholson, Pereira, & Hall, 2002; VHA/DoD, 2002). *Evidence Grade = D*
2. **The best strategy for opioid-induced side effect management is decreasing the dose of the opioid by 25-50% depending on severity of side effects.** Adding acetaminophen and a NSAID, such as ibuprofen, can help maintain pain control when the opioid dose is decreased. Other options include changing the dosing regimen (e.g., increasing the interval between doses). Switching to a different opioids or route of administration may be necessary for more severe side effects (APS, 2003; Pasero, Portenoy, & McCaffery, 1999; Pasero, Reed, & McCaffery, 1999). *Evidence Grade = D*
3. **Identify other medications prescribed for chronic conditions that may potentiate opioid side effects, and reevaluate the treatment plan.**

Medications of concern include sedatives, tranquilizers and antiemetics (may exacerbate sedation); antihypertensives and tricyclics (associated with postural hypotension); phenothiazines, tricyclics, antihistamines and other anticholinergics (associated with delirium) (AGS Panel on Persistent Pain in Older Persons, 2002; Gloth, 2001; Koh & Thomas, 1994). *Evidence Grade = D*

4. **Specific opioid side effects in older adults:**

- **Delirium**

- **Assess for other contributing factors prior to altering the prescription or discontinuing analgesic use if acute delirium develops.** *Evidence Grade = C*

- Short term cognitive impairment may result when opioids are started, but acute delirium may be caused by factors other than opioids (Bruera et al., 1989; Ersek et al., 2004; Parikh & Chung, 1995). *Evidence Grade = C*
- Postoperative delirium has been found to be associated with unrelieved pain rather than opioid use. Assure effective pain management before considering a decrease in opioid dose (Duggleby & Lander, 1994; Hurley et al., 1992; Lynch et al., 1998; Manfredi et al., 2003; Morrison et al., 2003a; Williams et al., "Predictors," 1985; Williams et al., 1979). *Evidence Grade = B*
- Other factors to consider when assessing for potential causes of delirium include: electrolyte abnormalities (e.g., hyponatremia, hypokalemia), hypoxemia, dehydration, infection, medications, sensory impairment, sleep disturbances, urinary elimination problems, slow mobilization, change in the patient's environment, and nursing care routines that disturb sleep (Foreman et al., 1999; Gloth, 2001; Gustafson et al., 1991; Lorenz, Beck, & Bromm, 1997; Morrison et al., 1998; Morrison et al., 2003a; Parikh & Chung, 1995; Rosenberg & Kehlet, 1993; Rosenberg, Rosenberg-Adamsen, & Kehlet, 1995; Simpson, Lee, & Cameron, 1996; Williams et al., "Predictors," 1985). *Evidence Grade = B*
- Monitor older adults with dementia closely due to increased risk of delirium (Fick & Foreman, 2000; Fick, Agostini, & Inouye, 2002; Morrison & Siu, 2000; Popp & Portenoy, 1996). *Evidence Grade = C*

- **Assess for the following analgesics and adjuvants that may produce increased delirium levels in older patients:**

- **Meperidine** (Adunsky et al., "Meperidine," 2002; APS, 2003; Kaiko et al., 1983; Marcantonio et al., 1994; Morrison et al., 2003a). *Evidence Grade = B*
- **Anticholinergics (e.g., antihistamines, hydroxyzine, phenothiazines)** (Edlund et al., 2001; Ferrell, 1995; Marcantonio et al., 1994; Simons et al., 1989; Tune, 2000). *Evidence Grade = B*
- **NSAIDs (greatest risk during initial use)** (Goodwin & Regan, 1982; Roth, 1989; Rozzini et al., 1996). *Evidence Grade = C*

- **Pentazocine (Talwin)** (APS, 2003; Ferrell, 1995; VHA/DoD, 2002). *Evidence Grade = D*
- **If other causes of delirium are not found and pain is effectively managed, consider decreasing the opioid dose.** If delirium continues despite dose decreases, the older adult should be switched to another opioid (Pasero, Portenoy, & McCaffery, 1999; Pasero, Reed, & McCaffery, 1999). *Evidence Grade = E*
- **Short term use of haloperidol (Haldol) can be considered to control symptoms of agitation, paranoia, fear and delirium. However, this treatment may mask unrecognized pain** (Breitbart et al., 1996; Breitbart & Passik, 1993; Welch-McCaffrey & Dodge, 1988). *Evidence Grade = D*
- **Respiratory Depression and Sedation**
 - **Monitor sedation levels.** Sedation precedes opioid-induced respiratory depression; therefore, it is extremely important to monitor sedation level every 1 to 2 hours during at least the first 24 hours of opioid therapy in opioid-naïve patients and decrease the opioid dose if increased sedation is detected (APS, 2003; Ferrell, 1995; Pasero, Portenoy, & McCaffery, 1999; Pasero, Reed, & McCaffery, 1999; VHA/DoD, 2002). *Evidence Grade = D*

(See Appendix S in the original guideline document for Sedation Scale.)

- **Monitor for respiratory depression (e.g., shallow or irregular respirations, respiratory rate less than 8 respirations/min, periods of apnea). Opioids are contraindicated when respiratory depression is present.** Patients at increased risk for respiratory depression include older adults, those who require rapid dose escalation due to severe pain—particularly opioid-naïve patients—and those with coexisting pulmonary conditions (Pasero et al., 1999; VHA/DoD, 2002; Wheeler et al., 2002). *Evidence Grade = D*
 - **Administer naloxone (Narcan) to treat respiratory depression with careful titration to avoid precipitating a severe pain response to opioid withdrawal** (VHA/DoD, 2002; Wheeler et al., 2002). - *Evidence Grade = D*

(See Appendix T in the original guideline document for Naloxone Administration Guidelines.)

- **Nausea**
 - **Monitor for presence of nausea and vomiting.** Nausea and vomiting are less likely in older adults (Cepeda et al., "Side effects," 2003; Quinn, Brown, & Wallace, 1994). *Evidence Grade = D*
 - **Prophylactic treatment with preoperative dexamethasone or ondansetron may be warranted in older adults with more than two risk factors for post-operative nausea and vomiting (PONV): female, non-**

smoking status, history of motion sickness or PONV, use of opioids postoperatively (Gan et al., 2003). *Evidence Grade = D*

- **Use a multimodal pain management approach that allows the lowest effective opioid dose** (e.g., add nonopioid to alleviate nausea) (Pasero, Portenoy, & McCaffery, 1999). *Evidence Grade = E*
- Decrease the dose of the opioid to alleviate nausea (Pasero, Portenoy, & McCaffery, 1999). *Evidence Grade = E*
- Antiemetics can be used for analgesic-induced nausea but may result in problems in older patients due to increased sensitivity to their anticholinergic effects (bowel and bladder dysfunction, delirium, movement disorders). Thus routine use of antiemetics in older adults is not recommended (Ferrell, 1995; Quinn, Brown, & Wallace, 1994; Tune, 2000). *Evidence Grade = D*
- Antiemetics with low side effect profiles, such as corticosteroids and serotonin receptor (5-HT₃) antagonists, may be the best for use in older adults (Egbert, 1996). *Evidence Grade = E*
- If needed, metoclopramide (Reglan) has been found to have analgesic properties as well as antiemetic action; however, it can produce sedation (Kandler & Lisander, 1993). *Evidence Grade = D*
- Ondansetron has also been found to have antiemetic and antipruritic effects in patients receiving intraspinal analgesia (Szarvas et al., 2003). *Evidence Grade = B*
- **Constipation**
 - **Assess bowel function daily and initiate a bowel protocol (including a laxative and stool softener) as soon as opioid therapy is started and continue through treatment to prevent the constipating effects of opioid analgesics since constipation does not ease over time.** Constipation is a side effect of opioids in all patients, however the incidence in older adults is twice that of the general population and is a significant concern to older adults. Use the patient's home bowel protocol if possible (Paice et al., 2005; Pasero, Portenoy, & McCaffery, 1999; Pasero, Reed, McCaffery, 1999; VHA/DoD, 2002; Wheeler et al., 2002). *Evidence Grade = D*

(Please see the Contacts at the end of this guideline for information regarding an evidence-based Constipation Management guideline (Hert & Huseboe, 1998)).

- **Other**
 - **Monitor for other side effects of opioids in older adults (e.g., urinary retention, pruritus, exacerbation of Parkinson's disease)** (Ferrell, 1995; Gloth, 2001; VHA/DoD, 2002). *Evidence Grade = D*
 - **Measure intake and output and assess for signs of urinary retention/suppression** especially if there is coexisting benign prostatic hypertrophy (VHA/DoD, 2002; Wheeler et al., 2002). *Evidence Grade = D*

- **Manage pruritus by decreasing opioid dose** (may need to add nonopioid) or by administering an antihistamine (e.g., diphenhydramine), but monitor for adverse effects of anticholinergics and increased sedation (McCaffery & Pasero, 1999; Pasero, Portenoy, & McCaffery, 1999; VHA/DoD, 2002; Wheeler et al., 2002). *Evidence Grade = D*

Nonpharmacological Management

1. **Select nonpharmacologic strategies to complement analgesics.**

Multimodal treatments that include both pharmacological and nonpharmacologic interventions have been shown to improve pain control, decrease analgesic use, increase activity and function, decrease depression and anxiety and increase family involvement (APS, 2003; Farrell & Gibson, 1993; Gibson et al., 1996; Good et al., 1999; Kotler-Cope & Gerber, 1993; Luskin et al., 2000; Rakel & Frantz, 2003; VHA/DoD, 2002). *Evidence Grade = B*

- **Implement the following basic comfort measures as appropriate:**
 - Alter the environment to provide comfort (e.g., decrease lighting and noise, provide privacy, limit visitors as the patient wishes, and change position) (McCaffery & Pasero, 1999). *Evidence Grade = E*
 - Use movement or repositioning, and pressure relieving devices to reduce discomfort. Consider rest and immobilization as these measures may also enhance comfort (Barbour, McGuire, & Kirchoff, 1986; Carr & Thomas, 1997; McDonald & Sterling, 1998; Miller & Talerico, 2002). *Evidence Grade = D*
 - Initiate sleep hygiene procedures such as elimination of stimulant foods and beverages at least 8 hours before retiring; provision of a snack 1-2 hours before sleep, facilitate patient in performing his/her usual bedtime routines, and attention to environmental distracters (cold, heat, light, noise) (Bowman, 1997). *Evidence Grade = C*
- **Assist the patient to enhance his/her sense of personal control over pain.** Strategies may include facilitation of movement at a preferred pace, promotion of choice in selecting nonpharmacological treatments. Be aware that some older adults may be resistant to assuming control (APS, 2003; Bensink et al., 1992; Mobily, 1994; Nelson et al., 1990; Peerbhoy et al., 1998; Pellino & Ward, 1998; VHA/DoD, 2002). *Evidence Grade = C*
- **Demonstrate willingness to implement/alter strategies as needed to facilitate pain relief and achieve patient's comfort goal.** Pain is a sensory and emotional experience. Frequently reinforce availability of pain relief measures, encourage verbalization regarding pain concerns (AHCPR, 1992; Fraser & Kerr, 1993; Nelson et al., 1990; Watt-Watson et al., "The impact of nurses'," 2000; Wilder-Smith & Schuler, 1992). *Evidence Grade = C*
- **Support the patient's usual pain coping methods.** Older adults use diverse methods to cope with pain (e.g., prayer, meditation). Patient preference is important in selecting and using nondrug treatments (Ferrell, 1995; Fry & Wong, 1991). *Evidence Grade = C*

- **Facilitate use of home/folk pain remedies, unless contraindicated** (McCaffery & Pasero, 1999). *Evidence Grade = E*
 - **Evaluate physical and mental abilities necessary to use a nonpharmacological pain treatment.** Physical and mental fatigue may interfere with some techniques, such as distraction, relaxation, or imagery (McCaffery & Pasero, 1999). *Evidence Grade = E*
 - **Select cognitive-behavioral pain management and cutaneous stimulation options** such as relaxation strategies, imagery, heat/cold, transcutaneous electrical nerve stimulation (TENS) based on patient preference and cognitive/functional abilities (Mobily, 1994; VHA/DoD, 2002). *Evidence Grade = D*
2. **Consider cognitive-behavioral interventions for acute pain in older adults.** Cognitive-behavioral interventions help manage pain and help patients to understand more about their pain. Facilitate an active patient role in pain assessment and management through use of cognitive-behavioral interventions. Cognitive-behavioral interventions that promote relaxation (e.g., relaxation alone or with guided imagery, self-selected music therapy or hypnosis) provide a moderate to large beneficial effect on pain (AGS Panel on Persistent Pain in Older Persons, 2002; Devine, 2003; Mobily, 1994; VHA/DoD, 2002). Research evidence provided for the individual types of cognitive-behavioral interventions below demonstrates increasing support for use of these pain management approaches in older adults in conjunction with analgesics, not as a substitute. *Evidence Grade = B*

Cognitive-behavioral Interventions for Acute Pain in Older Adults Include:

- **Relaxation. Simple relaxation strategies can be used to complement analgesics** (Bensink et al., 1992; Miller & Perry, 1990; Seers & Carroll, 1998; VHA/DoD, 2002). *Evidence Grade = D*
 - **Use Jacobson Jaw relaxation technique** (See Appendix U in the original guideline document) **during turning and activity to decrease pain and distress.** Preoperative instruction is important for successful use of this technique (AHCPR, 1992; Ceccio, 1984; Good et al., 1999). *Evidence Grade = B*
 - **Use systematic relaxation technique following activity (e.g., ambulation) to decrease postoperative pain and distress.** Preoperative instruction is important for successful use of this technique (Roykulcharoen & Good, 2004). *Evidence Grade = D*
 - **Superficial massage may decrease pain and increase comfort, mainly by relaxing muscles.** Most common site for massage includes the back and shoulders, but hands and feet may be added. Use of a warm lubricant and long, slow strokes are recommended (Hamilton, 2000; Hattan, King, & Griffiths, 2002; McCaffery & Pasero, 1999; Nixon et al., 1997; Piotrowski et al., 2003; Richards, Gibson, & Overton-McCoy, 2000; Wang & Keck, 2004). *Evidence Grade = B*
- **Imagery. Consider use of guided imagery to decrease pain** (Antall & Kresevic, 2004; Deisch et al., 2000; Dossey, 1995;

Fernandez & Turk, 1989; Swinford, 1987; Tusek, Church, & Fazio, 1997). *Evidence Grade = B*

- The use of guided imagery after cardiac surgery can decrease pain, anxiety, and hospital length of stay (Deisch et al., 2000; Halpin et al., 2002). *Evidence Grade = C*
- Allow additional time for older adults to create and manipulate images during imagery interventions (Rakel & Herr, 2004). *Evidence Grade = E*
- Hypnosis during painful procedures is associated with decreases in pain, anxiety, analgesic requirements, and procedure time (Frenay et al., 2001; Lang et al., 2000; VHA/DoD, 2002). *Evidence Grade = B*
- **Avoid imagery in patients with severe cognitive impairment or psychosis** (Miller & Perry, 1990; Seers & Carroll, 1998). *Evidence Grade = C*

- **Distraction. Use distraction techniques, or directing attention away from pain to decrease pain intensity and distress.**

Distraction strategies include talking with others, listening to music, watching a video or TV or more active approaches such as singing, praying, use of self-statements or tapping a rhythm (Fernandez & Turk, 1989; Good, 1995, 1996; Good et al., 1999; Heitz, Symreng, & Scamman, 1992; McCaffery & Pasero, 1999; McCaffrey & Good, 2000; VHA/DoD, 2002). *Evidence Grade = B*

- Be aware that patients distracted from their pain may not "look like they are in pain." This could lead to an incorrect judgment that the patient is not in pain. It is important to be aware that after the distraction is over, the pain may be increased and pain relief measures may be needed (McCaffery & Pasero, 1999). *Evidence Grade = E*

- **Music. Consider music to decrease pain intensity during both ambulation and rest and to enhance sleep and comfort. Solicit patient preference regarding music.**

Listening to music while recovering from surgery promotes comfort, familiarity and distraction from pain (Gerdner, 1999; Good et al., 2002; Good et al., 2000; Good et al., 2001; Kneafsey, 1997; McCaffrey & Good, 2000; Shertzer & Keck, 2001; Zimmerman et al., 1996). *Evidence Grade = D*

3. **Consider physical therapeutic methods to manage acute pain in older adults.** Commonly used physical agents include application of heat and cold, vibration, transcutaneous electrical nerve stimulation (TENS), and rest or immobilization (Fraser & Kerr, 1993; Rhiner et al., 1993; VHA/DoD, 2002; Weinrich & Weinrich, 1990). *Evidence Grade = C*

- **Consider superficial heat/cold and vibration to relieve pain.**

These cutaneous stimulation techniques can be applied to the site of pain, or to a site other than the pain site (e.g., proximal, distal, or contralateral to pain (Creamer, Hunt, & Dieppe, 1996; Lehmann & Strain, 1985; McCaffery & Pasero, 1999; Sherer et al., 1986; VHA/DoD, 2002; Yarnitsky et al., 1997). *Evidence Grade = E*

- **Implement measures to prevent burns or tissue injury when using heat and cold in older adults** by wrapping the cold or heat pack and/or protecting the skin with a towel. Individuals at risk include older adults with cognitive

- impairment or impaired sensation in the area of application (McCaffery & Pasero, 1999). *Evidence Grade = E*
- Cold is preferred to heat for pain relief in the presence of acute trauma, bleeding, inflammation, and swelling, but should be avoided in patients with peripheral vascular disease, such as Raynaud's disease. Although cold may be more effective than heat, older patients may prefer heat and be reluctant to use cold (McCaffery & Pasero, 1999; Rhiner et al., 1993). *Evidence Grade = C*
 - **If cold is indicated, explain the benefits of cold** (e.g., may be more effective and last longer), **provide a gradual onset with layering, choose a cold pack that is soft, lightweight and conforming to body contours, and protect the patient from generalized chilling with blankets or additional clothing** (McCaffery & Pasero, 1999). *Evidence Grade = E*
 - Superficial heat can be applied via hot packs, immersion in water, or retention of body heat using plastic wrap. Superficial cold can be applied via waterproof bags, terry cloth dipped in ice water, gel packs or homemade cold packs (e.g., frozen peas) (McCaffery & Pasero, 1999). *Evidence Grade = E*
 - Vibration can have a soothing effect similar to massage, may provide numbing of the area stimulated for extended periods, and has been shown to be a preferred treatment by older adults (Ekblom & Hansson, 1985; Lundberg, Nordemar, & Ottoson, 1984; McCaffery & Pasero, 1999; Rhiner et al., 1993). *Evidence Grade = C*
 - **Vibration should be conducted with high frequency vibration and continued for up to 30 minutes, twice a day (BID) or three times daily (TID)**. Vibrating devices should not be used in patients who bruise easily, over areas of thrombophlebitis, over sites where skin has been injured, or with migraine or other headaches that worsen with sound or movement (McCaffery & Pasero, 1999). *Evidence Grade = E*
 - **Consider transcutaneous electrical nerve stimulations (TENS) to reduce postoperative pain and improve physical function in older adults**. TENS has been used successfully in older adults. When used in conjunction with opioid analgesics, TENS can produce more effective pain relief than an opioid alone (Hargreaves & Lander, 1989; Neary, 1981; Rakel & Frantz, 2003; Rakel & Herr, 2004; VHA/DoD, 2002). *Evidence Grade = B*
 - Be aware that patient characteristics, such as obesity, neuroticism, and long-term opioid use may diminish the effect of TENS on pain perception (Rakel & Herr, 2004). *Evidence Grade = E*
 - **Use hydration and extra gel or cream to lower skin impedance and increase comfort for patients with dry skin** who may require higher-intensity stimulation to achieve the needed effect (Rakel & Herr, 2004). *Evidence Grade = E*
 - **Alternate electrode sites regularly to prevent skin breakdown** and peel back electrodes slowly while holding the underlying skin to prevent tearing (Rakel & Herr, 2004). *Evidence Grade = E*

- **Immobilization/positioning. Position the immobilized patient in proper body alignment to enhance comfort and minimize pain or further injury.** Use methods and supports appropriate to the situation (e.g., splinting, traction, turning and positioning techniques [e.g., pillows to elevate the legs when hip fracture patients are positioned on their backs or pillows between their legs to prevent adduction of the hip]) (Nelson et al., 1990). *Evidence Grade = C*
 - Current review of randomized trials suggests that routine use of traction prior to surgery for hip fractures may not have any benefit in pain management or ease of fracture reduction (Parker & Handoll, 2000). *Evidence Grade = B*
 - **Exercise. Use passive and active range-of-motion exercises appropriate to the patient's situation.** Range-of-motion exercises decrease pain and support maintenance of independent movement. These activities are contraindicated whenever motion to a limb would be disruptive to the healing process (McCaffery & Wolff, 1992). *Evidence Grade = E*
4. **Consider patient preference for alternative therapies (e.g., acupressure, acupuncture, herbal therapy) that may support the treatment plan.** Evaluate cost/benefit and safety of any alternative therapies (Lewis et al., 2001; Sim et al., 2002; VHA/DoD, 2002; Wang, Caldwell-Andrews, & Kain, 2003; Wren, Kimbrall, & Norred, 2002). *Evidence Grade = D*

Evaluation of Effectiveness

Reassessment of Acute Pain

1. **Evaluate the effectiveness of pain management interventions and revise plan as needed.** Evaluation should include the following:
 - Whether the comfort-function goal is being met (e.g., <4 on 0-10 scale to cough and deep breathe)
 - Duration of pain relief
 - Impact of pain on the patient's ability to perform functional requirements necessary for recovery
 - Patient satisfaction with pain relief
 - Side effects including nausea, cognitive change, urinary and bowel function.
 - (AGS Panel on Persistent Pain in Older Persons, 2002; APS, 2003; McCaffery & Pasero, 1999; VHA/DoD, 2002). *Evidence Grade = D*
2. **Assess pain relief from pharmacologic interventions.** Research has shown that for patients with moderate pain at baseline a decrease of 1.3 units on a 0-10 NRS (20% reduction) corresponded to 'minimal improvement', a decrease of 2.4 (35% reduction) to 'much improvement', a decrease of 3.5 units (45% reduction) corresponded to 'very much improvement'. For patients with severe pain at baseline, the decrease in NRS pain score and the percentage of pain relief had to be larger to obtain similar degrees of pain relief. The change in pain intensity that is meaningful to patients increases as the severity of their baseline pain increases. Pain relief should be assessed 30 minutes after parenteral and 60 minutes after oral administration of pain

medication (Cepeda et al., "What decline, " 2003; Cepeda et al., "Side effects," 2003; VHA/DoD, 2002). *Evidence Grade = C*

3. **Establish regular reassessment and documentation of pain, including intensity, location, quality and duration, and impact of pain using selected assessment tools.** Systematic and regular reassessment of pain should be established in order to identify the efficacy of the pain intervention activities chosen and to determine any need for revision in the pain management plan (Chibnall & Tait, 2001; Pasero et al., 1999; VHA/DoD, 2002). *Evidence Grade = C*

- **Adjust postoperative pain reassessment schedule to the patient's situation:**
 - Immediate postanesthesia period: every 5-10 minutes.
 - First 24 hour postoperative period: every 1-2 hours
 - Subacute postoperative period: every 2-4 hours
 - If pain is well controlled after 24 hours: every 8 hours (with vital signs) (Chibnall & Tait, 2001; Pasero et al., 1999; VHA/DoD, 2002). *Evidence Grade = C*
- **Assess postoperative older adults around the clock and during rest, during activity, and through the nighttime when pain is often heightened.** Ability to sleep does not indicate absence of pain (APS, 2003; Chibnall & Tait, 2001; Donovan, Dillon, & McGuire, 1987; Nelson et al., 1990; VHA/DoD, 2002). *Evidence Grade = C*
- **Ask about pain and observe nonverbal pain-related behaviors during transfers or patient care activities** (Feldt, Ryden, & Miles, 1998; Hadjistavropoulos et al., 2000; Raway, 1993). *Evidence Grade = C*
- **Assess for pain-related complications at least every 2 hours during the first 24 hours postoperatively then every four to eight hours, based on treatment responses, including pulmonary function (e.g., sedation level, respiratory rate, lung sounds, oxygen saturation, signs of hypoxia)** (Puntillo & Weiss, 1994; Shea et al., 2002; VHA/DoD, 2002). *Evidence Grade = D*
 - **Consider using Pasero Five-point Sedation Scale** (Pasero, 1994). *Evidence Grade = E*

(See Appendix S in the original guideline document for Sedation Scale)

- **Assess the patient for atypical presentation of pain commonly seen in older adults** (e.g. shortness of breath and confusion with myocardial infarction and absence of or delayed chest pain; absence of pain during intra-abdominal emergencies) pain of various conditions is often referred from the site of origin (Adedeji & McAdam, 1996; Ambepitiya et al., 1994; Bayer et al., 1986; Gloth, 2001; van Geloven et al., 2000). *Evidence Grade = C*
- **Assess for presence of delirium that may develop during acute illness/post-operatively in older adults.** Factors to assess include: perioperative medications, such as anticholinergics, meperidine, sedatives/hypnotics; opioids (too little may be as bad as too much); withdrawal from alcohol and benzodiazepines; inhaled anesthetic agents; hypoxemia; post-

operative metabolic disturbances; sleep deprivation; unfamiliar environment; comorbid diseases; impaired vision/hearing; pain (Adunsky et al., "Exposure," 2002; AGS Panel on Persistent Pain in Older Persons, 2002; Babel, 1997; Duggleby & Lander, 1994; Egbert et al., 1990; Gustafson et al., 1991; Lynch et al., 1998; Morrison et al., 2003a; Pasero, Reed, & McCaffery, 1999; Rosenberg & Kehlet, 1993; Rosenberg, Rosenberg-Adamsen, & Kehlet, 1995; Strömberg et al., 1997; Williams-Russo et al., 1992; Williams et al., "Reducing acute," 1985a). *Evidence Grade = B*

4. **Document all pharmacologic and nonpharmacologic pain interventions in a visible record such as where vital signs are recorded or on a flowsheet.** Clear and visible documentation is important particularly during home care, hard to control pain, and analgesic infusions (APS, 2003; Ardery et al., 2003; Arnstein, 2002; Faries et al., 1991; McCaffery & Pasero, 1999; O'Connor, 2003; Pasero, Reed, & McCaffery, 1999; VHA/DoD, 2002; Voigt, Paice, & Pouliot, 1995). *Evidence Grade = D* (See Appendix B in the original guideline document for an example).
 - **If patients refuse analgesics, document each refusal including why and strategies to overcome irrational refusal. Address barriers of adherence to treatment plan** (Ardery et al., 2003; Pasero, Reed, & McCaffery, 1999). *Evidence Grade = E*
5. **Revise pain management plan if pain relief is not adequate. Consult with the patient's physician, nursing staff, rehabilitation and the pharmacy department** (McCaffery & Pasero, 1999; VHA/DoD, 2002). *Evidence Grade = D*

Pain Management Discharge Plan

1. **Begin discharge planning at admission to ensure an effective and safe pain management program for use at home, continuity of care and pain management and promote understanding of the treatment plan** (Desbiens et al., 1997; Hughes et al., 2000; Jacobs, 2000; Kemper, 2002; VHA/DoD, 2002; Watt-Watson et al., "Pain management," 2004). *Evidence Grade = C*
2. **Assure sufficient transition time to determine effectiveness and potential adverse effects when changing pain management regimens prior to hospital discharge** (Hughes et al., 2000; Jacobs, 2000; Kemper, 2002; VHA/DoD, 2002; Watt-Watson et al., "Pain management," 2004). *Evidence Grade = C*
3. **Assess the capability of the older adult and/or family to manage pain at home after discharge.** Effective and safe pain management must be within the ability of the older adult and/or family, especially when a complex pain management plan is required following discharge to the home setting. Assess availability of resources to support the patient. Consider necessity of assistance of a visiting nurse (Hughes et al., 2000; Jacobs, 2000; Kemper, 2002; VHA/DoD, 2002; Watt-Watson et al., "Pain management," 2004). *Evidence Grade = C*
4. **Develop and document the discharge plan in collaboration with the older adult and his/her family including the following elements:**

- Comfort-function goal after discharge (e.g., <4 on a numeric rating scale to ambulate and perform self-care activities)
- Specific drugs to be taken
- Drug dosage and frequency of administration
- Use of over-the-counter medications and potential drug interactions and overdoses with prescribed pain medication (e.g., maximum daily nonopioid dose can be exceeded when nonopioid-opioid analgesics are used to control pain after discharge and nonopioids that were used preoperatively are resumed postoperatively)
- Prevention of common side effects (e.g., constipation, sedation, nausea)
- Methods to improve function while recovering
- Precautions to follow when taking pain medication (e.g., activity limitations, dietary restrictions)
- Contact person for pain problems and other postoperative concerns
- Expectations as to the likely time course of their pain and rehabilitation

(Hughes et al., 2000; Jacobs, 2000; Kemper, 2002; VHA/DoD, 2002; Watt-Watson et al., "Pain management," 2004a). *Evidence Grade = C*

5. **Teach the older adult and family/care giver who will assist the older adult with pain management in the home. Describe and demonstrate each element of the post-discharge pain management plan** (Kemper, 2002; VHA/DoD, 2002). *Evidence Grade = C*
6. **Provide the older individual with written instructions that clearly describes the pain management plan** (Hughes et al., 2000; Jacobs, 2000; Kemper, 2002; VHA/DoD, 2002). *Evidence Grade = C*
7. **If the older adult is discharged to a facility or location other than home, provide a comprehensive pain management plan with clearly communicated transfer orders** (VHA/DoD, 2002). *Evidence Grade = D*
8. **Assess the patient's and family members' abilities to obtain analgesics and ensure availability of analgesics prior to discharge** (VHA/DoD, 2002). *Evidence Grade = D*

Definitions:

- A. There is evidence of well-designed meta-analysis in older adults.
- B. There is evidence of well-designed controlled trials in the older adult population; randomized and nonrandomized, well-designed quasi-experimental and cohort studies in older adult populations with results that consistently support a specific action (e.g., assessment, intervention or treatment).
- C. There is evidence of observational studies (e.g., correlational, descriptive studies) or controlled trials in older adults with inconsistent results.
- D. There is evidence of integrative reviews, national clinical practice guidelines, or acute pain research in adults but not specific to older adults.
- E. There is evidence of expert opinion or multiple case reports regarding older adults.

CLINICAL ALGORITHM(S)

A clinical algorithm is provided in the original guideline document titled, "Clinical Decision Making Process Applied to Pain Assessment and Management."

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

[References open in a new window](#)

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for selected recommendations (see "Major Recommendations" field).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Reduction in the incidence and severity of acute pain
- Minimization of preventable complications associated with pain management
- Reduction in morbidities associated with poorly controlled pain (e.g., cardiovascular stress, reduced pulmonary function, deep vein thrombosis, mood disorders)
- Improvement of function and enhancement of patient comfort and satisfaction

POTENTIAL HARMS

- Basal infusion with intravenous patient-controlled analgesia (IVPCA) increases the risk of accumulation and toxicity in older adults
- Acetaminophen doses should be reduced 50%-75% in older adults with reduced hepatic metabolism or a history of alcohol abuse due to increased risk of toxicity
- Non-steroidal anti-inflammatory drugs (NSAIDs) can cause gastric and renal toxicity, gastrointestinal bleeding, nephrotoxicity, and delirium
- Aspirin can cause gastric disturbances, bleeding and toxicity secondary to age-associated physiologic changes
- COX-2-selective non-steroidal anti-inflammatory drugs (NSAIDs) can cause nephrotoxicity, bleeding, and cardiovascular events
- Common opioid side effects include nausea, vomiting, constipation/ileus, delirium, respiratory depression, sedation, pruritus, urinary retention, and hypotension. Patients with Parkinson's Disease may experience increased muscle rigidity.

CONTRAINDICATIONS

CONTRAINDICATIONS

- Ketorolac is contraindicated for frail older adults with dehydration, preexisting renal dysfunction, cirrhosis or heart failure.
- Opioids are contraindicated when respiratory depression is present

- Range-of-motion exercises are contraindicated whenever motion to a limb would be disruptive to the healing process

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Audit Criteria/Indicators
Chart Documentation/Checklists/Forms
Clinical Algorithm
Quick Reference Guides/Physician Guides
Staff Training/Competency Material

For information about [availability](#), see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness
Patient-centeredness
Timeliness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Herr K, Bjoro K, Steffensmeier J, Rakel B. Acute pain management in older adults. Iowa City (IA): University of Iowa Gerontological Nursing Interventions Research Center, Research Translation and Dissemination Core; 2006 Jul. 113 p. [469 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1997 (revised 2006 Jul)

GUIDELINE DEVELOPER(S)

University of Iowa Gerontological Nursing Interventions Research Center,
Research Translation and Dissemination Core - Academic Institution

SOURCE(S) OF FUNDING

Developed with the support provided by Grant #P30 NR03979, [PI: Toni Tripp-Reimer, The University of Iowa College of Nursing], National Institute of Nursing Research, NIH

GUIDELINE COMMITTEE

University of Iowa Gerontological Nursing Interventions Research Center Research Development and Dissemination Core

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Author: Dr. Keela A. Herr, PhD, RN, FAAN

Series Editor: Marita G. Titler, PhD, RN, FAAN

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: Young D. Acute pain management. Iowa City (IA): University of Iowa Gerontological Nursing Interventions Research Center, Research Dissemination Core; 1999 Apr 6. 37 p.

GUIDELINE AVAILABILITY

Electronic copies: Not available at this time.

Print copies: Available from the University of Iowa Gerontological Nursing Interventions Research Center, Research Dissemination Core, 4118 Westlawn, Iowa City, IA 52242. For more information, please see the [University of Iowa Gerontological Nursing Interventions Research Center Web site](#).

AVAILABILITY OF COMPANION DOCUMENTS

The following are available:

- Assessment of acute pain in older adults. Quick reference guide. Iowa City (IA): University of Iowa Gerontological Nursing Interventions Research Center, Research Dissemination Core; 15 p.

- Appendices A - U of the original guideline document contain assessment tests (e.g., Bates-Jensen Wound Assessment, Abrasion and Laceration Wound Care in the Schools Knowledge Assessment Test), and a process evaluation monitor.

Electronic copies: Available from the [University of Iowa Gerontological Nursing Interventions Research Center Web site](#)

PATIENT RESOURCES

None available

NGC STATUS

The original summary was completed by ECRI on October 1, 1998. The information was verified by the guideline developer on December 15, 1998. An updated summary, based on the 1999 revision of the original guideline document was completed by ECRI on May 1, 1999. The updated information was verified by the guideline developer on June 23, 1999. This NGC summary was updated by ECRI on February 8, 2007. The information was verified by the guideline developer on February 21, 2007. This summary was updated by ECRI Institute on October 2, 2007, following the U.S. Food and Drug Administration (FDA) advisory on Haloperidol. This summary was updated by ECRI Institute on July 25, 2008, following the U.S. Food and Drug Administration advisory on Antipsychotics.

COPYRIGHT STATEMENT

This summary is based on content contained in the original guideline, which is subject to terms as specified by the guideline developer. These summaries may be downloaded from the NGC Web site and/or transferred to an electronic storage and retrieval system solely for the personal use of the individual downloading and transferring the material. Permission for all other uses must be obtained from the guideline developer by contacting the University of Iowa Gerontological Nursing Intervention Research Center, Research Dissemination Core.

DISCLAIMER

NGC DISCLAIMER

The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at <http://www.guideline.gov/about/inclusion.aspx>.

NGC, AHRQ, and its contractor ECRI Institute make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI Institute, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.

© 1998-2008 National Guideline Clearinghouse

Date Modified: 11/3/2008

