

Acute Pain



THE UNIVERSITY OF IOWA

COLLEGE
OF NURSING

Acute Pain Management in Older Adults

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Table of Contents

	Page
Overview of Guidelines	3
Why a Guideline for Acute Pain Management in Older Adults?	3
Strength of Evidence for Recommendations	4
External Review	4
Scheme for Grading the Strength & Consistency of Evidence in the Guideline	6
Introduction	7
Purpose	7
Definitions Related to Pain	7
Goals	8
Clinical Decision Making	8
Pain Assessment and Management Plan	11
Initial, Rapid Pain Assessment	11
Comprehensive Pain Assessment	14
Pain Assessment of Cognitively Impaired Older Adults	18
Pain Management Plan	21
Education of the Older Adult and Family	22
Pharmacological Management	24
General Principles of Pharmacological Management of Acute Pain in Older Adults	24
Route of Administration	26
Nonopioid Analgesics	29
Opioid Analgesics	31
Adjuvants	39
Nonpharmacological Management	40
General Principles Regarding the Use of Multimodal Therapies	40
Use of Physical Modalities	42
Use of Cognitive Modalities	46
Evaluation of Effectiveness	49
Reassessment of Acute Pain	49

Continued on next page

	Page
Pain Management Discharge Plan	50
Nursing Interventions Classification (NIC)	52
Major Nursing Interventions	52
Nursing Outcomes Classification (NOC)	55
Major Nursing Outcomes	56
Guideline Development Process & Methods	58
Searching for Research Evidence	58
Inclusion/Exclusion Criteria	58
Appendices	
Appendix A: Pain Intensity Rating Tools	59
Appendix B: Strategies for Obtaining Pain Intensity Report in Older Persons with Cognitive Impairment	64
Appendix C: Checklist of Non-Verbal Pain Indicators (CNPI)	65
Appendix D: Pain Assessment in Advanced Dementia (PAINAD)	66
Appendix E: Screening for Cognitive Impairment (Mini COG)	68
Appendix F: Five-Item Geriatric Depression Scale (GDS-5)	70
Appendix G: Functional Pain Scale (modified)	71
Appendix H: Brief Pain Inventory Short Form	72
Appendix I: CAGE Questionnaire	74
Appendix J: Types of Pain and Examples	75
Appendix K: Selected Nonopioids Analgesics: Older Adult Dosage and Comparative Efficacy to Standards	76
Appendix L: Opioid Analgesics Commonly Used in Older Adults for Management of Mild to Moderate Acute Pain	79
Appendix M: Opioid Analgesics Commonly Used in Older Adults For Management of Moderate to Severe Acute Pain	81
Appendix N : Risk Factors for Opioid-Induced Respiratory Depression	84
Appendix O: Pasero Opioid-Induced Sedation Scale	85
Appendix P: Jaw Relaxation Technique	86
Appendix Q: Nursing Interventions Classification (NIC)	87
Appendix R: Nursing Outcomes Classification (NOC)	90
Appendix S: Acute Pain Knowledge Assessment Test	91
Appendix T: Acute Pain Management Process Evaluation Monitor	94
Appendix U: Acute Pain Management Outcomes Monitor	96
References	99
Contact Resources	113

OVERVIEW OF GUIDELINES

This evidence-based practice guideline provides recommendations for the management of acute pain in older adults. Studies have shown that when evidence-based practice guidelines are effectively implemented, patient outcomes improve and resource use declines (Hussain, Michel, & Shiffman, 2009; Turner, Misso, Harris, & Green, 2008; Brożek et al., 2009). Development, dissemination and use of evidence-based guidelines promote application in practice of the current research or “best evidence.” Use of practice guidelines, however, requires critical thinking and use of available information for point-of-care decision making by health care providers. Patient care continues to require individualization based on patient needs, circumstances, and consumer preferences

WHY A GUIDELINE FOR ACUTE PAIN MANAGEMENT IN OLDER ADULTS?

Pain is a prevalent problem in a growing segment of the population and is often ineffectively managed. The older adult, defined as age 60 years and over, world population proportion is increasing. In 2009 it was 11% and by 2050 it will be 22% (Coldrey, Upton, & Macintyre, 2011; Gibson & Lussier, 2012). In developed countries, older adults comprise of 20% of the population and by 2050 is estimated to be a third of the population (Coldrey, Upton, & Macintyre, 2011; Gibson & Lussier, 2012). Forty percent of independently living older adults and up to 83% of those living in healthcare institutions report having pain that impacts their activities of daily life (Gagliese, 2009; Hwang, Richardson, Harris, & Morrison, 2010). Twenty to forty percent of older adults have pain daily (Platts-Mills et al., 2012). Older adults have the highest rates of surgery, hospitalization, injury and disease, which increases their risk of pain (Gibson & Lussier, 2012).

Research demonstrates older adults receive significantly less analgesic medication than younger adults experiencing similar painful conditions or procedures, leading to inadequate pain relief in these older adults. Under treated acute pain correlates with poorer outcomes during hospital stays including development of persistent pain, longer length of stay in the hospital, ineffective physical therapy sessions, ambulation delays, and delirium (Hwang et al., 2010; Platts-Mills et al., 2012; Hwang & Platts-Mills, 2013). Patients over the age of 75 are 19% less likely to have pain medication prescribed for acute pain than patients aged 35 to 54 (Platts-Mills et al., 2012). Thus, evidence-based recommendations that facilitate effective assessment and management of pain in older adults with acute pain are important.

Pain is a complex, subjective, and multidimensional experience without objective biological markers (Catananti & Gambassi, 2010). The most accurate and appropriate pain assessment method is self-reporting, due to frequent underestimating by healthcare professionals (Catananti & Gambassi, 2010). Yet, one of the most common reasons for unrelieved pain in older adults is the failure of health personnel to systematically assess and treat pain (Catananti & Gambassi, 2010; McLiesh, Mungall, & Wiechula, 2009).

As individuals age, the incidence of dementia increases while self-reported pain declines which can interfere with pain assessment and treatment because the pain is not detected. The ability to understand pain rating questions, remembering pain, and accurately interpreting painful events created by noxious stimuli are needed for accurate self-reported pain (Gagliese, 2009; Coldrey, Upton, & Macintyre, 2011; Gibson & Lussier, 2012). Older adults with dementia are given less pain medication than those who are able to communicate, even though they are just as likely to experience painful illnesses. While the neurological pathways associated with affective components of pain are impaired by the pathological changes of dementia, the sensory discriminative components remain intact (Catanati & Gambassi, 2010). Thus, assessment approaches that are appropriate for identifying pain in those with cognitive impairment are necessary.

Age-related factors complicate safe analgesic administration in older adults. Many older adults have coexisting medical conditions and take medications for treatment that may influence the choice of analgesic and its dosage. Psychiatric illnesses requiring tricyclic antidepressants and monoamine oxidase inhibitors for treatment, neurological disorders, pulmonary diseases and acute and chronic infections may increase risk of sedation, respiratory depression, and drug interactions that influence the control of postoperative pain (RNAO, 2013). Nutritional alterations (e.g., protein deficiency), age-related changes (e.g., reduced hepatic and renal function, reduced body water, altered ratio of lean body mass to total body weight) and altered pharmacokinetics impact treatment options necessitating careful evaluation and monitoring (McLiesh et al, 2009).

Clearly, improvements are necessary to meet the pain-related needs of older adults, address disparities in health care and to ensure that all older adults receive evidence-based pain management appropriate for this unique segment of the population.

Strength of Evidence for Recommendations

The strength of the evidence for each recommendation in this practice guideline was evaluated based on the previous guideline recommendations and new evidence reviewed and a recommendation grade was determined by the panel. The recommendation grade summarizes the strength of the supporting evidence for acute pain in older adults. Recommendation grades range from A to E on an ordinal scale (with more rigorous study design receiving a higher evidence grade). Evidence grades are as follows:

Although there is no simple formula for summarizing the evidence, this grading scheme rates studies with more rigorous study design higher. The scheme also gives greater weight to studies conducted in older adults (see the [Grading Scheme](#) on [page 6](#)). For example, recommendation grades A-C require support from at least one study conducted in older adults. Moreover, studies with poor internal validity were excluded. The strength of evidence recommendation grades are provided throughout the guideline following recommendations and references.

External Review

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. The following reviewers are acknowledged for their contributions:

- ♦ Paul Arnstein, PhD, RN, FNP-C, ACNS-BC, FAAN
- ♦ Chris Pasero, MS, RN-BC, FAAN



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Scheme for Grading the Strength & Consistency of Evidence in the Guideline

This guideline was developed from an exhaustive literature review and synthesis of current evidence on managing acute pain in older adults. Research and other evidence, such as guidelines and standards from professional organizations, were critiqued, analyzed, and used as supporting evidence.

The practice recommendations are assigned an evidence grade based upon the type and strength of evidence from research and other literature.

The grading schema used to make recommendations in this Evidence-Based practice guideline is:

- 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.

INTRODUCTION

Purpose

This evidence-based practice guideline is to assist health care providers in the assessment and management of acute pain in older adults 65 or more years of age. Those at risk for acute pain include individuals experiencing medical procedures, surgery, or medical conditions associated with acute pain such as hip fracture or trauma. The expected outcomes of effective management of acute pain in older adults include:

- ♦ 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

Definitions Related to Pain

Pain has been defined as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage” (Merskey, 1986). This definition has been endorsed by many organizations including the International Association for the Study of Pain (Huijjer, Miaskowski, Quin, & Twycross, 2013), the American Pain Society (APS, 2009) and the North American Nursing Diagnosis Association (Herdman & Kamitsuru, 2014)

“Pain is whatever the experiencing person says it is, existing whenever the experiencing person says it does” (McCaffery, 1968).

Acute Pain has been defined as pain of recent onset and probable limited duration. It usually has an identifiable temporal and causal relationship to injury or disease. This is in distinction to chronic pain which is defined as pain lasting for long periods of time. Chronic pain commonly persists beyond the time of healing of an injury and frequently there may not be any clearly identifiable cause (Hollenack, Cranmer, Zarowitz, & O'Shea, 2007; Macintyre, Schug, Scott, Visser, & Walker, 2010; IASP, 2012).

Pain Assessment is the multidimensional method by which a person's pain is interpreted by others (e.g., pain intensity, location, temporal characteristics, affective appraisal of, and coping with pain). Pain Assessment may involve collaboration with physicians, nurses and other health care providers.

Effective pain management has been described as ensuring the patient is with minimal pain or able to complete their daily tasks without limitations (McLiesh et al., 2009). Pain management must be person-centred, multidimensional and thorough, while also considering the bio-psychosocial, spiritual, and cultural factors of the individual affected (RNAO, 2013).

Goals

The goals of evidence-based pain management are:

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

Evidence-based recommendations for clinical practice were developed to support clinical decision making. The recommendations focus on assessment, planning, implementation of the treatment plan and evaluation of the effectiveness of treatment in older adults. Documentation is a critical component of clinical decision making at each step of the process. Each key recommendation is identified in **bold** and is accompanied by references for supporting evidence as well as a recommendation grade (in *italics*). Recommendations may also be accompanied by explanatory content.

Clinical Decision Making

Systematic reviews and clinical guidelines are available to aid in clinical decision-making. Selection of a guideline that is best aligned with patient (e.g., age, diagnosis) and setting characteristics is important. However, it is necessary to acknowledge that many guidelines exclude selected treatment options because of limited evidence available and thus helpful approaches to treating pain may be abandoned (Carr, 2008). The clinician must consider individual patient circumstances and characteristics, as well as their established treatment goals, in determining the plan of care.

Evidence-based acute pain management involves a planned, systematic approach to patient care. The basic steps of this clinical decision-making process are visualized in **Figure 1**.

Pain assessment is a critical component of a comprehensive approach to acute pain management of older adults. The scope and nature of the pain assessment will depend on a number of factors such as the physiological stability of the patient, whether the situation is an emergency or planned event (Macintyre et al., 2010). If the older adult presents in moderate to severe acute pain (e.g., greater than four on a 0-10 numeric rating scale), the first priority is to complete an initial, rapid pain assessment and treat the pain (Abdulla et al., 2013; APS, 2016; Schofield, 2014). Once the older person's pain is alleviated a comprehensive pain assessment should be completed. A comprehensive pain assessment should be completed prior to a known painful event, such as surgery or diagnostic procedures. (See **Pain Assessment and Management Plan, p.11**).

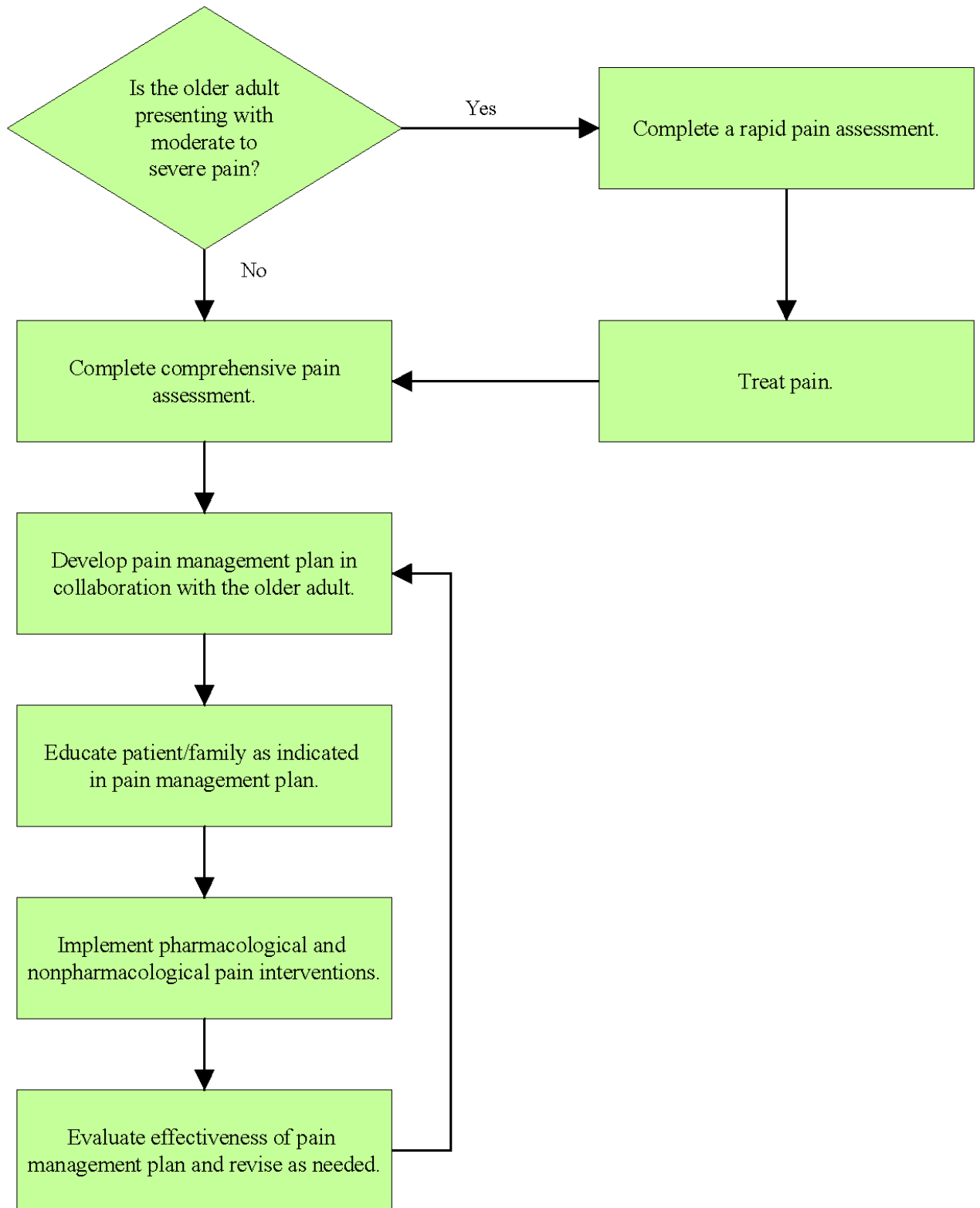
Older adults with cognitive impairment, such as delirium and severe dementia, may not be able to self-report pain and have special pain assessment needs. These needs and recommendations for pain assessment strategies are addressed in a separate subsection and are meant to supplement and augment the recommendations made in other sections of the guideline. (See **Pain Assessment and Management Plan, p.11**).

Based on the comprehensive assessment of the older adult's actual or potential pain, an individual pain management plan is developed together with the older adult and/or family. (See **Pain Assessment and Management Plan, p.11**).

The comprehensive pain management plan should include multiple strategies including patient education, pharmacological and/or nonpharmacological interventions. (See separate sections: **Education of the Older Adult and Family, p.22**, **Pharmacological Management, p.24** and **Nonpharmacological Management, p.40**).

Evaluation and scheduled systematic reassessment of the older adult's actual or potential pain is necessary to evaluate the effectiveness of the pain management plan. The plan is revised whenever necessary. Further, a discharge plan is developed to ensure continuity of pain care. (See **Evaluation of Effectiveness, p.48**).

Figure 1. Clinical decision making process applied to pain assessment and management



PAIN ASSESSMENT & MANAGEMENT PLAN

The Joint Commission on Accreditation of Healthcare Organizations (The Joint Commission) (TJC, 2015) requires that nurses and other health care providers in hospitals, long-term care, and other health care facilities routinely screen for pain, conduct more comprehensive assessment when pain is present and reassess the pain at appropriate intervals.

A baseline pain assessment is necessary prior to a known painful event, such as surgery or diagnostic procedures; and reassessed expeditiously after the procedure to ensure the older adult's pain is managed in a proactive manner. Components of an initial comprehensive assessment may include location, quality, intensity, onset, frequency, and duration of pain, aggravating and alleviating factors, impact of pain on physical function, emotions and sleep.. 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

I. 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 (Prowse, 2007; RNAO, 2013; Schofield, O'Mahony, Collet & Potter, 2008), 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, particularly in those with dementia or those on medications that alter HR and BP. (AGS, 2009; Barr et al., 2013; Kunz, Mylius, Scharmann, Schepelman, & Lautenbacher, 2009) [*Evidence Grade = C*].

- II. **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, 2009; Hadjistavropoulos et al., 2007; Herr, Coyne, McCaffery, Manworren, & Merkel, 2011 ; Royal College of Physicians, British Geriatrics Society and British Pain Society, 2007)[*Evidence Grade = D*].
- ♦ Self-report can often be obtained in those with mild to moderate cognitive impairment (Lukas, Niederecker, Günther, Mayer, & Nikolaus, 2013b; Mehta, Siegler, Henderson, & Reid, 2010; Pesonen et al., 2009) [*Evidence Grade = C*].
 - ♦ Evidence suggests cognitive impairment does not change pain intensity experienced, but may affect its interpretation (Colel et al., 2011; Kunz et al., 2009) [*Evidence Grade = B*].
 - ♦ **Simple tools, such as the Verbal Descriptor Scale, are recommended in those with cognitive impairment** (Lukas et al., 2013b; Pesonen et al., 2009) [*Evidence Grade = C*].
- III. **If a self-report of pain from the older adult cannot be obtained due to altered LOC or possible cognitive impairment, assess pain with nonverbal cues of pain** (Ahn & Horgas, 2013; Hadjistavropoulos, MacNab, Lints-Martindale, Martin, Hadjistavropoulos, 2009; Lukas, Barber, Johnson, & Gibson, 2013a; Shega et al., 2008; Sheu, Versloot, Nader, Kerr, & Craig, 2012) [*Evidence Grade = B*]. (See section on **Pain Assessment of Cognitively Impaired Older Adults** for assessment methods).
- IV. **Ask the patient to mark on a diagram or to point to the site of the pain.** Older adults have multiple sources of pain and identification can help target treatment. Pain maps or drawings can be used with cognitively intact and impaired older adults to identify the location of pain (Schofield et al., 2008) [*Evidence Grade = D*].
- V. **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?” Open ended questions, such as “Tell me about your pain or discomfort” may be more effective. (McDonald, Shea, Rose, & Fedo, 2009) [*Evidence Grade = C*].
- VI. **Assess pain intensity by selecting a validated 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, 2009; Gagliese, Weizblit, Ellis, & Chan, 2005; Hadjistavropoulos et al., 2007; Herr et al., 2012) [*Evidence Grade = C*].

- ♦ **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)** (Herr, Spratt, Garand, & Li, 2007; Lukas, Barber et al., 2013; van Dijk, Kappen, van Wijck, Kalkman, & Schuurmans, 2012; Wood, Nicholas, Blyth, Asghari, & Gibson, 2010) [*Evidence Grade = B*].
- ♦ **Verbal Descriptor Scale (VDS) appears to be easiest and most preferred by older adults and easiest for those with cognitive impairment** (Hallingbye, Martin & Viscomi, 2011; Herr et al., 2007; Lukas et al., 2013a; Pesonen et al., 2009) [*Evidence Grade = B*].
 - **Four-point Verbal Rating Scale (VRS)** (Lukas et al., 2013b) [*Evidence Grade = C*].
 - **Pain Thermometer (PT)** (Coker et al., 2008; Herr et al., 2007; Li, Herr, & Chen, 2009; Ware, Epps, Herr, & Packard, 2006; Ware et al., 2015) [*Evidence Grade = B*].
 - **Present Pain Inventory Scale (PPI)** (Gagliese et al., 2005; Pautex et al., 2005) [*Evidence Grade = C*].
- ♦ **Faces Pain Scale (FPS-R)** (Hicks, von Baeyer, Spafford, van Korlaar, & Goodenough, 2001) **is an alternate tool that is often preferred by diverse older adults to express their pain severity, including Asians, Hispanics and African Americans** (Herr et al., 2007; Li, Liu, & Herr, 2007; Ware et al., 2006; Li et al., 2009; Zhou, Petpichetchain, & Kitrungrrote, 2011) [*Evidence Grade = B*].
 - 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 & McCaffery, 2011a) [*Evidence Grade = E*]. (See [Appendix A](#) for examples of pain intensity tools recommended for use with older adults.)

VII. 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, Asian and Hispanic older adults, although individual preferences should be considered (Cruz-Almeida et al., 2014; Narayan, 2010; Herr et al., 2007; Li et al., 2007; Ware et al., 2006; Li et al., 2009; Zhou et al., 2011) [*Evidence Grade = C*].

- VIII. **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 (Bruckenthal, 2010; Herr, 2010; Manz, Mosier, Nusser-Gerlach, Bergstrom, & Agrawal, 2000) [*Evidence Grade = C*].
- IX. **Allow sufficient time for the older adult to process information and to respond** (Bruckenthal, 2010; Herr, 2010; Bergh, Sjöström, Odén, & Steen, 2000) [*Evidence Grade = C*].
- X. **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 (e.g., on a scale of 0 to 10) that makes it easy to perform needed recovery activities that may be painful, such as coughing and deep breathing. 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, Africano, Polo, Alcalá, & Carr, 2003a; RNAO, 2013; Schofield, 2014) [*Evidence Grade = C*].
- XI. **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 (Chou et al., 2016; Gordon et al., 2005; RNAO, 2013) [*Evidence Grade = D*].
- XII. **Treat moderate to severe pain prior to completing comprehensive pain assessment** (Macintyre, et al., 2010) [*Evidence Grade = D*].

Comprehensive Pain Assessment

- I. **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) as increased sources of pain increase pain intensity (Patel, Guralnik, Dansie, & Turk, 2013). This is especially important for patients that cannot communicate their pain (Herr et al., 2011; Kovach, Noonan, Schlidt, Reynolds, & Wells, 2006) [*Evidence Grade = B*].

- ♦ **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 of Cognitively Impaired Older Adults](#) for screening methods) (AGS, 2009; Hallingby et al., 2011) [*Evidence Grade = C*].
 - Use a brief cognitive screen, such as the 3 minute Mini-Cog that includes a clock drawing and a three-item recall, to establish difficulty obtaining reliable self-report regarding pain (Borson, Scanlan, Brush, Vitaliano, & Dokmak, 2000; Lessig, Scanlan, Nazemi, & Borson, 2008) [*Evidence Grade = C*].
 - Other methods for evaluating ability to accurately self-report involves asking the patient to point on the scale where a pain that is mild and one that is very bad would be and evaluate if they are using the scale appropriately (Herr et al., 2011) [*Evidence Grade = D*].

- ♦ **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 (Achterberg et al. 2010; Jensen-Dahm, Vogel, Waldorff, & Waldemar, 2012; Rakel, Blodgett, Zimmerman, et al., 2012) [*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 (Rudy, Weiner, Lieber, Slabodo, & Boston, 2007) [*Evidence Grade = C*].
 - A **Five-Item Geriatric Depression Scale** (Hoyl et al., 1999) (see [Appendix F](#)) has shown to be a reliable alternative to the 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** (Pasero & McCaffery, 2011a; RNAO, 2013) [*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)** (RNAO, 2013) [*Evidence Grade = C*].

- A short tool, the Functional Pain Scale, combines pain severity and function rating tolerability of pain with activity (Gloth, Scheve, Stober, Chow, & Prosser, 2002) (See [Appendix G](#)) [*Evidence Grade = C*].
 - **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** (see [Appendix H](#)) has been shown to be a reliable measure of impact of pain in the postoperative context (Mendoza et al., 2004) [*Evidence Grade = C*].
- ♦ **Pain history (current pain and past experiences with painful conditions). Review of medical history, physical examination and pertinent laboratory studies or diagnostic tests can help determine pain etiology** (Hadjistavropoulos et al., 2009; Herr et al., 2011) [*Evidence Grade = D*].
- **Assess factors that alleviate or aggravate the older person’s pain** (Hallingbye, Martin & Viscomi, 2011; RNAO, 2013) [*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 (Donovan et al., 1987; RNAO, 2013) [*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 (Hirsh, Callander, Robinson, 2011; Prowse, 2007) [*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, 2011a; RNAO, 2013) [*Evidence Grade = D*].

- ♦ **Past pain experience and knowledge**
 - **Investigate prior use of analgesics for pain control (including OTC analgesics), particularly their effectiveness and side effects** (AGS, 2009; Herr, 2014; Mehta et al., 2010) [*Evidence Grade = C*].
 - **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, 2009; Bruckenthal, 2010; RNAO, 2013) [*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 (Bruckenthal, 2010; RNAO, 2013) [*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 (Abdulla et al., 2013; Catananti & Gambassi, 2010; Prowse, 2007) [*Evidence Grade = C*].
 - **Assess the patient/family's current knowledge of pain management strategies that may be implemented during hospitalization.** (Macintyre, et al., 2010) [*Evidence Grade = D*].
- ♦ **Assess bowel and bladder functions (e.g., usual frequency and quality of bowel movements, use of laxatives)** (AGS, 2009) [*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, 2009; Herr, 2014; Mehta et al., 2010) [*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, 2011b) [*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, 2009; Martin et al., 2002) [*Evidence Grade = C*].
- **Consider CAGE questionnaire** (Ewing, 1984) (See [Appendix I](#)) for **evaluation of potential alcoholism in initial interview** (Adams, Barry, Fleming, 1996; Martin et al., 2002; Moore, Seeman, Morgenstern, Beck, & Reuben, 2002; Amer Sarfraz, 2003) [*Evidence Grade = C*].

- II. **Involve the family in all aspects of assessment and planning for pain management.**
Provide opportunity for individualized patient/family and nurse interaction (RNAO, 2013; Weiner, Peterson, & Keefe, 1999; Werner, Cohen-Mansfield, Watson, & Pasis, 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). Physiological measures such as blood pressure or heart rate are the least sensitive indicators of pain.
4. Report of pain from a family member or others close to the patient
5. Analgesic trial to verify pain etiology

(Hadjistavropoulos et al., 2007; Herr et al., 2011) [*Evidence Grade = E*].

- I. **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, 2009; Kane, Ouslander, & Abrass, 2004; Naylor, Stephens, Bowles, & Bixby, 2005) [*Evidence Grade = C*].

Use a brief cognitive screen, such as the 3 minute **Mini-Cog**, that includes a clock drawing and a three-item recall, to identify cognitive impairment that can interfere with reliable self-report regarding pain (Alagiakrishnan et al., 2007; Borson et al., 2000; Lessig et al., 2008) (See [Appendix E](#)) [*Evidence Grade = C*].

- II. **Ask the family for information on cognitive status.** The family may provide vital information regarding cognitive impairment of the patient (Herr et al., 2011; Naylor et al., 2005) [*Evidence Grade = B*].
- III. **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 (Herr et al., 2011; Kelley, Siegler, & Reid, 2008; Miller et al., 1996) [*Evidence Grade = B*].
- IV. **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 (Lukas et al., 2013) [*Evidence Grade = C*].
- V. **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, UTI, and constipation. Treat the underlying cause of pain using etiology specific interventions (Kovack et al., 2006; RNAO, 2013) [*Evidence Grade = B*].
- VI. **Observe behavior when the patient is engaged in activity (e.g., transfers, ambulation, repositioning) as observation at rest can be misleading** (AGS, 2009; AMDA, 2012; Royal College of Physicians, British Pain Society, & British Geriatrics Society, 2007; Hadjistavropoulos et al., 2007) [*Evidence Grade = D*].
- VII. **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 (Eritz & Hadjistavropoulos, 2011) [*Evidence Grade = C*].
- VIII. **Observe for behavioral indicators of pain in patients who are unable to provide self-report.** Behavioral indicators can be used to help assess pain in all patients, but they do not take precedence over self-report.

- a. Directly observable behaviors, such as grimacing, moaning, guarding, bracing, posturing, as well as those less common such as agitation, aggression, restlessness, resisting care, and changes in usual behavior patterns may be indicators of pain and should be monitored (Ahn & Horgas, 2013; Hadjistavropoulos et al., 2009; Sheu et al., 2012) [*Evidence Grade = B*].
- b. Many behavioral indicators have been identified that may represent presence of pain (AGS, 2002), with those most often identified with acute pain including restlessness, rubbing, guarding or splinting operative or injured site, bracing, frowning, grimacing, wincing, groaning, moaning and crying. Other less typical behaviors can also be related to pain and thus warrant observation for change in behavior and soliciting reports from family/caregivers regarding typical expressions of pain. Facial grimacing or expression, is a key behavior in detecting and judging severity of pain in those with dementia, although further study is needed to develop clinically useful methods (Lints-Martindale, Hadjistavropoulos, Lix, & Thorpe, 2012; Shega et al., 2008; Sheu et al., 2012) [*Evidence Grade = B*].

IX. 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.

Many behavioral scales have been developed for assessing pain in the nonverbal older adults with severe dementia (Corbett et al., 2012; Herr et al., 2011; Husebo, Ballard, Sandvik, Nilsen, & Aarsland, 2011; Lichtner et al., 2014; Lobbezoo, Weijenberg, Scherder, 2011); however only two have been tested for use in the acute care setting, as well as one evaluated for use with older adults in critical care [*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 (Lints-Martindale et al., 2012; Ersek, Herr, Neradilek, Buck, & Black, 2010; Neville & Ostini, 2014) (See [Appendix C](#)) [*Evidence Grade = C*].
- ♦ **The Pain Assessment in Advanced Dementia Scale (PAINAD)** (Warden, Hurley & Volicer, 2003) is a 5 category observation tool focusing on breathing, negative vocalizations, facial expression, body language, consolability. (Cohen-Mansfield & Lipson, 2008; DeWaters et al., 2008; Leong, Chong & Gibson, 2006; Zwakhalen, Hamers & Bergen, 2006) [*Evidence Grade = C*].
- ♦ In the setting of critical care, **the Critical-Care Observation Tool (CPOT)** (Gélinas, Fillion, Puntillo, Viens, & Fortier, 2006) is a valid tool and has included testing with older adults (Gélinas, Harel, Fillion, Puntillow, & Johnston, 2009; Gélinas & Johnston, 2007; Keane, 2013; Marmo & Fowler, 2010; Tousignant-Laflamme, Bourgault, Gélinas, & Marchand, 2010) [*Evidence Grade = B*].

- X. **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** (Eritz & Hadjistavropoulos, 2011; Liu, 2014)

Pain Management Plan

- I. **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 (Gordon et al., 2010; RNAO, 2013) [*Evidence Grade = C*].
- II. **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.. Alternatively some patients expect 100% pain relief which may not be realistic. The goal is to reduce pain to a level that allows completion of activities needed to prevent complications--often a 50% reduction in pain is realistic (Bruckenthal, 2010; Herr, 2014; RNAO, 2013) [*Evidence Grade = D*].
- III. **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, 2009; RNAO, 2013) [*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, 2009; Hallingby et al., 2011) [*Evidence Grade = D*].

EDUCATION OF THE OLDER ADULT & FAMILY

I. Educate and engage 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) (Cousins, 2009; RNAO, 2013) [*Evidence Grade = A*].

II. 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 (Chou, et al., 2016; Devine, 1992; Devine & Cook, 1986; RNAO, 2013) [*Evidence Grade = C*].

III. 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 (RNAO, 2013) [*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 (RNAO, 2013; Yates, Fentunan, & Dewar, 1995) [*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) (RNAO, 2013) [*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 (RNAO, 2013) [*Evidence Grade = C*].
- Address patient's expectations on treatment preferences and pain relief preoperatively for best results (Isaacs et al., 2013; APS, 2014) [*Evidence Grade = B*].

♦ **Pain Assessment**

- Explain 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 they must tell their nurses or physicians if they have pain that interferes with their accomplishing the identified functional goals (McDonald, Freeland, Thomas, & Moore, 2001; RNAO, 2013; Wilkie, Williams, Grevstad, & Mekwa, 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 (McCaffery & Pasero, 2011a; RNAO, 2013) [*Evidence Grade = C*].

♦ **Pharmacologic Management**

- Avoid terminology such as 'narcotic' or 'drug,' which contributes to fears about drug addiction (McCaffery & Pasero, 2011c) [*Evidence Grade = E*].
- Allay fears/misconceptions regarding opioid use, such as addiction, tolerance, and respiratory depression (Brockopp, Warden, Colclough, & Brockopp, 1996; Ferrell, Ferrell, Ahn, & Tran, 1994; Greer, Dalton, Carlson, & Youngblood, 2001; RNAO, 2013) [*Evidence Grade = B*].
- Explain common side effects (e.g., constipation, sedation, nausea) and plans for prevention and/or treatment.(RNAO, 2013) [*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 (C) (RNAO, 2013) (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 (RNAO, 2013) [Evidence Grade = E].
- Describe and demonstrate cognitive-behavioral methods only when pain is reasonably well-controlled with analgesics (RNAO, 2013) [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) (RNAO, 2013) [Evidence Grade = D].
- Explain to the older adult and family that nonpharmacological methods should complement, not replace pharmacological interventions. Nonpharmacological strategies alone may not manage moderate to severe pain (RNAO, 2013) [Evidence Grade = D].

- IV. **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 (Macintyre, et al., 2010; RNAO, 2013) [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.

1. General Principles of Pharmacological Management of Acute Pain in Older Adults

- I. **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 and goals of treatment** (Chou et al., 2016, Abdulla et al., 2013; AGS, 2009) [Evidence Grade = D]. (See [Appendix J](#))

II. **Physiologic changes in older adults increase risk of side effects, resulting in the need to start low and go slow. Analgesics should always be titrated to response.** (Liukas et al., 2008, Liukas et al., 2011; Abdulla et al., 2013) [*Evidence Grade = A*].

- ♦ 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.

III. **Schedule or offer pain medication around-the-clock (ATC) when acute pain is predictable or continuous**

- ♦ Scheduled around-the-clock (ATC) administration of pain medication helps maintain a stable analgesic blood level and gives structure to the pain management plan. 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 (AGS, 2009; Fine, 2012; McCaffery & Passero, 2011d) [*Evidence Grade = D*].
- ♦ Administering analgesia prior to activity may improve the older adult’s ability to perform the activity and may reduce post activity analgesic requirements (Abdulla et al., 2013; Flory, Fankhauser, &McShane, 2001; Paice, Noskin, Vanagunas, & Shott, 2005; Popp & Portenoy, 1996) [*Evidence Grade = B*].

IV. **Provide multimodal analgesia using combinations of analgesics with varying mechanisms of action such as acetaminophen or a NSAID with an opioid (unless contraindicated) because of the dose-sparing effects and consequent reduction in incidence or severity of opioid-induced side effects** (McDaid, Rice, Wright, Jenkins, & Woolacott, 2010; APS,2016) [*Evidence Grade = B*].

V. **Consider a preoperative dose of one or more nonopioid(s) for major surgery as part of a multimodal regimen.**

- ♦ Initiating analgesia with a single dose of gabapentin or pregablin, acetaminophen and in some situations celecoxib or local anesthetic injection, prior to surgery may reduce postoperative analgesic requirements and help prevent development of chronic pain syndromes (e.g., phantom limb pain). Preoperative dosing may be particularly beneficial in frail older adults at high risk for opioid-induced side effects (Chaparro, Smith, Moore, Wiffen, & Gilron, 2013; Kang, et al., 2013; APS,2016; Eipe, et al., 2015; Mishriky, Waldron, & Habib, 2015) [*Evidence Grade = A*].
- ♦ Preoperative administration of opioids is not recommended as this intervention has not been shown to decrease postoperative pain and/or opioid consumption (Ong, Lirk, Seymour, & Jenkins, 2005) [*Evidence Grade = A*].

VI. Maintain high vigilance for side effects and drug-drug, drug-disease interactions.

- ♦ Normal effects of aging on the pharmacokinetic and pharmacodynamics properties of medications as well as common comorbid diseases such as coronary artery disease, congestive heart failure, hypertension and parkinsonism amplify side effects and potential for drug interactions (AGS, 2009) [*Evidence Grade = D*].

2. Route of Administration

I. Choose the least invasive and safest route that can relieve pain given the etiology and severity of pain. Consider oral route first (AGS, 2009; Fine, 2012; Macintyre, et al., 2010; Abdulla, et al., 2013) [*Evidence Grade = D*].

II. Use the Intravenous (IV) administration when rapid titration is needed for severe pain.

- ♦ Timing of medication administration is important. Severe, episodic pain requires a rapid onset of action and short duration. Use of IV route promotes quick onset, increased potency, and ease of titration.
- ♦ Use cautiously as the IV route has been shown to significantly increase risk of postoperative cognitive dysfunction (Wang, Sands, Vaurio, Mullen, & Leung, 2007; Hudcova, et al., 2009) [*Evidence Grade = C*].

III. Reserve use of IV PCA for times when prolonged parenteral administration is required

- ♦ IV PCA is designed to maintain a level of analgesia; therefore, prior to initiating PCA therapy patients should be medicated to a level of pain relief that can be maintained through the use of PCA therapy. This is generally accomplished by loading doses administered in the operating and post-anesthesia recovery room or emergency department.
- ♦ Screen for cognitive and physical ability to manage pain by PCA. Allocate 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. (See sections on **Education of the Older Adult and Family** and **Pain Assessment** for more information). (Egbert, Lampros, & Parks, 1993; Egbert, Parks, Short, & Burnett, 1990; Mann et al., 2000; Mann, Pouzeratte, & Elejam, 2003; Pasero & McCaffery, 2011d; Silvasti & Pitkanen, 2001) [*Evidence Grade = B*].
- ♦ Anxiety and depression are associate with increased number of PCA demands and dissatisfaction.(De Cosmo et al., 2008) [*Evidence Grade = C*].

IV. Start low with PCA doses and titrate slowly if needed based on close patient monitoring.

In patients 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 (Hudcova, et al., 2009; George et al. 2010) [*Evidence Grade = C*].

V. Do not use a basal (continuous) infusion with IV PCA in opioid-naïve adults.

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 (Hudcova, et al., 2009; George et al. 2010; Chou et al., 2016) [*Evidence Grade = C*].

VI. 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 (Austin, Stapleton, & Mather, 1980; Conner & Deane, 1995; Egbert et al., 1990; Erstad, Meeks, Chow, Rappaport, & Levinson, 1997; Pasero & McCaffery, 2011e; Chou, et al., 2016) [*Evidence Grade = B*].

VII. Offer neuraxial analgesia with opioids, local anesthetics, or both for major thoracic, abdominal procedures, hip and lower extremity surgeries particularly in patients at risk for cardiac complications, pulmonary complications, or prolonged ileus.

- ♦ Doses of opioids administered epidurally or intrathecally (spinal) are much smaller than those required by the parenteral route, which can reduce systemic side effects, 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). Epidural or spinal analgesia is also associated with lower risk of postoperative mortality, venous thromboembolism, myocardial infraction, pneumonia, and respiratory depression, and decreased duration of ileus (APS, 2009; Fant et al., 2013; Nishimori, Ballantyne, & Low, 2012) [*Evidence Grade = A*].
- ♦ 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 et al., 2003) [*Evidence Grade = B*].

VIII. Promote use of local anesthetic-based regional anesthesia techniques for surgical procedures of the extremities, abdomen and thorax given in combination with systemic analgesics

- ♦ Compared with opioid analgesia, continuous nerve blocks (regardless of catheter location) provides better postoperative analgesia and leads to reductions in opioid use as well as the incidence of nausea, vomiting, pruritus and sedation (Macintyre et al., 2010) [*Evidence Grade = A*].

- ♦ Monitor for block failure, vascular, motor, and sensory effects and signs of systemic toxicity of the local anesthetic. (Eledjam et al., 2002; Haddad & Williams, 1995; Jones & White, 1985; Kehlet & Holte, 2001; Kehlet, 1998; Pasero, 2004; Pasero & McCaffery, 2011f; Singelyn & Gouverneur, 2000) [*Evidence Grade = B*].

IX. Ensure safe and effective therapy

- ♦ Providers managing regional or neuraxial techniques should have the appropriate education, training, oversight, and experience.
- ♦ Systematically monitor patients for adequate pain control, adverse effects including respiratory depression, urinary retention, pruritis, and proper functioning of equipment throughout the course of treatment (Chou et al., 2016) [*Evidence Grade = D*].
- ♦ 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) (Hunold et al., 2013; Jarzyna et al., 2011) [*Evidence Grade = B*].
- ♦ Monitor blood pressure regularly with older adults receiving local anesthetics. Higher concentrations of any local anesthetic will provide an increased motor block (possibly limiting ambulation) and/or a sympathetic blockade (resulting in resting or orthostatic hypotension). Patients receiving epidural or intrathecal local anesthetic should be kept well hydrated and monitored regularly for changes in lower extremity motor strength and orthostatic hypotension. (Mann et al., 2000) [*Evidence Grade = B*].

X. Topical

- ♦ Offer topical local anesthetic agents to reduce discomfort of procedural pain, including lidocaine topical 5% (Lidoderm), vapocoolant anesthetic sprays, and lidocaine gel may be useful in older adults —(AGS, 2009; Abdulla et al., 2013) [*Evidence Grade = D*].
- ♦ Evidence indicates that topical NSAID formulations can achieve therapeutic concentrations of drug in localized tissue while maintaining low serum levels of drug and potentially avoiding systemic toxicity (McPherson and Cimino, 2013; Barkin, 2013) [*Evidence Grade = B*].

3. Nonopioid Analgesics

Nonopioid analgesic drugs are effective and appropriate alone for mild to moderate pain or as a co-analgesic with an opioid as part of multimodal analgesia for a variety of acute pain conditions in older adults. (Abdulla et al., 2013; AGS, 2009; Barden, Edwards, Moore, & McQuay, 2003; Barden, Edwards, Moore, & McQuay, 2004; Barden, Edwards, Moore, & McQuay, 2005; Bradley, Brandt, Katz, Kalasinski, & Ryan, 1991) [*Evidence Grade = B*]. (See [Appendix K](#))

Acetaminophen

- I. **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 has no effect on platelets, and has fewer adverse effects than NSAIDs. (Abdulla et al., 2013; Barden et al., 2004b; Bradley et al., 1991; Gloth, 2001; Hyllested, Jones, Pedersen, & Kehlet, 2002; Moore, Collins, Carroll, & McQuay, 1997) [*Evidence Grade = B*].
- II. **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., combination hydrocodone, oxycodone, or codeine preparations) (Abdulla et al., 2013; AGS, 2009) [*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 (Aubrun & Marmion, 2007) [*Evidence Grade = D*].

Aspirin

- I. **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 (Campanelli, 2012) [*Evidence Grade = D*].

Nonsteroidal Antinflammatory 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).

- I. **Avoid use of NSAIDs if the patient has a history of peptic ulcers, bleeding disorders or is taking anticoagulants (e.g., aspirin, warfarin) concurrently.** (Barkin et al., 2010; Massó, Patrignani, Tacconelli, & Rodríguez, 2010) [*Evidence Grade = B*].

- II. **Use all NSAIDs with caution and within recommended maximum doses.** 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) (Barkin et al; 2010; Strom et al., 1996) [*Evidence Grade = C*].
- III. **In patients at risk for GI bleed use “platelet sparing” NSAID** (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— (Chou, et al., 2016) [*Evidence Grade = D*].
- ♦ **Co-administration of misoprostol (Cytotec) or a proton pump inhibitor with nonselective NSAIDs lessens incidence of gastroduodenal lesions** (Chan et al., 2007, Blandizzi, et al. 2008; Abdulla et al., 2013) [*Evidence Grade = B*].
- IV. **Ibuprofen and naproxen are preferred nonselective NSAIDs for use with older adults due to lower side effect profiles compared to other nonselective NSAIDs.** (Hwang & Platts-Mills, 2013) [*Evidence Grade = D*].
- V. **Decrease ketorolac dose to 50% of the recommended dose. Do not exceed a total daily dose of 60 mg, and do not use for longer than 5 days. (Strom et al., 1996; Topol, 2005; Traversa et al., 1995; Turturro, Paris, & Seaberg, 1995)** [*Evidence Grade = C*].
- ♦ **Ketorolac is contraindicated for frail older adults** with dehydration, preexisting renal dysfunction, cirrhosis or heart failure.
- VI. **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, Chou et al., 2016) [*Evidence Grade = B*].
- VII. **COX-2 selective NSAIDs are an option for short term use in patients without cardiovascular diseases who have contraindications to nonselective NSAIDs.** This class of NSAIDs provides effective analgesia with possibly less gastric mucosal damage initially and bleeding than nonselective NSAIDs with short-term use. (Moore, Derry, Makinson, & McQuay, 2005; Sing, et al., 2006; APS, 2009) [*Evidence Grade = B*].
- VIII. **A COX-2 selective NSAID can be given preoperatively as it will not affect platelet aggregation.** (Huang et al., 2008) [*Evidence Grade = B*].
- IX. **As with the nonselective NSAIDs, use COX-2 selective NSAIDs with caution in older adults with impaired renal function due to nephrotoxicity.**(Barkin et al; 2010; AGS, 2012) [*Evidence Grade = D*].

- X. **Carefully monitor older adults for NSAID complications.** The risk for adverse effects from NSAIDs is increased among older adults, including unusual drug reactions, such as cognitive impairment, constipation and headaches. Monitor for signs of GI bleeding, renal impairment, congestive heart failure, and cognitive impairment (Pilotto, et al., 2003; Juhlin, Björkman, & Höglund, 2005; APS, 2009; Abdulla et al., 2013) [*Evidence Grade = B*].

4. Opioid Analgesics

- I. **Opioid analgesic drugs are effective as a co-analgesic after establishment of a nonopioid foundations, such as acetaminophen and a NSAID, if not contraindicated, as part of a multimodal analgesia plan for moderate to severe pain associated with a variety of acute pain conditions.** (ASA, 2012; TJC, 2012) [*Evidence Grade = D*].
- II. **Opioids with short half-lives are the best choices for older adults, e.g., hydromorphone and oxycodone.** (Christo, Li, Gibson, Fine, & Hameed, 2011) [*Evidence Grade = D*].
- III. **Avoid use of long-acting opioid preparations for acute pain (e.g., CR oxycodone, ER morphine, transdermal fentanyl, methadone, levorphanol).** Drugs with a long half-life can readily accumulate in older adults and result in toxicity (i.e. respiratory depression, sedation) (Chou et al., 2016) [*Evidence Grade = D*].
- IV. **Initiate opioid therapy with a 25% to 50% dose reduction and slowly titrate dosage by 25% of that initial dose 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. (Bellville, Forrest, Miller, & Brown, 1971; Forman, 1996; Giuffre, Ascii, Arnstein, & Wilkinson, 1991; Kaiko, 1980; Kaiko, Wallenstein, Rogers, Grabinski, & Houde, 1982; Koh & Thomas, 1994; Pasero & McCaffery, 2011g; Viganó, Bruera, & Suzrez-Almazor, 1998) [*Evidence Grade = B*].
- V. **Avoid opioid dosing based solely on pain intensity.** Consider patient's pain intensity, sedation level, respiratory status, co-morbidities, organ function, current medications, kinetics (onset, peak, & duration) of opioid, any underlying chronic pain. (TJC, 2012; ASPAN, 2014; Pasero, 2014) [*Evidence Grade = D*].
- VI. **Use of prophylactic approach to constipation from opioids.**
- VII. **Monitor older adults closely for opioid adverse effects** including respiratory depression, sedation, constipation, nausea, vomiting, and urinary retention. With the exception of constipation, all opioid adverse effects are dose-related. The best side effect treatment is reduction of opioid dose upon side effect detection. (Macintyre et al.: 2010, APS, 2015) [*Evidence Grade = D*].

VIII. **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, as well as when pain is not effectively managed (Voyer, McCusker, Cole, St-Jacques, & Khomenko, 2007; Morrison et al., 2003; Kosar et al., 2014; Robinson & Vollmer, 2010) [*Evidence Grade = C*].

IX. **Understand the differences between addiction, physical dependence, and tolerance.**

- ♦ **Addiction (psychological dependence)** is rare when opioids are taken for pain relief, however those with history of prior substance abuse are at increased risk for misuse/abuse.(Clark, Soneji, Ko, Yun, & Wijeyesundera, 2014; Bossert, Ghitza, Epstein, & Shaham, 2005)) [*Evidence Grade = D*].
- ♦ **Physical dependence** takes several days of regular daily opioid dosing to develop. Patients who are not receiving long-term opioid therapy and are treated with opioids for more than one or two weeks for acute pain should be instructed to gradually reduce the opioid dose in order to prevent signs and symptoms of withdrawal when discontinuing opioid analgesia. Dose reductions of about 20-25% every day or two can be tolerated in most patients. (Chou et al., 2016) [*Evidence Grade = D*].
- ♦ **Physical dependence is not addiction;** do not label a patient “addicted” if physically dependent on opioid analgesics (Pasero & McCaffery, 2011d) [*Evidence Grade = E*].
- ♦ **Tolerance is an adaptive state characterized by decreasing effects** (decreased sedation, decreased analgesia) and usually occurs in the first few days to couple of weeks. It is a normal response that occurs with regular administration of opioids. It may be addressed with increases in doses and poses few clinical problems (Passero & McCaffery, 2011c) [*Evidence Grade = E*].

X. **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.**
- ♦ **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.(Pasero & McCaffery, 2011g) [*Evidence Grade = D*].

- XI. **Opioids: Selected Analgesics.** Selected opioid analgesics that deserve special consideration with older adults are discussed below. (See [Appendix K](#) and [Appendix L](#) for dosing and considerations when using selected opioids for acute pain in older adults).

Morphine Sulfate

- I. **Morphine's metabolites (M-3, M-6-G) are usually not clinically significant when morphine is used for short-term pain management.** However, its use in patients with impaired renal or hepatic function can result in accumulation and prolonged effects and toxicity. (Abdulla et al., 2013, Coldrey, et al., 2011; Aubrun & Marmion, 2007)
[Evidence Grade = D].

Hydromorphone

- I. **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. (Abdulla et al., 2013) [Evidence Grade = D].

Fentanyl

- I. **IV fentanyl** may be used in older adults because of its short-half life,
- II. **Transdermal fentanyl: Do not use in the management of acute pain.**
- ♦ 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 (McLachlan et al., 2011) [Evidence Grade = D].

Tramadol

- I. **Tramadol has a dual mechanism of action.** It binds weakly to mu-opioid receptors and inhibits the reuptake of serotonin and norepinephrine (Abdulla et al., 2013) [Evidence Grade = D].
- II. **Tramadol causes less respiratory depression in older adults and may impair gastrointestinal motor function less than other opioids at equianalgesic doses.** However, caution must be exercised in patients with hepatic or renal disorders (Macintyre et al., 2010, Hwang & Platts-Mills, 2013) [Evidence Grade = D].

- III. **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*].
- IV. **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.**
- V. **Do not exceed 300 mg per day in patients over 75 years of age.** Doses that exceed 400 mg have been associated with seizures. (Nüesch, Rutjes, Husni, Welch, & Jüni, 2009; Solomon et al., 2010; Falzone, Hoffmann, & Keita, 2013) [*Evidence Grade = D*].
- VI. **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. (Macintyre et al., 2010; Sansone & Sansone, 2009) [*Evidence Grade = D*].
- VII. **There is increased risk for hypoglycemia and hyponatremia in the older adult using tramadol.** (Bourne, et al., 2013; Fournier, Azoulay, Yin, Montastruc, & Suissa, 2015; Fournier, Yin, Nessim, Montastruc, & Azoulay, 2015) [*Evidence Grade = B*].

Tapentadol

- I. **Tapentadol is a centrally acting analgesic with two mechanisms of action: μ -opioid receptor agonism and noradrenaline reuptake inhibition.** Older adults may experience lower incidence of constipation and nausea or vomiting with tapentadol versus oxycodone (Vorsanger et al., 2011) [*Evidence Grade = C*].

Codeine

- I. **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, constipation).** Codeine is ineffective in patients with impaired CYP-2D6 activity because codeine cannot be converted to morphine. (Aubrun & Marmion, 2007; Macintyre et al., 2010; Falzone et al., 2013) [*Evidence Grade = D*].

Meperidine

- I. **Avoid use in older adults.** Meperidine's metabolite, normeperidine, is toxic to the 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 CHF or renal impairment (Erstad et al., 1997; Kaiko et al., 1983; Latta, Ginsberg, & Barkin, 2002; Szeto et al., 1977; Campanelli, 2012) [*Evidence Grade = B*].

II. **Naloxone should NOT be administered for treatment of normeperidine toxicity.**

(McCaffery & Pasero, 2011h) [*Evidence Grade = D*].

Partial or mixed agonist-antagonist opioids

- I. **Avoid use in older adults as side effects can be pronounced.** Butorphanol (Stadol), pentazocine (Talwin) produce causes hallucinations, dysphoria, delirium and agitation in older adults psychotomimetic effects and may lead to delirium. (O'Neil, Hanlon, & Marcum, 2012) [*Evidence Grade = D*].
- II. **These drugs act as antagonists at the mu opioid receptor site and should therefore not be used with mu agonist opioids (e.g., morphine) as they can precipitate opioid withdrawal.** (Macintyre et al., 2010) [*Evidence Grade = D*].
- III. **Buprenorphine is a partial mu-opioid receptor agonist with strong receptor affinity that can block the effects of other opioids and may precipitate acute withdrawal in opioid tolerant patients.** (Macintyre et al., 2010).
- ♦ Patients maintained on buprenorphine typically require much higher doses of opioid agonists throughout the postoperative course to achieve adequate pain relief. The opioid-blocking action of buprenorphine can persist for several days after discontinuation of the medication, which would make conventional opiate pain therapy difficult or impossible (Pergolizzi, 2012; Gervitz et al., 2011) [*Evidence Grade = D*].

Overview of Opioid Adverse Effects

- I. **Assess for presence of common opioid adverse effects and treat prophylactically when possible.** The potential for adverse effects is high in older adults due to altered ability to distribute and excrete drugs. Common opioid adverse 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. (Macintyre, et al., 2010, Hwang & Platts-Mills, 2013) [*Evidence Grade = D*].
- II. **A strategy for opioid-induced adverse 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 (Goth, 2011) [*Evidence Grade = D*].

III. **Identify other medications prescribed for chronic conditions that may potentiate opioid adverse 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) (O'Neil et al 2012; Lu et al., 2015) [*Evidence Grade = D*].

Specific opioid adverse effects in older adults:

I. Delirium

- ♦ Monitor older adults with dementia closely due to increased risk of delirium (Chung et al., 2015) [*Evidence Grade = C*].
- ♦ Assess for other contributing factors prior to altering the prescription or discontinuing analgesic use if acute delirium develops (Sieber, Mears, Lee, & Gottschalk, 2011; Tannenbaum, Paquette, Hilmer, Holroyd-Leduc, & Carnahan, 2012) [*Evidence Grade = C*].
 - Short term cognitive impairment may result when opioids are started, but acute delirium may be caused by factors other than opioids (Sieber et al., 2011) [*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 (Chung, Lee, Park, & Choi, 2015) [*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 (Sieber et. al, 2011; Tannebaum et al., 2012) [*Evidence Grade = B*].
- ♦ 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 & McCaffery, 2011i) [*Evidence Grade = E*].

II. Respiratory Depression and Sedation

- ♦ Screen for risk factors. Identify patients at higher risk for unintended sedation advancement and respiratory depression caused by opioid therapy, especially opioid monotherapy. (Jarzyna et al., 2011) [*Evidence Grade = D*]. (See [Appendix N](#) for risk factors for opioid-induced respiratory depression).

- ♦ Consider mechanical monitoring. Technology-supported monitoring such as end-tidal CO₂ (ETCO₂) capnography and continuous pulse oximetry for high risk patients. (Jarzyna et al., 2011) [*Evidence Grade = D*].
- ♦ 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. (Jarzyna et al., 2011; Lee et al., 2015) [*Evidence Grade = D*]. (See **Appendix O** 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 (Jarzyna et al., 2011; Overdyk et al., 2014) [*Evidence Grade = D*].
- ♦ Monitor for sleep-disordered breathing (SDB). The severity of apnea-hypopnea index (AHI) is increased in the older adult and postoperative opioid use (Chung, Liao, Elsaid, Shapiro, & Kang, 2014; Jarzyna et al. 2011) [*Evidence Grade = B*].
- ♦ Administer naloxone (Narcan) to treat respiratory depression with careful titration to avoid precipitating a severe pain response to opioid withdrawal —(Wheeler, Oderda, Ashburn, & Lipman, 2002) [*Evidence Grade = D*].

III. Nausea

- ♦ Monitor for presence of nausea and vomiting. Nausea and vomiting are less likely in older adults (Cepeda et al., 2003b) [*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*].
- ♦ Establish the etiology and consider other treatable causes such as constipation or other medications.
- ♦ Schedule anti-emetics. Start with a low-cost drug such as a dopamine receptor antagonist (e.g., prochlorperazine); use 5HT₃ antagonists for more refractory cases. Antihistamines or scopolamine may be helpful for patients who note increased nausea from motion but should generally be avoided in older adults due to side effects.

- ♦ Use a nonopioid multimodal pain management approach to allow for lowest effective opioid dose and minimize nausea adverse effects. (e.g., add nonopioid to alleviate nausea) (Falzone et al., 2013; Chou, et al., 2016) [*Evidence Grade = D*].
- ♦ 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, & Asbury, 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 cognitive impairment in older adults (Fujii & Shiga, 2006; Katz et al., 2005) [*Evidence Grade = C*].

IV. 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; Wheeler et al., 2002) [*Evidence Grade = D*].

V. Urinary Retention

- ♦ Monitor for other side effects of opioids in older adults (e.g., urinary retention, pruritus, exacerbation of Parkinson's disease). (Fernandez, Karthikeyan, Wyse, & Foguet, 2014) [*Evidence Grade = C*].
- ♦ Measure intake and output and assess for signs of urinary retention/suppression especially if there is coexisting benign prostatic hypertrophy (Wheeler et al., 2002) [*Evidence Grade = D*].

VI. Pruritus

- ♦ As with other side effects management strategies include decreasing opioid dose or switching to another opioid. Other strategies include administration of nalpuphine (Wheeler et al., 2002) [*Evidence Grade = D*].

- ♦ Avoid use of antihistamines including the nonsedating kinds (e.g., loratadine) as they do not appear to affect itch associated with opioids and because of potential side effects in older adults – (Perzanowska et al., 1996; Tsui et al., 1991) [*Evidence Grade = B*].

5. Adjuvants

Gabapentinoids

- I. **Consider a preoperative dose of gabapentin or pregabalin particularly in patients undergoing major surgery or other surgeries associated with substantial pain or as part of multimodal therapy for highly opioid-tolerant patients.** (Tiippana, Hamunen, Kontinen & Kalso, 2007; Chou et al., 2016) [*Evidence Grade = B*].
 - ♦ The relatively high frequency of side effects such as somnolence and dizziness with pregabalin may be a problem in this group of patients (Guay, 2005). Gabapentin and pregabalin have lower risk of drug-drug interactions, lower (less than 3%) protein binding, no hepatic metabolism and are associated with reduced occurrence of postoperative delirium in older adults (Leung et al., 2006; Macintyre et al., 2010)

Local Anesthetics

- I. **Advocate for 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, to reduce the amount of opioid needed and improve postoperative pain control** (Chou, et al., 2016, Aubrun & Marmion, 2007) [*Evidence Grade = D*].
- II. **Observe for orthostatic hypotension, motor/sensory block and muscle weakness** which may result from sympathetic blockade due to spinal or epidural local anesthetic. Assure safety of the patient (e.g., assess ability to bear weight prior to ambulation) (Aubrun & Marmion, 2007) [*Evidence Grade = D*].
- III. **Offer topical local anesthetic agents to reduce discomfort of procedural pain**, including lidocaine topical 4%, vapocoolant anesthetic sprays, and lidocaine gel, and may be useful in older adults —(AGS, 2009; Abdulla et al., 2013) [*Evidence Grade = D*].

Benzodiazepines

- I. **Avoid use of benzodiazepines as they do not provide analgesia for acute tissue injury and can compound the risk of respiratory depression in older adults.** Benzodiazepines can diminish skeletal muscle spasm and reduce anxiety but must be used with caution: (Richards, Whittle, & Buchbinder, 2012) [*Evidence Grade = D*].

- II. **If needed, 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; Sieber, 2009) [*Evidence Grade = C*].
- III. **Postoperative confusion may be significantly more common in long-term (daily use for more than one year) than short-term benzodiazepine users or nonusers of benzodiazepines.** (Kudoh, Takase, Takahira, & Takazawa, 2004) [*Evidence Grade = C*].

NONPHARMACOLOGICAL MANAGEMENT

Clinicians should be aware that some evidence exists yet is inconclusive for pain relief when using non-pharmacological interventions in the older adult population. Interventions for use with the older adult were evaluated and include multi-modal therapies employing both pharmacologic and nonpharmacologic interventions to complement analgesia, cognitive-behavioral modalities, and physical modalities. Studies included in these guidelines included interventions and methods which encompassed various specific procedures or conditions and various types of pain. However, the literature contains other studies which do not necessarily specify that the older adult population was targeted or included in their research. Such studies have been omitted from these guidelines for nonpharmacological management.

I. General principles regarding the use of multi-modal therapies

Select non-pharmacologic strategies to complement analgesics. Multimodal treatments that include both pharmacological and non-pharmacologic interventions may improve effects and have been shown to improve pain control, decrease analgesic use, and increase activity (Lautenbacher et al., 2011; McCormack, 2009; Wanich, Gelber, Rodeo, & Windsor, 2011) [*Evidence Grade = B*].

- I. **Consider non-pharmacological methods** (TENS, acupuncture and other related interventions, massage, cold therapy, localized heat, warm insufflation, continuous passive motion, and immobilization or bracing) as generally safe, with evidence for improving pain for older adults inconclusive, and their effectiveness as adjunctive therapies varies substantially. (Chou et al., 2016) [*Evidence Grade = D*].
- II. **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) or provide a healing environment (McCaffrey & Locsin, 2006) [*Evidence Grade = B*].
 - ♦ Positioning for optimal comfort and function (Gordon, Grimmer-Sommers, & Trott, 2009) [*Evidence Grade = C*].

- ♦ 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). (Edwards, Almieda, Klick, Haythornthwaite, & Smith, 2008; Kwekkeboom, Abbott-Anderson & Wanta, 2010; Vitiello, Rybarczyk, Von Korff, & Stepanski, 2009) [*Evidence Grade = A*].

III. Consider patient preference for alternative therapies (e.g., acupressure, music, tailored teaching, distraction, or avoidance of negative experiences, and others such as a kit of non-pharmacological methods acupuncture, herbal therapy, music, tailored teaching, distraction, or avoidance of negative experiences, and others such as a kit of non-pharmacological methods) that may support the treatment plan to decrease pain, confusion and/or improve recovery postoperatively (McCaffrey & Locsin, 2006; Pellino et al., 2005, Tracy, 2010; Lautenbacher, Huber, et al., 2011) [*Evidence Grade = B*].

- ♦ A tailored teaching intervention exploring personal preference and choice of non-drug methods may improve patient satisfaction for post-operative pain management (Chou, et al., 2016; Tracy, 2010) [*Evidence Grade = C*].
 - Be aware that evidence tentatively supports the effectiveness of offering information to patients for the reduction of procedural pain, yet is insufficient to make recommendations (Macintyre, et al., 2010) [*Evidence Grade = D*].
 - Coping or behavioural instruction pre-surgery may reduce pain, negative affect and use of analgesic (Macintyre et al., 2010) [*Evidence Grade = D*].

IV. Assist the patient to enhance a sense of personal control over pain.

- ♦ Strategies may include facilitation of movement at a preferred pace, or promotion of choice in selecting non-pharmacological treatments. Be aware that some older adults may be resistant to assuming control and that ignoring pain may increase pain intensity (Pellino et al., 2005) [*Evidence Grade = C*].

V. 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 (RNAO, 2013) [*Evidence Grade = C*].

VI. Consider primary diagnosis as predictive of nonpharmacological interventions selected (such as calming voice, information, or deep breathing) used frequently during turning procedures for surgical patients more than medical patients (Faigeles et al., 2013) [*Evidence Grade = C*].

- VII. **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. (Delgado-Guay et al., 2011) [*Evidence Grade = C*].
- VIII. **Facilitate use of home/folk pain remedies, unless contraindicated.** (Abdulla et al., 2013; Fouladbaksh, Szczesny, Jenuwine, & Vallerand, 2011) [*Evidence Grade = D*].
- IX. **Evaluate physical and mental abilities necessary to use a non-pharmacological pain treatment.** Physical and mental fatigue may interfere with some techniques, such as distraction, relaxation, or imagery. (Abdulla et al., 2013) [*Evidence Grade = D*].
- X. Select cognitive-behavioral pain management and cutaneous stimulation options such as relaxation strategies, imagery, heat/cold, or TENS based on patient preference and cognitive/functional abilities (Macintyre et al., 2010; RNAO, 2013) [*Evidence Grade = D*].
- XI. **Facilitate use of non-pharmacological strategies for specific procedures** (e.g., auricular pressure, reflexology, massage, music, TENS, and/or a kit of several non-pharmacological methods), **conditions** (e.g., cancer, joint replacement, back pain), and **types of pain** (e.g., pain associated with lower back, neck, knees, hips surgical/postoperative pain). (Barker et al., 2006; Faigeles et al., 2013; Hodgson & Lafferty, 2012; McCaffrey & Locsin, 2006; Mitchinson et al., 2007; Pellino et al., 2005) [*Evidence Grade = B*].
- ♦ Applying auricular acupressure may lessen pain and anxiety for patients with hip fractures (Barker et al., 2006) [*Evidence Grade = B*].
 - ♦ Administering transcutaneous electric nerve stimulation (TENS) may relieve posttraumatic hip pain from acute hip fracture during emergency transportation to hospital (Lang et al., 2007) [*Evidence Grade = B*].
 - ♦ Swedish massage and reflexology may benefit cancer survivors and reduce stress, pain and improve mood (Hodgson & Lafferty, 2012) [*Evidence Grade = B*].
 - ♦ Massage therapy used adjunctively in major surgical procedures may relieve acute post-operative pain intensity and anxiety (Mitchinson et al., 2007) [*Evidence Grade = B*].

II. Use of physical modalities

- I. **Consider physical therapeutic methods to manage acute pain in older adults.** Physical agents include application of heat/cold, vibration, rest or immobilization, transcutaneous electrical nerve stimulation (TENS), and auricular acupressure (Barker et al., 2006; Lang et al., 2007) [*Evidence Grade = B*]. However, use of acupuncture, massage, or cold application as adjuncts to post-operative pain relief has limited evidence to recommend or discourage in adults (Chou et al., 2016) [*Evidence Grade = D*].

- II. **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) (Adams, & Arminio, 2008; Hochberg et al., 2012; RNAO, 2013) [*Evidence Grade = C*].
- III. **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

- I. **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 (Adams & Arminio, 2008) [*Evidence Grade = E*].
- II. **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.** Superficial cold can be applied via waterproof bags, terry cloth dipped in ice water, gel packs or homemade cold packs (e.g., frozen peas (Adams & Arminio, 2008) [*Evidence Grade = E*].

Superficial Heat

- I. **Superficial heat demonstrates good evidence for moderate benefits and spinal manipulation shows fair evidence for small to moderate benefits in treating acute low back pain.** Cognitive-behavioral therapy, exercise, spinal manipulation and interdisciplinary rehabilitation therapies show good evidence for moderate efficacy for sub-acute lower back pain (Chou & Huffman, 2007) [*Evidence Grade = D*].
- II. **Superficial heat can be applied via hot packs, immersion in water, or retention of body heat using plastic wrap.** (Adams & Arminio, 2008) [*Evidence Grade = E*].

Vibration

- I. **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 et al., 1984; Rhiner, Ferrell, Ferrell, Grant, 1993) [*Evidence Grade = C*].

- II. **Vibration should be conducted with high frequency vibration and continued for up to 30 minutes BID or 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*].

Immobilization/Positioning/Exercise

- I. **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 and use methods initiated during procedural pain simultaneously when turning a patient (e.g., calming voice, providing information, and encouraging deep breathing) (Faigeles et al, 2013) [*Evidence Grade = C*].
- II. **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** (Endo et al., 2013; Handoll, Queally, Parker, 2011) [*Evidence Grade = B*].
- III. **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 (Hochberg et al., 2012; Jenkinson et al., 2009; Kolanowski, Resnick, Beck, & Grady, 2013; Williams, Brand, Hill, Hunt, & Moran, 2010; Yip, Sit, Wong, Chong, & Chung, 2008; Jamvedt, Dahm, Christie, et al. 2008; Hasegawa et al., 2010) [*Evidence Grade = B*].

Transcutaneous Electrical Nerve Stimulations (TENS)

- I. **Consider transcutaneous electrical nerve stimulations (TENS) to reduce postoperative pain and improve physical function in older adults** (APS,2016) [*Evidence Grade = D*].
- ♦ TENS has been used successfully in older adults (Adams & Arminio, 2008; Vance, Daily, Rakel, & Sluka, 2014; RNAO, 2013) [*Evidence Grade = A*].
 - ♦ TENS is contraindicated in patient with pacemakers and implanted defibrillators.
 - ♦ TENS used in conjunction with opioid analgesics, can produce more effective pain relief than opioids alone.
 - ♦ TENS should be considered part of a multimodal treatment plan (Walsh, Howe, Johnson, & Sluka, 2011; Bennett, Hughes, & Johnson, 2011) [*Evidence Grade = D*].

- II. **Be aware that certain stimulation patterns of TENS are effective in some acute pain settings yet weak evidence exists when TENS is used adjunctively for post-operative pain** (Chou et al., 2016; Macintyre et al., 2010) [*Evidence Grade = D*].
- III. **Be aware that patient characteristics, such as obesity, neuroticism, and long-term opioid use may diminish the effect of TENS on pain perception** (Sluka, Bjordal, Marchand, & Rakel, 2013) [*Evidence Grade = E*].
- IV. **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*].

Acupuncture

- I. **Consider acupuncture and other physical therapies to reduce postoperative pain, opioid analgesic consumption, and improve physical function in older adults** (Macintyre et al., 2010; Pellino, Gordon, et al., 2005; Sun, Gan, Dubose, Habib, 2008; Tsay, Chen, Chen, Lin, & Lin, 2008; Wanich et al., 2011; Yeh, Chung, Chen, & Chen, 2011) [*Evidence Grade = B*].
 - ♦ Acupuncture may be used as adjunctive analgesia and may decrease opioid consumption and side effects in post-operative pain management (Sun et al., 2008; Macintyre et al., 2010; Ernst, Lee, & Choi, 2011; Hochberg et al., 2012) [*Evidence Grade = A*].
 - ♦ Acupuncture may be effective in acute pain settings after total knee arthroplasty (TKA) providing pain relief and improved range of motion of the knee (Mikashima et al., 2012) [*Evidence Grade = B*].
- II. **Be aware that results may be comparable for range of motion following bilateral total knee arthroplasty when combining standard physiotherapy with acupuncture or sham acupuncture** (Tsang et al., 2007) [*Evidence Grade = B*].
 - ♦ Acupoint electrical stimulation (AES) may reduce post-operative pain and use of patient-controlled analgesia (PCA) as compared to sham acupoints (Yeh et al., 2011) [*Evidence Grade = D*].

III. Use of cognitive modalities

- I. **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 therapy or hypnosis, music, intraoperative suggestions (Chou, et al., 2016; Devine, 2003; Mobily, 1994) provide a moderate to large beneficial effect on pain (RNAO, 2013). 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. Pain must be reatively well controlled for older adults to participate in cognitive behavioral techniques and other techniques that require learning and active participation [*Evidence Grade = B*].
- II. **Consider cognitive modalities as part of multimodal approach therapies for older adult surgical patients.** Be aware that cognitive modalities used adjunctively, such as guided imagery, hypnosis, intraoperative suggestions, and relaxation methods, do not demonstrate conclusive results. There are some positive results with postoperative pain, analgesic use, or anxiety, yet overall, insufficient evidence exists to recommend one therapy over another (Chou et al., 2016) [*Evidence Grade = D*].

Relaxation

- I. **Simple relaxation strategies can be used to complement analgesics — yet evidence for benefit from relaxation techniques in treating acute pain is weak and inconsistent** (Macintyre et al., 2010; Park, Oh, & Kim, 2013) [*Evidence Grade = B*].
- II. **Use Jacobson Jaw relaxation technique during turning and activity to decrease pain and distress.** (See [Appendix P](#)) Preoperative instruction is important for successful use of this technique (Good et al., 1999; Fakhar, Rafii, & Orak, 2013) [*Evidence Grade = B*].
- III. **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 (Good et al., 2010; Kwekkeboom, Wanta, & Bumpus, 2008) [*Evidence Grade = C*].

Massage

- I. **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 (Reid, et al. 2008) [*Evidence Grade = B*].
- II. **Therapeutic massage can provide effective treatment for immediate post-treatment, sub-acute neck pain** (Brousseau, Wells, et al., 2012a) [*Evidence Grade = D*].

- III. **Combining remedial exercises and education with therapeutic massage may relieve sub-acute low back pain and reduce disability immediately post treatment with short-term effectiveness** (Brousseau, Wells, et al., 2012b) [*Evidence Grade = D*].
- IV. **Be aware there is little consistent evidence of benefit for massage in treating postoperative pain (and there are no firm conclusions for effectiveness in acute low back pain when using acupuncture or herbal medicine)** (Furlan, van Tulder, et al., 2011; Gagnier, van Tulder, et al., 2011) [*Evidence Grade = D*].

Imagery

- I. **Consider use of guided imagery to decrease pain** (Baird, Murawski, & Wu, 2010; Bardia, Barton, Prokop, Bauer, & Moynihan, 2006; Kwekkeboom & Gretarsdottir, 2006; Kwekkeboom et al., 2008) [*Evidence Grade = B*].
- ♦ Allow additional time for older adults to create and manipulate images during imagery interventions (Rakel & Herr, 2004) [*Evidence Grade = E*].
 - ♦ Hypnosis for procedural pain may be associated with a decrease in pain more than managing acute pain, yet evidence is inconsistent (RNAO, 2013; Stoelb, Molton, Jensen, & Patterson, 2009) [*Evidence Grade = D*].
 - ♦ Avoid imagery in patients with severe cognitive impairment or psychosis (Miller & Perry, 1990; Seers & Carroll, 1998) [*Evidence Grade = C*].

Distraction

- I. **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 (Macintyre, et al., 2010; RNAO, 2013; Hoffman et al., 2007) [*Evidence Grade = B*].
- II. **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*].
- III. **Avoid emotionally negative stimuli and support patients’ preferences for positive** (Lautenbacher et al., 2011) [*Evidence Grade = B*].
- IV. **Use measures that promote a positive influence on pain and anxiety by distracting attention away from pain rather than by ignoring pain in postoperative patients** (Pellino et al., 2005) [*Evidence Grade = C*].
- V. **Both audio and visual distraction strategies are more effective in reducing pain when used simultaneously** (Kline, 2009) [*Evidence Grade = D*].

Music

- I. **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 produces a small reduction in postoperative pain and opioid requirement (Cepeda, Carr, Lau, & Alvarez, 2006; Good et al., 2010; Skingley & Vella-Burrows, 2010) [*Evidence Grade = B*].
 - ♦ Listening to music following hip or knee surgery may reduce acute confusion and delirium as well as pain perception and promotes a healing environment while recovering from surgery and promotes comfort, familiarity, and distraction from pain (McCaffery & Locsin, 2006; Allred, Byers, Sole, 2010; Madson & Silverman, 2010; Nilsson, 2008; Sand-Jecklin & Emerson, 2010) [*Evidence Grade = B*].
 - ♦ Music and relaxation may help decrease physical and emotional immediate postoperative pain (McCaffery & Locsin, 2006) and is most preferred when choice of music is self-selected by each patient (Good, et al. 2010; Wang et al., 2014) [*Evidence Grade = B*].

Alternative Therapies

- I. **Touch therapies provide modest pain intensity relief (So, 2012) and non-contact therapeutic touch (NCTT) used adjunctively with pain medications may reduce post-surgical pain intensity and improve participation in occupations and activities.** (McCormack, 2009) [*Evidence Grade = B*].
- II. **Static magnet therapy lacks efficacy and is not recommended for controlling acute postoperative pain or opioid requirements.** (Macintyre et al., 2010; Cepeda et al., 2007) [*Evidence Grade = D*].
- III. **Be aware that evidence is limited in preliminary studies of selected alternative therapy techniques for use with older adults, such as the following examples:**
 - ♦ Supplementing Non-Invasive Interactive Neurostimulation with standard therapy may offer acute pain control, reduce need for analgesia, and improve range of motion following total knee replacement surgery. (Nigam, Taylor, & Valeyeva, 2011) [*Evidence Grade = B*].
 - ♦ Reflexology used post-operatively in digestive cancer patients may reduce pain, anxiety, and opioid consumption. (Tsay et al., 2008) [*Evidence Grade = D*].
 - ♦ Percutaneous neuromodulation may reduce pain and lower opioid use in total knee replacement post-operatively. (Wanich et al., 2011) [*Evidence Grade = B*].

EVALUATION OF EFFECTIVENESS

1. Reassessment of Acute Pain

I. Evaluate the effectiveness of pain management interventions and revise plan as needed.

Evaluation should include the following:

- ♦ Pain relief achieved from intervention plan.
- ♦ 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, 2009; Chou, et al., 2016; RNAO, 2013) [*Evidence Grade = D*].

II. 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 (RNAO, 2013) [*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; Chou et al., 2016; RNAO, 2013) [*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 2009; RNAO, 2013) [*Evidence Grade = C*].
- ♦ Ask about pain and observe nonverbal pain-related behaviors during transfers or patient care activities (Ahn & Horgas, 2013; Hadjistavropoulos et al., 2009; Lukas, et al., 2013a; Shega et al., 2008; Sheu et al., 2012) [*Evidence Grade = B*].
- ♦ 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, Brooks, Dayhoff, Keck, 2002) [*Evidence Grade = D*].

- **Consider using Pasero Opioid-induced Sedation Scale (POSS)**(Pasero & McCaffery, 2011i) [*Evidence Grade = E*] (See **Appendix N** 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 (Grosmatire et al , 2013; Samaras, Chevalley, Samaras, & Gold, 2010) [*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 (Bitsch, Foss, Kristensen, & Kehlet, 2006; Fong, Sands, & Leung, 2006; Vaurio, Sands, Wang, Mullen, & Leung, 2006; Casati et al., 2007; Green, Hadjistavropoulos, Hadjistavropoulos, Martin, & Sharpe, 2009; Morimoto et al., 2009) [*Evidence Grade = B*].

III. **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, difficult to control pain, and analgesic infusions (Gordon et al. 2008; Pasero & McCaffery, 2011a; RNAO, 2013) [*Evidence Grade = D*].

- ♦ **If patients refuse analgesics, document each refusal including why and strategies to overcome irrational refusal. Address barriers of adherence to treatment plan** (McCaffery & Pasero, 2011a) [*Evidence Grade = E*].

IV. **Revise pain management plan if pain relief is not adequate. Consult with the patient's physician, nursing staff, rehabilitation and the pharmacy department** (Pasero & McCaffery, 2011a; RNAO, 2013) [*Evidence Grade = D*].

2. Pain Management Discharge Plan

- I. **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** (Carr et al., 2013; McCartney & Nelligan, 2014) [*Evidence Grade = C*].

- II. **Assure sufficient transition time to determine effectiveness and potential adverse effects when changing pain management regimens prior to hospital discharge** (Soler et al., 2009) [*Evidence Grade = C*].
- III. **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 (McCartney & Nelling, 2014; Soler et al., 2009) [*Evidence Grade = C*].
- IV. **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 (Soler et al., 2009) [*Evidence Grade = C*].
- V. **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** (Soler, et al., 2009) [*Evidence Grade = C*].
- VI. **Provide the older individual with written instructions that clearly describes the pain management plan** (Soler et al., 2009) [*Evidence Grade = C*].
- VII. **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** (Soler et al., 2009) [*Evidence Grade = D*].
- VIII. **Assess the patient's and family members' abilities to obtain analgesics and ensure availability of analgesics prior to discharge** (McCartney & Nellingan, 2014; Soler et al., 2009) [*Evidence Grade = D*].

NURSING INTERVENTIONS CLASSIFICATION (NIC)

“The Nursing Interventions Classification (NIC) is a comprehensive standardized classification of interventions that nurses perform. The Classification includes the interventions that nurses do on behalf of patients, both independent and collaborative interventions, both direct and indirect care. An intervention is defined as any treatment, based upon clinical judgment and knowledge, that a nurse performs to enhance patient/client outcomes. NIC can be used in all settings (from acute care to intensive care units, to home care, to hospice, to primary care) and all specialties (from critical care nursing to pediatric nursing and gerontological nursing)” (Bulechek, Butcher, Dochterman, & Wagner, 2013). Planning care and services using nursing standardized languages begins with assessment to generate accurate nursing diagnoses. *Acute Pain (00132)* is the NANDA-I (Herdman & Kamitsuru, 2014, p. 440) nursing diagnosis that is relevant nursing diagnosis. In the NIC textbook (Bulechek et al., 2013), there are a total of 554 interventions, and each intervention is defined, has a list of specific nursing activities designed to implement the intervention, and a list of background readings to provide evidence of the use and effectiveness of the intervention. The code number for each NIC is for documentation in electronic health record.

Interventions that support documentation of pain assessment and management are identified below. The interventions are organized under the headings that correspond to the main sections of this guideline: Acute Pain Assessment and Management Plan, Education of the Older Adult and Family, Pharmacologic Management and Nonpharmacologic Management. The Nursing Intervention (NIC) 1400 Pain Management is the primary NIC intervention for this guideline and is included in [Appendix Q](#).

Major Nursing Interventions

Acute Pain Assessment and Pain Management Plan

- 1400 **Pain Management** – Alleviation of pain or a reduction in pain to a level of comfort that is acceptable to the patient.
- 6680 **Vital Signs Monitoring** – Collection and analysis of cardiovascular, respiratory, and body temperature data to determine and prevent complications.
- 2870 **Postanesthesia Care** – Monitoring and management of the patient who has recently undergone general or regional anesthesia.
- 7370 **Discharge Planning** – Preparation for moving a patient from one level of care to another within or outside the current health care agency.
- 7920 **Documentation** – Recording of pertinent patient data in a clinical record.
- 6460 **Dementia Management** – Provision of a modified environment for the patient who is experiencing a chronic confusional state.

5330 **Mood Management** – Providing for safety, stabilization, recovery, and maintenance of a patient who is experiencing dysfunctionally depressed or elevated mood.

6440 **Delirium Management** – Provision of a safe and therapeutic environment for the patient who is experiencing an acute confusional state.

Education of the Older Adult and Family

5606 **Teaching: Individual** - Planning, implementation, and evaluation of a teaching program designed to address a patient's particular needs.

5610 **Teaching: Preoperative** – Assisting a patient to understand and mentally prepare for surgery and the postoperative recovery period.

5616 **Teaching: Prescribed Medication** – Preparing a patient to safely take prescribed medications and monitor for their effects.

5618 **Teaching: Procedure/Treatment** – Preparing a patient to understand and mentally prepare for a prescribed procedure or treatment.

7110 **Family Involvement Promotion** – Facilitating family participation in the emotional and physical care of the patient.

Pharmacological Management

2210 **Analgesic Administration** - Use of pharmacologic agents to reduce or eliminate pain

2300 **Medication Administration** - Preparing, giving, and evaluating the effectiveness of prescription and nonprescription drugs

2313 **Medication Administration: Intramuscular (IM)** - Preparing and giving medications via the intramuscular route

2319 **Medication Administration: Intraspinal** - Administration and monitoring of medication via an established epidural or intrathecal route

2314 **Medication Administration: Intravenous (IV)** - Preparing and giving medications via the intravenous route

2304 **Medication Administration: Oral** - Preparing and giving medications by mouth

2380 **Medication Management** - Facilitation of safe and effective use of prescription and over-the-counter drugs

2390 **Medication Prescribing** - Prescribing medication for a health problem

Nonpharmacological Management

- 1320 **Acupressure** - Application of firm, sustained pressure to special points on the body to decrease pain, produce relaxation, and prevent or reduce nausea
- 1340 **Cutaneous Stimulation** - Stimulation of the skin and underlying tissues for the purpose of decreasing undesirable signs and symptoms such as pain, muscle spasm, inflammation, or nausea
- 6480 **Environmental Management** - Manipulation of the patient's surroundings for therapeutic benefit, sensory appeal, and psychological well-being
- 1380 **Heat/Cold Application** - Stimulation of the skin and underlying tissues with heat or cold for the purpose of decreasing pain, muscle spasms, or inflammation
- 1480 **Massage** - Stimulation of the skin and underlying tissues with varying degrees of hand pressure to decrease pain, produce relaxation, and/or improve circulation
- 1460 **Progressive Muscle Relaxation** - Facilitating the tensing and releasing of successive muscle groups while attending to the resulting differences in sensation
- 5465 **Therapeutic Touch** - Attuning to the universal energy field by seeking to act as a healing influence using the natural sensitivity of hands and passing them over the body to gently focus, direct, and modulate the human energy field
- 1540 **Transcutaneous Electrical Nerve Stimulation (TENS)** - Stimulation of skin and underlying tissue with controlled, low-voltage electrical pulses

Cognitive and Behavioral Interventions

- 5820 **Anxiety Reduction** - Minimizing apprehension, dread, foreboding, or uneasiness related to an unidentified source of anticipated danger
- 5840 **Autogenic Training** - Assisting with self-suggestions about feelings of heaviness and warmth for the purpose of inducing relaxation
- 5860 **Biofeedback** - Assisting the patient to gain voluntary control over physiological responses using feedback from electronic equipment that monitor physiologic processes
- 5880 **Calming Technique** - Reducing anxiety in patient experiencing acute distress
- 5900 **Distraction** - Purposeful diverting of attention or temporarily suppressing negative emotions and thoughts away from undesirable sensations
- 6000 **Guided Imagery** - Purposeful use of imagination to achieve a particular state, outcome, or action or to direct attention away from undesirable sensations

- 5920 **Hypnosis** - Assisting a patient to achieve a state of attentive, focused concentration with suspension of some peripheral awareness to create changes in sensation, thoughts, or behavior
- 5320 **Humor** - Facilitating the patient to perceive, appreciate, and express what is funny, amusing, or ludicrous in order to establish relationships, relieve tension, release anger, facilitate learning, or cope with painful feelings
- 5960 **Meditation Facilitation** - Facilitating a person to alter his/her level of awareness by focusing specifically on an image or thought
- 6040 **Relaxation Therapy** - Use of techniques to encourage and elicit relaxation for the purpose of decreasing undesirable signs and symptoms such as pain, muscle tension, or anxiety

NURSING OUTCOMES CLASSIFICATION (NOC)

The **Nursing Outcomes Classification (NOC)** is a standardized classification of 490 patient/client outcomes developed to evaluate the effects of nursing interventions. An outcome is a measurable individual, family, or community state, behavior or perception that is measured along a continuum and is responsive to nursing interventions (Moorhead, Johnson, Maas, & Swanson, 2013). The outcomes are developed for use in all settings and can be used across the care continuum to follow patient outcomes throughout an illness episode or over an extended period of care. Each NOC outcome is defined, and in the NOC text (Moorhead, Johnson, Maas, & Swanson, 2013) has a set of specific indicators on a Likert scale so one can measure the change in the indicator score over time, and a list of outcome content references. The code number for each NOC outcome is for documentation in electronic health record. Listed below are the most relevant NOC outcomes and their definitions associated with promoting spirituality. The most relevant NOC, Pain Control (1605) including all the indicators is in [Appendix R](#).

The expected outcomes of effective management of acute pain older adults include:

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

Suggested outcomes in the Nursing Outcomes Classification that correspond to these outcomes are listed below:

Major Nursing Outcomes

Reduction in the incidence and severity of acute pain

1605 **Pain Control** – Personal actions to control pain.

2102 **Pain Level** – Severity of observed or reported pain.

2301 **Medication Response** – Therapeutic and adverse effects of prescribed medication.

1608 **Symptom Control** – Personal actions to minimize perceived adverse changes in physical and emotional functioning.

2103 **Symptom Severity** – Severity of perceived adverse changes in physical, emotional, and social functioning.

Reduction in morbidities associated with poorly controlled pain (e.g., cardiovascular stress, reduced pulmonary function, deep vein thrombosis, mood disorders)

0802 **Vital Signs** – Extent to which temperature, pulse, respiration, and blood pressure are within normal range.

1212 **Stress Level** – Severity of manifested physical or mental tension resulting from factors that alter an existing equilibrium.

Minimization of preventable complications associated with pain management

1211 **Anxiety Level** – Severity of manifested apprehension, tension, or uneasiness arising from an unidentifiable source.

1618 **Nausea & Vomiting Severity** – Severity of nausea, retching, and vomiting symptoms.

0501 **Bowel Elimination** – Formation and evacuation of stool.

Improvement of function and enhancement of patient comfort and satisfaction

2100 **Comfort Level** – Extent of positive perception of physical and psychological ease.

2002 **Personal Well-Being** – Extent of positive perception of one’s health status and life circumstances.

0003 **Rest** – Quantity and pattern of diminished activity for mental and physical rejuvenation.

- 0004 **Sleep** – Natural periodic suspension of consciousness during which the body is restored.
- 0311 **Discharge Readiness – Independent Living** – Readiness of a patient to relocate from a health care institution to living independently.
- 2605 **Family Participation in Professional Care** – Family involvement in decision-making, delivery, and evaluation of care provided by health care personnel.
- 1808 **Knowledge: Medication** – Extent of understanding conveyed about the safe use of medication.
- 1814 **Knowledge: Treatment Procedure** – Extent of understanding conveyed about procedure(s) required as part of a treatment regimen.
- 1813 **Knowledge: Treatment Regimen** – Extent of understanding conveyed about a specific treatment regimen.
- 3011 **Client Satisfaction: Symptom Control** – Extent of positive perception of nursing care to relieve symptoms of illness.
- 3012 **Client Satisfaction: Teaching** – Extent of positive perception of instruction provided by nursing staff to improve knowledge, understanding, and participation in care.

Permission to use Nursing Interventions Classification (NIC) and Nursing Outcomes Classification (NOC) was obtained through Mosby, Elsevier Health Sciences. (<http://www.us.elsevierhealth.com/>)

GUIDELINE DEVELOPMENT PROCESS & METHODS

The University of Iowa Research Dissemination Core published the predecessor of this evidence-based practice guideline entitled Acute Pain Management in the Elderly in 2000 (Herr, 2000) funded through AHRQ grant number R01 HS10482, PI: Titler. Since then, advances in acute pain management of older adults have been made necessitating updating and revision of the evidence-based practice guideline. The recommendations in this practice guideline began with the earlier work of the authors of Acute Pain Management in the Elderly (Herr, 2000) and update (Herr, Bjoro, Steffensmeier, & Rakel, 2006) The authors of this revision represent nursing, pain management, gerontology and aging.

Searching for Research Evidence

Research on assessment and management of acute pain in older adults from from 2005 through January 2014 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.

Over 7000 references were identified and screened against inclusion criteria, and nearly 600 abstracts were reviewed. Finally, over 200 full-text articles and publications were accessed and reviewed by authors.

Appendix A

PAIN INTENSITY RATING TOOLS

Each of the pain intensity rating tools on the following pages can be used to assess patients' levels of pain intensity. The purpose of each of these tools is to track the patient's reports of pain intensity over time and to determine how effective pharmacological and nonpharmacological pain treatments are for each individual patient. The ultimate goal is to decrease the pain intensity ratings and thus impact of pain on function.

Please choose among the tools to fit the individual needs and abilities of each patient. **USE THE SAME TOOL FOR THE SAME PATIENT**, however you may decide to use different tools for different patients. Patients should be taught how to use the scale, provided practice opportunity, and should be assessed regarding ability to use it reliably.

You might start with a 0-10 Numeric Rating Scale. If the patient is not able to use the NRS successfully, try a Verbal Descriptor Scale, Pain Thermometer or Faces Pain Scale.

If the patient is not able to use one of the self-report tools provided in Appendix A, an alternative approach to assessment of pain using nonverbal indicators or cues may be necessary (See [Appendix B](#)).

Pain Intensity Scales:

Appendix A.1: 0 -10 Numeric Rating Scale

Appendix A.2: Verbal Descriptor Rating Scale (VDS)

Appendix A.3: Pain Thermometer

Appendix A.4: Faces Pain Scale-Revised

Permission has been obtained for copying the tools if used for clinical purposes of improving pain care in your organization.

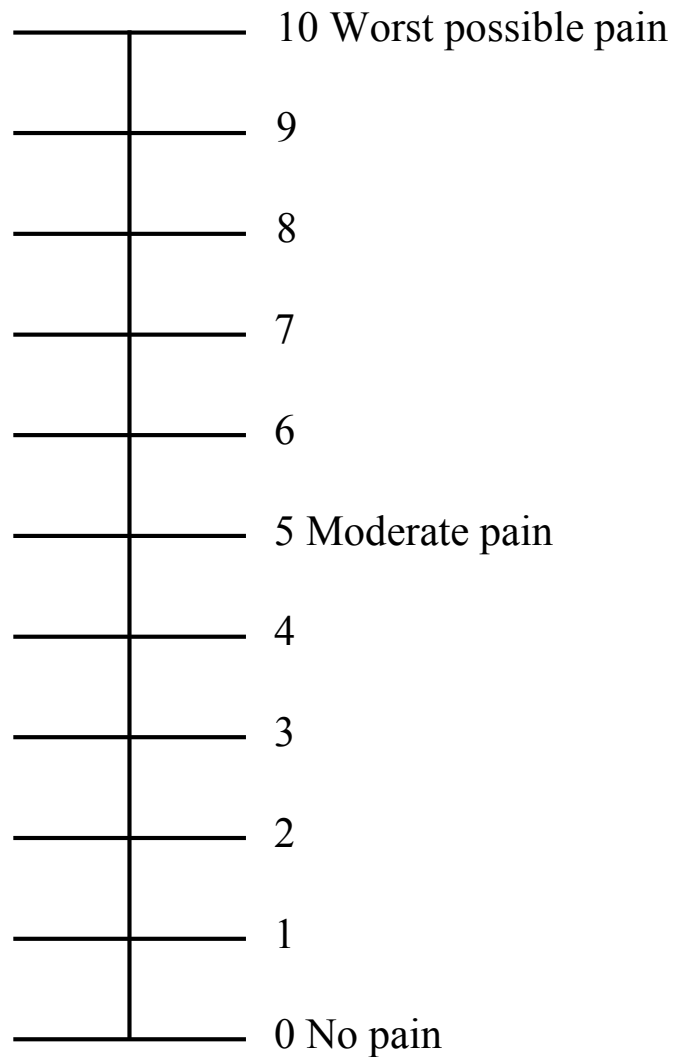
Appendix A.1

0 – 10 NUMERIC RATING SCALE

Introduction: To assess pain intensity in persons who are able to self report

Instructions: Ask individual to point to the number on the NRS that best represents the intensity of their pain NOW

Documentation: Document/record all scores in a location that is readily accessible to others on the health care team. Evaluate intensity over time and in response to treatment.



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Appendix A.2

VERBAL DESCRIPTOR SCALE (VDS)

Introduction: An option for obtaining self-report on pain intensity in both cognitively intact and cognitively impaired older adults. When compared to other tools, the VDS is the recommended tool for use in older adults (Hjermstad et al., 2011; Lukas, Barber et al., 2013).

Instructions: Participants should choose which words best describe their current pain intensity. Place a check mark by the selected phrase.

Scoring: Assign a number to each phrase beginning with zero for “no pain” and ending with 10 for “most intense pain imaginable”. The participant should not be shown the corresponding, numerical value. For clinical purposes, record the number at baseline and each follow up interval for tracking response to intervention.

_____ Most intense pain imaginable

_____ Very severe pain

_____ Severe pain

_____ Moderate pain

_____ Mild pain

_____ No pain

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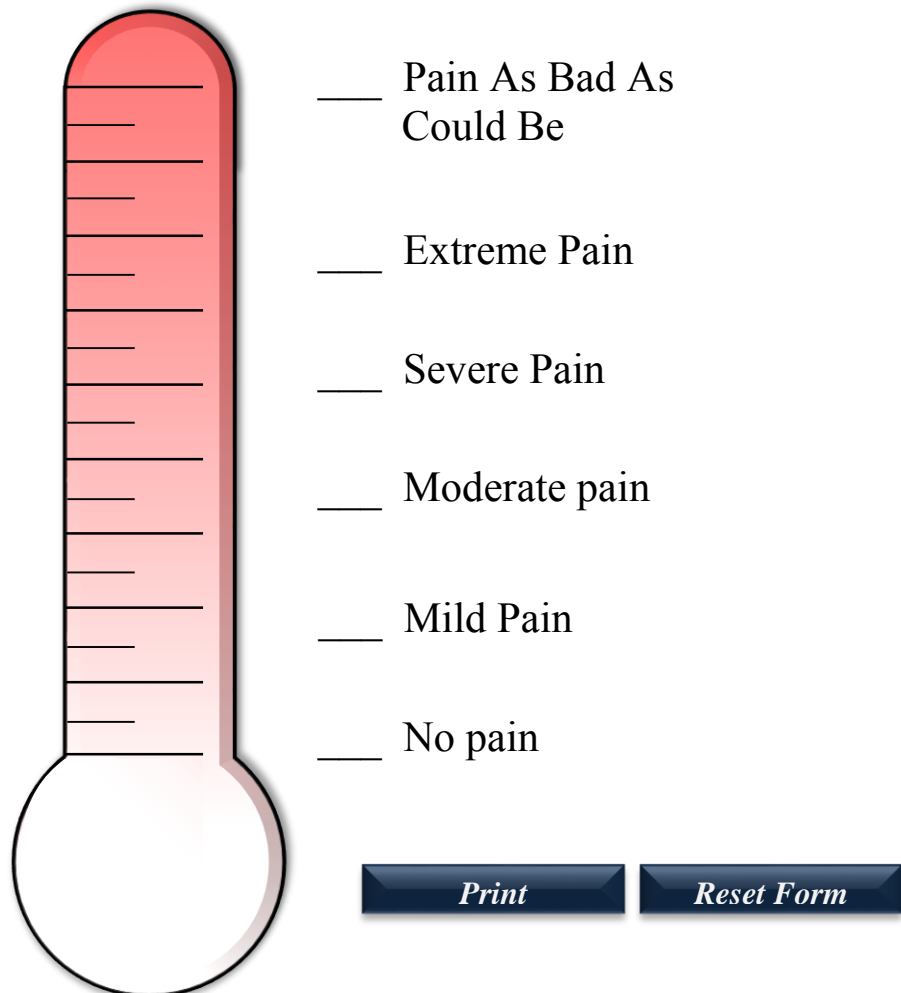
Appendix A.3

PAIN THERMOMETER

Introduction: The Pain Thermometer (PT) (Herr & Mobily, 1993) is a valid and reliable tool that combines a thermometer with a verbal descriptor scale to enhance ability to use. Good for any older adult, including those with moderate to severe cognitive impairment or who have difficulty communicating verbally.

Instructions: Ask the individual to point to the words on the thermometer that show how bad or severe their pain is right NOW. Circle a number or word on the Iowa Pain Thermometer-Revised below that best represents the intensity of your pain right now.

Scoring: Compare the words chosen after each use to the previous words to evaluate if pain has increased or decreased. Document the words that the elder points to on this tool. Evaluate the change in pain words selected by the elder over time to determine the effectiveness of pain



Pain As Bad As Could Be
 Extreme Pain
 Severe Pain
 Moderate pain
 Mild Pain
 No pain

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Appendix A.4

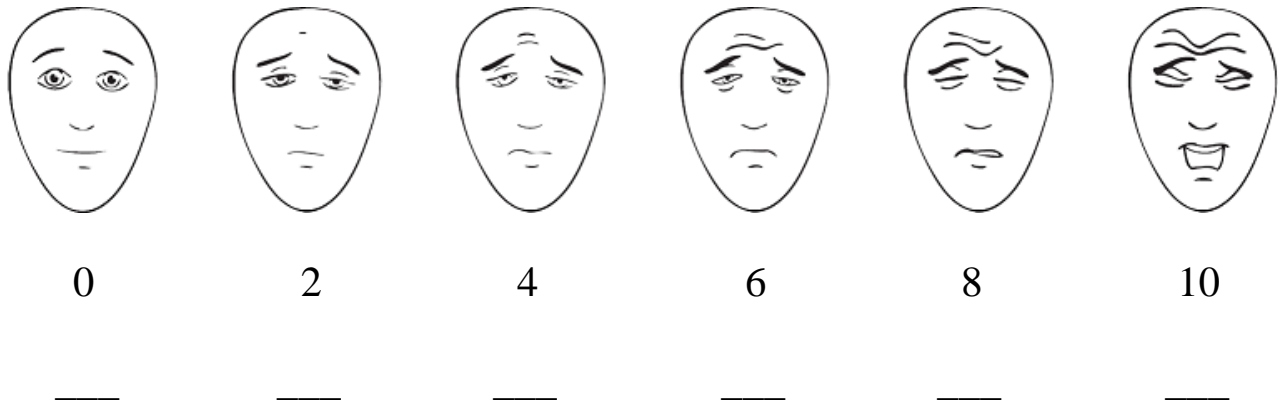
FACES PAIN SCALE (FPS-R)

Introduction: To assess pain intensity in individuals who are able to self report. The FPS-R tool was developed for use in assessing pain intensity in children but has demonstrated reliability and validity for use with older adults (Herr et al., 2007; Taylor, Harris, Epps, & Herr, 2005). It is the tool most preferred by African Americans, Chinese and Hispanics (Li et al., 2009; Ware et al., 2006).

Instructions: Instruct the individual that “The faces show how much pain or discomfort one is feeling. The face on the left shows no pain. Each face shows more and more pain up to the last face that shows the worst pain possible. Point to the face that shows how bad your pain is right NOW.”

NOTE: This tool is not to be used by the health care provider to look at the resident’s facial expression and pick a face.

Scoring: Then score the chosen face 0, 2, 4, 6, 8, or 10, counting left to right, so '0' = 'no pain' and '10' = 'very much pain.'



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Hicks, C. L., von Baeyer, C. L., Spafford, P. A., van Korlaar, I., & Goodenough, B. (2001). The Faces Pain Scale–Revised: toward a common metric in pediatric pain measurement. *Pain, 93*(2), 173-183.

Appendix B

STRATEGIES FOR OBTAINING PAIN INTENSITY REPORT IN OLDER PERSONS WITH COGNITIVE IMPAIRMENT

1. Solicit self-report in all older persons, including those with mild to moderate pain severity. If the patient denies pain, use other descriptors such as discomfort, aching, or soreness. Assess pain during movement.
2. Use pain scales that are valid and reliable in older persons, including a numeric rating scale, verbal descriptor scale, and/or faces pain scale.
3. In a given patient, use same pain scale with each assessment and document assessment.
4. Assure that approaches to pain assessment address any sensory impairments including vision and hearing losses.
 - a. Hearing aids in place
 - b. Glasses in place
 - c. Enlarged tools (a minimum of 14 pt font) and bold drawings
 - d. Written and oral instructions
 - e. Assure adequate lighting
5. Determine reliability of the patient's self report in using a pain intensity scale if this is in question.
 - a. Consider using the Pain Screen Test (PST)¹
 - Step 1: Ask patient to select a word describing pain
Ask patient to identify 3 numbers.
 - Step 2: Distract patient with conversation for 1 minute.
 - Step 3: Ask patient to recall the word and the 3 numbers.
 - Step 4: Score 1 point for each initial and ½ for each recalled word and number.
 - Step 5: Score of 3 is considered reliable reporter.
 - b. Ask patient to use selected pain scale and identify where a very bad pain would be located on the scale and where a mild pain would be located on the scale. Evaluate appropriate placement based on severity of pain.
6. Use a visual of the pain scales, rather than a verbal request of pain report.
7. Repeat clear simple instructions for use of a pain intensity scale each time the tool is used.
8. Provide sufficient time for the older adult to process the task and respond to the tool.
9. Ask about pain in the present, i.e. right now
10. Use a figure drawing to identify pain location.

¹Buffum, M.D., Sands, L., Miaskowski, C., Brod, M., & Washburn, A. (2004). A clinical trial of the effectiveness of regularly scheduled versus as-need administration of acetaminophen in the management of discomfort in older adults with dementia. *Journal of the American Geriatrics Society*, 52, 1093-1097.

Appendix C

CHECKLIST OF NONVERBAL PAIN INDICATORS (CNPI)

Instructions: Observe the older person both at rest and during activity/with movement. For each situation write a 0 if the behavior was not observed and a 1 if the behavior occurred even briefly at rest or with movement. Add number of behaviors observed at rest and with movement separately to arrive at two separate scores. Compare total scores. Are more behaviors observed with movement? If yes, then this may be due to pain.

Scoring: No specific criteria for interpretation of assessment scores results have been provided with the tool. It is suggested that any positive indicators may suggest presence of pain necessitating further evaluation to identify possible pain etiology and treatment). Following treatment reevaluate indicators thought to represent pain

1. **Vocal complaints: Nonverbal** (Expression of pain, not in words moans, groans, grunts, cries, gasps, sighs).
2. **Facial Grimaces/Winces** (Furrowed brow, narrowed eyes, tightened lips, jaw drop, clenched teeth, distorted expressions).
3. **Bracing** (Clutching or holding onto side rails, bed, tray table, or affected area during movement).
4. **Restlessness** (Constant or intermittent shifting of position, rocking, intermittent or constant hand motions, inability to keep still).
5. **Rubbing** (Massaging affected area)
6. (In addition, record verbal complaints) **Vocal complaints: Verbal** (Words expressing discomfort or pain, “ouch”, “that hurts”, cursing during movement, or exclamations of protest: “stop”, “that’s enough”).

<i>At Rest</i>	<i>With Movement</i>

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Total Scores _____

Appendix D

PAIN ASSESSMENT IN ADVANCED DEMENTIA (PAINAD)

Introduction: This pain behavior tool is used to assess pain in older adults who have dementia or other cognitive impairment and are unable to reliably communicate their pain. It can be used by a nurse or by a CNA to screen for pain-related behaviors.

Instructions: Observe the older adult for 3-5 minutes during activity/with movement (such as bathing, turning, transferring).

For each item included in the PAINAD, select the score (0, 1, 2) that reflects the current state of the behavior.

Scoring: Add the score for each item to achieve a total score. **Total scores range from 0 to 10 (based on a scale of 0 to 2 for five items), with a higher score suggesting more severe pain (0= “no pain” to 10= “severe pain”).**

After each use, compare the total score to the previous score received. An increased score suggests an increase in pain, while a lower score suggests pain is decreased.

NOTE: Behavior observation scores should be considered alongside knowledge of existing painful conditions and reports from someone who knows the older adult (like a family member or nursing assistant) and their pain behaviors. Remember some older adults may not demonstrate obvious pain behaviors or cues.

Permission has been obtained for copying the tools if used for clinical purposes of improving pain care in your organization.

Reference: Warden, V, Hurley AC, Volicer, V. (2003). Development and psychometric evaluation of the Pain Assessment in Advanced Dementia (PAINAD) Scale. *J Am Med Dir Assoc*, 4:9-15. Developed at the New England Geriatric Research Education & Clinical Center, Bedford VAMC, MA.

PAIN ASSESSMENT IN ADVANCED DEMENTIA - PAINAD

<i>Items</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>Score</i>
<i>Breathing</i> Independent of vocalization	Normal	Occasional labored breathing. Short period of hyperventilation	Noisy labored breathing. Long period of hyperventilation. Cheyne-stokes respirations.	
<i>Negative vocalization</i>	None	Occasional moan or groan. Low-level of speech with a negative or disapproving quality	Repeated troubled calling out. Loud moaning or groaning. Crying	
<i>Facial expression</i>	Smiling or inexpressive	Sad, frightened, frown	Facial grimacing	
<i>Body language</i>	Relaxed	Tense. Distressed pacing. Fidgeting	Rigid. Fists clenched. Knees pulled up. Pulling or pushing away. Striking out	
<i>Consolability</i>	No need to console	Distracted or reassured by voice or touch	Unable to console, distract or reassure	

Total Score: _____

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*** Total scores range from 0 to 10 (based on a scale of 0 to 2 for five items), with a higher score indicating more severe pain (0 = “no pain” to 10 = “severe pain”).**

Permission has been obtained for copying the tools if used for clinical purposes of improving pain care in your organization.

Reference: Warden, V, Hurley AC, Volicer, V. (2003). Development and psychometric evaluation of the Pain Assessment in Advanced Dementia (PAINAD) Scale. *J Am Med Dir Assoc*, 4:9-15. Developed at the New England Geriatric Research Education & Clinical Center, Bedford VAMC, MA.

Appendix E

SCREENING FOR COGNITIVE IMPAIRMENT DEMENTIA

Introduction: Older adults are at increased risk for cognitive impairment, including delirium and dementia. Screening for cognitive impairment is an essential component of assessment of older adults. Screening for cognitive impairment should be conducted prior to a known planned procedure or event in order to provide a baseline for evaluation. Moreover, when an older adult appears confused in the context of an episode of acute illness—especially an illness involving acute pain—screening for cognitive impairment should be conducted.

The Mini-Cog™ combines an uncued 3-item recall test with a clock-drawing test (CDT) that serves as the recall distractor. The Mini-Cog™ can be administered in about 3 min, requires no special equipment, and is less influenced by level of education or language differences than many other screens.

Administration:

1. Get the patient's attention. Then instruct him or her to listen carefully to, repeat back to you, and remember (now and later) 3 unrelated words. You may present the same words up to 3 times if necessary.
2. Using a blank piece of paper or one with a circle already drawn on it, ask the patient to draw the face of a clock and fill in all the numbers. After he or she adds the numbers, ask him or her to draw the hands to read a specific time (11:10 or 8:20 are most commonly used; other times that use both halves of the clock face may be effective). You can repeat these instructions, but give no additional instructions or hints. If the patient cannot complete the CDT in 3 min or less, move on to the next step.
3. Ask the patient to repeat the 3 previously presented words. Score this step even if the patient was not able to repeat the words in step 1.

Scoring: Give 1 point for each recalled word after the CDT distractor. Score 0–3 for recall. Give 2 points for a normal CDT, and 0 points for an abnormal CDT. The CDT is considered normal if all numbers are depicted, once each, in the correct sequence and position around the circle, and the hands readably display the requested time. Do not count equal hand length as an error. Add the recall and CDT scores together to get the Mini-Cog score:

0–2 positive screen for dementia

3–5 negative screen for dementia.

Sources Adapted from:

Borson, S., Scanlan, J., Brush, M., Vitaliano, P., & Dokmak, A. (2000). The Mini-Cog: a cognitive 'vital signs' measure for dementia screening in multi-lingual elderly. *International journal of geriatric psychiatry*, 15(11), 1021-1027.

Lessig, M. C., Scanlan, J. M., Nazemi, H., & Borson, S. (2008). Time that tells: critical clock-drawing errors for dementia screening. *International Psychogeriatrics*, 20(3), 459-470.

Borson, S., Scanlan, J. M., Watanabe, J., Tu, S. P., & Lessig, M. (2006). Improving identification of cognitive impairment in primary care. *International journal of geriatric psychiatry*, 21(4), 349-355

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Appendix F

FIVE-ITEM GERIATRIC DEPRESSION SCALE (GDS-5)

Choose the best answer for how you felt over the past week.

- 1. Are you basically satisfied with life?
- 2. Do you often get bored?
- 3. Do you often feel helpless?
- 4. Do you prefer to stay at home, rather than going out and doing new things?
- 5. Do you feel pretty worthless the way you are now?

Yes	No

Total Score: _____

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Score 1 point for each answer marked in the shaded areas. A score of 2 or greater suggests depression.

The GDS-5 is a reliable and effective screening tool for depression (Hoyl et al., 1999; Rinaldi et al., 2003). The GDS-5 presented here is a short version of the 15-item Geriatric Depression Scale (Sheikh & Yesavage, 1986). If score of 2 or higher, follow with more comprehensive assessment.

More information on the Geriatric Depression Scale (can be found at the following webpage: <https://web.stanford.edu/~yesavage/GDS.html>)

This scale is in the public domain.

Appendix G

FUNCTIONAL PAIN SCALE (MODIFIED)

Introduction: The Functional Pain Scale (Gloth, 2001) is a reliable and valid assessment tool that has been validated in community and acute care settings for assessing pain severity and its impact in a short single item self-report scale. It may be preferred in settings where completion of the more thorough BPI is not feasible. A modified version was developed by Massachusetts General Hospital presented below and used with permission of Paul Arnstein, PhD, RN, FAAN.

Instructions: The frequency of the follow up intervals may vary depending on the setting and should be determined by the initiating nurse or primary caregiver. For example, in an office or clinic setting, the follow up assessment may be done at the next office visit (e.g., 2 weeks, 2 months). In the hospital or nursing home, follow up may be more frequent (e.g., 1- 2 days, 1 week) depending on the date of anticipated reduction of pain. This may be influenced by the expected onset of action of the medication or non-pharmacologic method(s).

Scoring: Assign a number to each phrase beginning with zero for “no pain” and ending with 10 for “Intolerable, Incapacitated by pain”. For clinical purposes, record the number at baseline and each follow up interval for tracking response to intervention.

Functional Pain Scale (FPS)

Chart	Tolerable			Intolerable		
	(0)	(2)	(4)	(6)	(8)	(10)
No Pain		Tolerable activities not prevented	Tolerable prevents some active activities	Intolerable prevents many active, (not passive) activities	Intolerable prevents all active and many passive activities	Intolerable incapacitated, unable to do anything or speak due to pain

Active activities : usual activities or those requiring effort (turning, walking, etc)

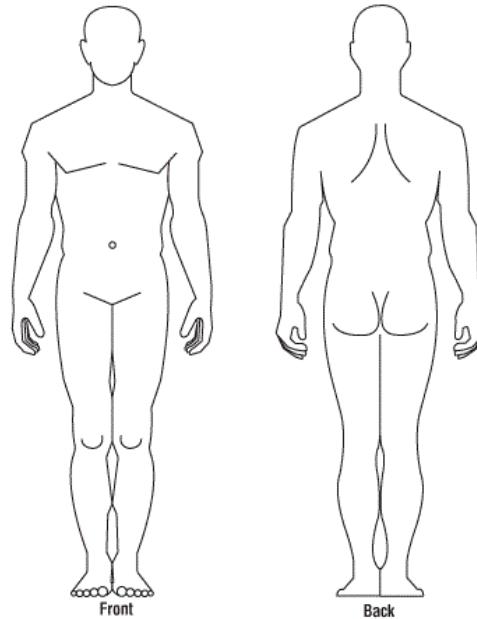
Passive activities: talking on phone, watching TV, reading

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Appendix H

BRIEF PAIN INVENTORY – SHORT FORM

1. Throughout our lives, most of us have had pain from time to time (such as minor headaches, sprains, and toothaches). Have you had pain other than these everyday kinds of pain today?
2. On the diagram, shade in the areas where you feel pain. Put an X on the area that hurts most.



Use the following scale for answers 3 -5:

0 1 2 3 4 5 6 7 8 9 10

No Pain

Pain as bad as
you can imagine

3. Please rate your pain by circling the one number that best describes your pain at its LEAST in the last 24 hours.
4. Please rate your pain by circling the one number that best describes your pain on the AVERAGE.

- 5. Please rate your pain by circling the one number that tells how much pain you have RIGHT NOW.

- 6. What treatments or medications are you receiving for your pain?

Use the following scale for question 7:

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
 Relief Complete Relief

- 7. In the last 24 hours, how much relief have pain treatments or medications provided? Please circle the one percentage that most shows how much RELIEF you have received.

Use the following scale for questions 8A – 8G:

0 1 2 3 4 5 6 7 8 9 10
 Does not Completely
 Interfere Interferes

- 8. Circle the one number that describes how, during the past 24 hours, pain has interfered with your:

- A. General Activity B. Mood

- C. Walking Ability D. Normal Walk (includes both work outside the home and housework)

- E. Relations with other people F. Sleep

- G. Enjoyment of life

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Appendix I

CAGE QUESTIONNAIRE

Introduction: CAGE Questionnaire is a widely used instrument for screening for alcoholism. The CAGE questions can be used in the clinical setting using informal phrasing. It has been demonstrated that the questions are most effective when used as part of a general health history and should not be preceded by questions about how much or how frequently the patient drinks.

1. In the last three months, have you felt you should cut down on your drinking?
2. Has anyone annoyed you by telling you to cut down or stop your drinking?
3. Have you felt guilty or bad about your drinking?
4. Have you been waking up in the morning wanting to have an alcoholic drink?

Scoring: A positive answer to one or more questions indicates the need to conduct a more comprehensive assessment of the patient's drinking behavior.

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Appendix J

TYPES OF PAIN, EXAMPLES, & TREATMENT

<i>Types of Pain & Examples</i>	<i>Source of Pain</i>	<i>Typical Description</i>	<i>Effective Drug Classes & Nonpharmacologic Treatments</i>
Nociceptive:somatic			
Arthritis, acute postoperative, fracture, bone metastases	Tissue injury (eg, bones, soft tissue, joints, muscles	Well localized, constant; aching, stabbing, gnawing, throbbing	APAP, opioid, NSAIDS; PT and CBT
Nociceptive:visceral			
Renal colic, constipation	Viscera	Diffuse, poorly localized, referred to other sites, intermittent paroxysmal; dull, colicky, squeezing, deep, cramping; often accompanied by nausea, vomiting, diaphoresis	Tx of underlying cause, APAP, opioids, PT and CBT
Neuropathic			
Cervical or lumbar radiculopathy, post-herpetic neuralgia, diabetic neuropathy, post-stroke syndrome, herniated intervertebral disc, drug toxicities	PNS or CNS	Prolonged, usually constant, but can have paroxysms; sharp, burning, pricking, tingling, electric shock-like; associated with other sensory disturbances eg paresthesias and dysesthesias; allodynia, hyperalgesia, impaired moter function,atrophy, or abnormal deep tendon reflexes	TCA's, SNRIs, anticonvulsants, opioids, topical anesthetics, PT and CBT
Undetermined or Mixed			
Myofascial pain syndrome, somatoform pain disorders, fibromyalgia	Poorly understood	No identifiable pathologic processes or symptoms out of proportion to identifiable organic pathothology; widespread muscoskeletal pain, stiffness, and weakness	Antidepressants, antianxiety agents, PT, CBT, and psychological tx

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Appendix K

SELECTED NONOPIOD ANAGESICS: OLDER ADULT DOSAGE AND COMPARATIVE EFFICACY TO STANDARDS

<i>Medication</i>	<i>Older Adult Starting Dose¹</i>	<i>Older Adult Considerations/ Comments</i>	<i>Adverse Reactions (A/R)</i>
Acetaminophen # (Tylenol)	325-650 mg q 4-6 hrs Max. dose: 2,000-4,000 mg/day	Decrease max dose with impaired renal or liver function. Use with caution if ≥ 3 alcoholic drinks/day.	Rash; renal injury with chronic use.
SALICYLATES			
Aspirin	325-650 mg q 4-6 hrs Max. dose: 4,000 mg/day	Not recommended in older adults due to increased risk of bleeding. Avoid in pts with severe renal or hepatic impairment.	Inhibits platelet aggregation; GI bleeding, tinnitus.
NONACETYLATED SALICYLATES		Unlike aspirin and NSAIDs, does not increase bleeding time and may cause less GI and renal adverse events.	
Choline magnesium trisalicylate # (Trilisate)	500-1500 mg q 8-12 hrs Max. dose: 2,000 – 3,000 mg/day	High risk for A/R. May cause less GI and renal A/R. Long half-life.	Nausea, GI pain and bleeding less than other NSAIDs. Does not inhibit platelet aggregation.
Salsalate # (Disalcid)	500-1000 mg q 8-12 hrs Max. dose: 3000 mg/day	High risk for A/R. May cause less GI and renal A/R. Long half-life.	Nausea, GI pain and bleeding less than other NSAIDs. Does not inhibit platelet aggregation.
NSAIDs		<ul style="list-style-type: none"> ◆ Analgesic ceiling present. ◆ For rapid onset, use short acting NSAIDs. ◆ Older adults are at high risk for adverse effect. <ol style="list-style-type: none"> 1) As much as 60% can develop peptic ulceration and/or hemorrhage asymptotically. 2) Consider renal function decline. NSAIDs can compromise existing renal function. 	

<i>Medication</i>	<i>Older Adult Starting Dose¹</i>	<i>Older Adult Considerations/ Comments</i>	<i>Adverse Reactions (A/R)</i>
Diclofenac (Cataflam, Voltaren, Arthrotec)	50 mg q 8 hrs Max. dose: 150 mg/day	High risk A/R. Short half-life	GI pain and bleeding, drowsiness, headache, tinnitus. Arthrotec contains 200 mg misoprostol and may decrease development of NSAID induced ulcers.
Diflunisal (Dolobid)	500-1000 mg initial, then 250-500 mg q 8-12 hrs Max. dose: 1,500 mg/day	High risk for A/R. Long half-life.	Nausea, GI pain, and bleeding, constipation, dizziness, rash, drowsiness, tinnitus, photosensitivity.
Etodolac # (Lodine)	200-400 mg q 6-8 hrs Max. dose: 1200 mg/day	High risk for A/R. Fewer GI A/R. Short half-life.	GI pain and bleeding, constipation, diarrhea, dizziness, tinnitus, photosensitivity.
Fenoprofen (Nalfon)	200 mg q 4-6 hrs Max. dose: 3200 mg/day	High risk for A/R, especially GI A/R. Short half-life.	GI pain and bleeding, drowsiness, headache, dizziness.
Ibuprofen # (Motrin, Advil, Nuprin, Medipren)	200-400 mg q 4-6 hrs Max. dose: 1,200 mg/day	High risk for A/R. Short half-life.	GI pain, bleeding, constipation, dizziness, tinnitus.
Indomethacin (Indocin)	25-50 mg q 8-12 hrs Max. dose: 200 mg/day	Has most CNS side effects of the NSAIDs and higher GI A/R. Avoid use in older adults.	GI pain and bleeding, constipation, diarrhea, dizziness, confusion, headache, drowsiness, photosensitivity.
Ketoprofen # (Orudis, Actron)	25-50 mg q 6-8 hrs Max. dose: 300 mg/day	High risk for A/R. Short half-life.	GI pain, bleeding, constipation, diarrhea. Refer to quick reference guide.
Ketorolac (Toradol)	IV 15 mg q 6 hrs. Max. dose: 60 mg/day PO 10 mg q 4-6hrs. Max. dose: 40 mg/day	High risk for A/R. Don't exceed 5 days of use in older adults. Oral dose only as continuation of IM or IV therapy.	Higher risk of GI pain and bleeding than other NSAIDs. Headache, dry mouth, diarrhea, constipation. May precipitate renal failure in dehydrated patients.

<i>Medication</i>	<i>Older Adult Starting Dose¹</i>	<i>Older Adult Considerations/ Comments</i>	<i>Adverse Reactions (A/R)</i>
Mefenamic Acid (Ponstel)	500 mg initially, then 250 mg q 4 hrs Max. dose: 1500 mg/day	Not recommended in older adults. High risk for A/R. Do not exceed 1 week.	Higher risk of GI pain and bleeding, headache, dizziness, drowsiness.
Meloxicam (Mobic)	7.5-15 mg q day Max. dose: 15 mg/day	Fewer GI A/R Long half-life.	GI pain and bleeding, constipation, diarrhea, dizziness, headache, tinnitus.
Nabumetone # (Relafen)	500-1000 mg q 12-24hrs Max. dose: 2000 mg/day	Fewer A/R. Long half-life.	GI pain and bleeding, constipation, diarrhea, dizziness, headache, tinnitus.
Naproxen (Naprosyn, Anaprox, Aleve)	500 mg initially, then 250 mg q 6-8 hrs Max. dose: 1250 mg/day	High Risk for A/R. Long half-life.	GI pain and bleeding, constipation, diarrhea, dizziness, drowsiness, tinnitus.
Oxaprozin (Daypro)	600-1200 mg q day Max. dose: 1800 mg/day	High risk for A/R. Long half-life.	GI pain and bleeding, constipation, diarrhea photosensitivity, rash, poor appetite.
COX-2 Agents		May have less GI intolerance than traditional NSAIDs, however higher doses increase GI A/R.	
Celecoxib (Celebrex)	200-400 mg q 12-24 hrs Use lower dose for <50kg	Caution in patients with Sulfa Allergy.	GI pain and bleeding, nausea, diarrhea, headache, dizziness. Avoid with mod - severe hepatotoxicity, renal impairment, or at risk for CV disease.

¹ PO unless otherwise specified.

Preferred for older adults.

References:

Semla, TP; Beizer, J.L.; & Higbee, M.D. *Geriatric Dosage Handbook*, (16th ed.). Hudson, OH: Lexi Comp, 2015.

APS Principles of Analgesic Use in Treatment of Acute Pain and Cancer Pain. (6th ed.). Chicago, IL: APS, 2009.

Reuben et al. *Geriatrics at your Fingertips 2015 (16th Ed)*. New York: AGS, 2015.

Appendix L

OPIOID ANALGESICS COMMONLY USED IN OLDER ADULTS FOR MANAGEMENT OF MILD TO MODERATE ACUTE PAIN

Medication	Older Adult Opioid Naive Starting Dose ¹	Older Adult Considerations/ Comments	Adverse Reactions (A/R)
Codeine	PO 15-30 mg q 4-6 hrs	Duration of action of codeine may be prolonged in older adults. Generally not recommended due to greater nausea and constipation.	CNS depression, dizziness, nausea, constipation, respiratory depression, headache.
Codeine with Acetaminophen (APAP) (Tylenol 300 mg + 30 mg codeine, Tylenol #3)	PO 1-2 15/325 tablets q 4-6 hrs See note re: APAP*	Same as codeine.	Same as codeine.
Hydrocodone with APAP* (e.g. – Vicodin, Lorcet, Lortab, Norco)	PO 2.5-5 mg hydrocodone q 4-6 hrs See note re: APAP*	Duration of action may be prolonged in older adults.	CNS depression, nausea, constipation, respiratory depression.
Oxycodone (e.g. – OxyIR, Roxicodone, Oxecta)	PO 2.5-5 mg q 3-6 hrs	Reduce dose in pts with severe hepatic disease.	CNS depression, nausea, constipation, respiratory depression.
Oxycodone with APAP* (e.g. – Percocet, Tylox)	PO 2.5-5 mg oxycodone q 6 hrs See note re: APAP*	Same as oxycodone.	Same as oxycodone.
Tramadol (Ultram)	PO 25-50 mg q 4-6 hrs 25 mg q 4-6h; not >300 mg for those > 75 yr old Max. dose: 300 mg/day	High incidence of N/V – recommend low dosing (25-50 mg/day) for first 2-3 days. Caution in pts with hepatic and renal disorders. Avoid in those with risk for seizures.	Dizziness, headache, nausea, drowsiness, fatigue, constipation.

<i>Medication</i>	<i>Older Adult Opioid Naive Starting Dose¹</i>	<i>Older Adult Considerations/ Comments</i>	<i>Adverse Reactions (A/R)</i>
Tramadol & APAP* (Ultracet)	PO 2 tabs q 4-6 hrs; Max. 8 tabs/day See note re: APAP*	Treatment not to exceed 5 days; if CrCl <30mL/min, max is 2 tabs q 12 hr, not to exceed 5 days. Monitor total dose of nonopioid component, including OTC products, to avoid exceeding total daily limitations.	Dizziness, headache, nausea, drowsiness, fatigue, constipation.

* Caution: Total dose of combinations with acetaminophen are limited by the maximal total daily dose (not to exceed 4 G in health older adults; 2 G in frail older adults or those with reduced CrCl). Monitor total nonopioid daily dose including OTC products.

NOTE: These are guidelines and do not represent maximum doses that may be required in all patients. Doses should be titrated to pain relief / prevention.

¹ PO unless otherwise specified.

References:

Semla, TP; Beizer, J.L.; & Higbee, M.D. *Geriatric Dosage Handbook*, (16th ed.). Hudson, OH: Lexi Comp, 2015.

APS Principles of Analgesic Use in Treatment of Acute Pain and Cancer Pain. (6th ed.). Chicago, IL: APS, 2009.

Reuben et al. *Geriatrics at your Fingertips 2015 (16th Ed)*. New York: AGS, 2015.

Appendix M

OPIOID ANALGESICS COMMONLY USED IN OLDER ADULTS FOR MANAGEMENT OF MODERATE TO SEVERE ACUTE PAIN

<i>Medication</i>	<i>Older Adult Opioid Naïve Starting Dose</i>	<i>Older Adult Considerations/ Comments</i>	<i>Adverse Reactions (A/R)</i>
Morphine	PO 10-30 mg q 3-4 hrs IV 2.5-10 mg q 2-6 hrs SQ 2.5-10 mg q 2-6 hrs PR 10-20 mg q 4 hrs	Duration of action may be increased. Preferable over meperidine in older adults.	CNS depression, nausea, constipation, respiratory depression.
Hydrocodone & ibuprofen (e.g. Vicoprofen)	PO 7.5 mg/200 mg q 4-6 hrs	Maximum recommend dose of ibuprofen is 3,200 mg/day. Not available with hydrocodone only, this product has limited use for treatment of severe pain.	CNS depression, nausea, constipation, respiratory depression.
Hydromorphone (Dilaudid)	PO 1-2 mg q 4-6 hrs Slow IV 0.1-0.3 mg q 2-3 hrs SQ 1-2 mg q 4-6 hrs PR 3 mg q 4-8 hrs	Duration of action may be increased.	CNS depression, nausea, constipation, respiratory depression.
Oxymorphone (Opana, Opana injectable)	PO 5-10 mg q 4-6 hrs	Use with caution in patients with respiratory, renal and/or hepatic dysfunction—consider dose reduction.	CNS depression, nausea, constipation, respiratory depression. Caution – some preparations may contain sulfites which may cause an allergic reaction.
Fentanyl Injection	IV 0.025-0.1 mg prn	Duration of action may be increased. IM use with caution in older adults.	CNS depression, nausea, constipation, respiratory depression.
Fentanyl Transmucosal (Actiq)	Titrate under expert supervision	Duration of action may be increased. Decrease dose in renal failure. For use in patients who are opioid tolerant only.	CNS depression, nausea, constipation, life threatening hypoventilation.

<i>Medication</i>	<i>Older Adult Opioid Naïve Starting Dose</i>	<i>Older Adult Considerations/ Comments</i>	<i>Adverse Reactions (A/R)</i>
Meperidine (Demerol)	NOT RECOMMENDED IN OLDER ADULTS	Shorter acting; biotransformed to normeperidine, a toxic metabolite. Normeperidine accumulates with repetitive dosing, causing CNS excitation; avoid in patients with impaired renal function or who are receiving monoamine oxidase inhibitors; avoid any chronic use.	CNS depression, nausea, constipation, respiratory depression, delirium.
PATIENT-CONTROLLED INTRAVENOUS OPIOID		Dexterity and intact cognition necessary for usefulness in older adults.	
Morphine 1 mg/ml	Load: 2-10 mg Basal: 0-2 mg/hr Dose: 1 mg q 5-10 min	Duration of action may be increased, susceptible to CNS depressant and constipating effects. Preferable over meperidine in older adults.	CNS depression, nausea, constipation, respiratory depression.
Meperidine 10 mg/ml	<i>Not recommended</i>	<i>Not recommended in older adults</i> due to accumulation of its metabolite.	CNS depression, nausea, constipation, respiratory depression, delirium.
Hydromorphone (Dilaudid) 0.2 mg/ml	Load: 0.2 mg Basal: 0-0.1 mg/hr Dose: 0.05-0.4 mg q 5-10 min	Duration of action may be increased.	CNS depression, nausea, constipation, respiratory depression.
EPIDURAL ANALGESICS (epidural space)		It is possible to reduce the amount of opioid administered epidurally by adding low doses of local anesthetics. Bupivacaine and ropivacaine are most common. Ropivacaine may be the best choice for older adults because it is reported to produce less motor blockade and CNS and cardiac toxicity than equipotent doses of bupivacaine.	
Morphine	Single Dose: 1-6 mg Infusion: 0.1-1.0 mg/hr	<5 mg may provide relief in older adults. Remains in CSF for extended time producing a long duration of analgesia.	CNS depression, nausea, constipation, respiratory depression, itching, urinary retention, orthostatic hypotension.

<i>Medication</i>	<i>Older Adult Opioid Naïve Starting Dose</i>	<i>Older Adult Considerations/ Comments</i>	<i>Adverse Reactions (A/R)</i>
Fentanyl	Single Dose: 0.025-0.1 mg Infusion: 0.025-0.1 mg/hr	Reduced duration over morphine.	CNS depression, nausea, constipation, respiratory depression, itching, urinary retention, orthostatic hypotension.
Hydromorphone (Dilaudid)	Single Dose: 0.5-1.5 mg Infusion: 0.05-0.2 mg/hr		CNS depression, nausea, constipation, respiratory depression, itching, urinary retention, orthostatic hypotension.

NOTE: These are guidelines and do not represent maximum doses that may be required in all patients. Doses should be titrated to pain relief/prevention.

References:

Semla, TP; Beizer, J.L.; & Higbee, M.D. *Geriatric Dosage Handbook*, (16th ed.). Hudson, OH: Lexi Comp, 2015

APS Principles of Analgesic Use in Treatment of Acute Pain and Cancer Pain. (6th ed.). Chicago, IL: APS, 2009.

Reuben et al. *Geriatrics at your Fingertips 2015 (16th Ed)*. New York: AGS, 2015

Appendix N

RISK FACTORS FOR OPIOID-INDUCED RESPIRATORY DEPRESSION

Patient may have one or more of the following to be considered high risk:

- ♦ Age > 55 years
- ♦ Obesity (e.g. body mass index ≥ 30 kg/m²)
- ♦ Untreated obstructive sleep apnea
- ♦ History of snoring or witnessed apneas
- ♦ Excessive daytime sleepiness
- ♦ Retrognathia
- ♦ Neck circumference > 17.5”
- ♦ Preexisting pulmonary/cardiac disease or dysfunction e.g., copd, chf
- ♦ Major organ failure (albumin level <30 g/L and/or blood urea nitrogen >30 mg/dL)
- ♦ Dependent functional status (unable to walk 4 blocks or 2 sets of stairs or requiring assistance with ambulation)
- ♦ Smoker (>20 pack-years)
- ♦ American Society of Anesthesiologists patient status classification 3-5
- ♦ Increased opioid dose requirement
 - Opioid-naïve patients who require a high dose of opioid in short period of time, e.g. 10 mg IV morphine or equivalent in postanesthesia care unit (PACU)
 - Opioid-tolerant patients who are given a significant amount of opioid in addition to their usual amount, such as the patient who takes an opioid analgesic before surgery for persistent pain and receives several IV opioid bolus doses in the PACU followed by high-dose IV patient-controlled analgesia (PCA) for ongoing acute postoperative pain
- ♦ First 24 hours of opioid therapy (e.g., first 24 hours after surgery is a high-risk period for surgical patients)
- ♦ Pain is controlled after a period of poor control
- ♦ Prolonged surgery (>2 hours)
- ♦ Thoracic and other large incisions that may interfere with adequate ventilation
- ♦ Concomitant administration of sedating agents, such as benzodiazepines or antihistamines
- ♦ Large single-bolus techniques, e.g., single-injection neuraxial morphine
- ♦ Continuous opioid infusion in opioid naïve patients, e.g., IV PCA with basal rate
- ♦ Naloxone administration: Patients who are given naloxone for clinically respiratory depression are at risk for repeated respiratory depression (Jarzyna et al., 2011)

Appendix O

PASERO OPIOID-INDUCED SEDATION SCALE (POSS)

<i>Sedation Scale</i>
S = Sleep, easy to arouse
1 = Awake and alert
2 = Slightly drowsy, easily aroused
3 = Frequently drowsy, arousable, drifts off to sleep during conversation
4 = Somnolent, minimal or no response to physical stimulation

Interpretation of score:

- S = Acceptable; no action necessary; may increase opioid dose
- 1 = Acceptable; no action necessary; may increase opioid dose
- 2 = Acceptable; no action necessary; may increase opioid dose slightly (e.g., 25%)
- 3 = Unacceptable; monitor respiratory status and sedation level closely until sedation level is stable at less than 3 and respiratory status is satisfactory; decrease opioid dose 25% to 50% or notify primary or anesthesia provider for orders; consider administering a non-sedating opioid-sparing nonopioid, such as acetaminophen or an NSAID, if not contraindicated; ask patient to take deep breaths every 15 to 30 minutes.
- 4 = Unacceptable; stop opioid; consider administering naloxone, call Rapid Response Team (Code Blue), if indicated by patient status; stay with patient, stimulate, and support respiration as indicated by patient status; notify primary or anesthesia provider; monitor respiratory status and sedation level closely until sedation level is stable at less than 3 and respiratory status is satisfactory

Adapted from Pasero, C. & McCaffery, M. (2011). *Pain Assessment and Pharmacologic Management*, pg 510.
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Appendix P

JAW RELAXATION TECHNIQUE

Jaw Relaxation Technique is a nonpharmacological intervention that has been demonstrated to be effective in older postoperative patients (Ceccio, 1984; Flaherty & Fitzpatrick, 1978; Good, 1995; Good et al., 1999; Fakhar et al., 2013).

Describe the following to the patient in a slow, comforting voice:

1. Let your lower jaw drop slightly, as though you were starting a small yawn.
2. Keep your tongue still and resting in the bottom of your mouth.
3. Let your lips get soft.
4. Breathe slowly and rhythmically with a three-rhythm pattern of “inhale”, “exhale”, and “rest”.
5. Stop forming words; do not even think about words.

Have the patient practice this technique prior to use.

Appendix Q

NURSING INTERVENTION CLASSIFICATION (NIC)

Pain Management 1400

Definition: Alleviation of pain or a reduction in pain to a level of comfort that is acceptable to the patient

Activities:

- ♦ Perform a comprehensive assessment of pain to include location, characteristics, onset/duration, frequency, quality, intensity or severity of pain, and precipitating factors
- ♦ Observe for nonverbal cues of discomfort, especially in those unable to communicate effectively
- ♦ Assure patient attentive analgesic care
- ♦ Use therapeutic communication strategies to acknowledge the pain experience and convey acceptance of the patient's response to pain
- ♦ Explore patient's knowledge and beliefs about pain
- ♦ Consider cultural influences on pain response
- ♦ Determine the impact of the pain experience on quality of life (e.g., sleep, appetite, activity, cognition, mood, relationships, performance of job, and role responsibilities)
- ♦ Explore with patient factors that improve/worsen pain
- ♦ Evaluate past experiences with pain to include individual or family history of chronic pain or resulting disability, as appropriate
- ♦ Evaluate, with the patient and the health care team, the effectiveness of past pain control measures that have been used
- ♦ Assist patient and family to seek and provide support
- ♦ Utilize a developmentally appropriate assessment method that allows for monitoring of change in pain and that will assist in identifying actual and potential precipitating factors (e.g., flow sheet, daily diary)
- ♦ Determine the needed frequency of making an assessment of patient comfort and implement monitoring plan
- ♦ Provide information about the pain, such as causes of the pain, how long it will last, and anticipated discomforts from procedures
- ♦ Control environmental factors that may influence the patient's response to discomfort (e.g., room temperature, lighting, noise)
- ♦ Reduce or eliminate factors that precipitate or increase the pain experience (e.g., fear, fatigue, monotony, and lack of knowledge)
- ♦ Consider the patient's willingness to participate, ability to participate, preference, support of significant others for method, and contraindications when selecting a pain relief strategy
- ♦ Select and implement a variety of measures (e.g., pharmacological, nonpharmacological, interpersonal) to facilitate pain relief as appropriate
- ♦ Teach principles of pain management

- ♦ Consider type and source of pain when selecting pain relief strategy
- ♦ Encourage patient to monitor own pain and to intervene appropriately
- ♦ Teach the use of nonpharmacological techniques (e.g., biofeedback, TENS, hypnosis, relaxation, guided imagery, music therapy, distraction, play therapy, activity therapy, acupuncture, hot/cold application, and massage) before, after, and, if possible, during painful activities; before pain occurs or increases; and along with other pain relief measures
- ♦ Explore patient's current use of pharmacological methods of pain relief
- ♦ Teach about pharmacological methods of pain relief
- ♦ Encourage patient to use adequate pain medication
- ♦ Collaborate with the patient, significant other, and other health professionals to select and implement nonpharmacological pain relief measures as appropriate
- ♦ Provide the person optimal pain relief with prescribed analgesics
- ♦ Implement the use of patient-controlled analgesia (PCA) if appropriate
- ♦ Use pain control measures before pain becomes severe
- ♦ Medicate prior to an activity to increase participation, but evaluate the hazard of sedation
- ♦ Assure pretreatment analgesia and/or nonpharmacologic strategies prior to painful procedures
- ♦ Verify level of discomfort with patient, note changes in the medical record, inform other health professionals working with the patient
- ♦ Evaluate the effectiveness of the pain control measures used through ongoing assessment of the pain experience
- ♦ Institute and modify pain control measures on the basis of the patient's response
- ♦ Promote adequate rest/sleep to facilitate pain relief
- ♦ Encourage patient to discuss his/her pain experience, as appropriate
- ♦ Notify physician if measures are unsuccessful or if current complaint is a significant change from patient's past experience of pain
- ♦ Inform other health care professionals/family members of nonpharmacologic strategies being used by the patient to encourage preventive approaches to pain management
- ♦ Utilize a multidisciplinary approach to pain management, when appropriate
- ♦ Consider referrals for patient, family, and significant others to support groups, and other resources, as appropriate

1st edition 1992; revised 1996, 2004

Background Reading:

- Herr, K. A., & Mobily, P. R. (1992). Interventions related to pain. In G. M. Bulechek & J. C. McCloskey (Eds.), *Symposium on nursing interventions. Nursing Clinics of North America*, 27(2), 347-370.
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- Perry, A. G., & Potter, P. A. (2000). *Clinical nursing skills and techniques* (pp. 84-101). St. Louis: Mosby.
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- Titler, M. G., & Rakel, B. A. (2001). Nonpharmacologic treatment of pain. *Critical Care Nursing Clinics of North America*, 13(2), pp. 221-232.
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Permission to use Nursing Interventions Classification (NIC) was obtained through Mosby, Elsevier Health Sciences.
(<http://www.us.elsevierhealth.com/>)

Appendix R

NURSING OUTCOMES CLASSIFICATIONS (NOC)

Pain Control--1605

DEFINITION: Personal actions to control pain

OUTCOME TARGET RATING: Maintain at _____ Increase to _____

	Never demonstrated	Rarely demonstrated	Sometimes demonstrated	Often demonstrated	Consistently demonstrated	
OUTCOME OVERALL RATING	1	2	3	4	5	
Indicators:						
160502 Recognizes pain onset	1	2	3	4	5	NA
160501 Describes causal factors	1	2	3	4	5	NA
160510 Uses diary to monitor symptoms over time	1	2	3	4	5	NA
160503 Uses preventive measures	1	2	3	4	5	NA
160504 Uses non-analgesic relief measures	1	2	3	4	5	NA
160505 Uses analgesics as recommended	1	2	3	4	5	NA
160513 Reports changes in pain symptoms to health professional	1	2	3	4	5	NA
160507 Reports uncontrolled symptoms to health professional	1	2	3	4	5	NA
160508 Uses available resources	1	2	3	4	5	NA
160509 Recognizes associated symptoms of pain	1	2	3	4	5	NA
160511 Reports pain controlled	1	2	3	4	5	NA

Domain-Health Knowledge & Behavior (IV)

Class-Health Behavior (Q)

1st edition 1997; revised 2000, 2004

OUTCOME CONTENT REFERENCES:

Howe, C. J. (1993). A new standard of care for pediatric pain management. *American Journal of Maternal Child Nursing*, 18(6), 325-329.

+Hurley, A. C., Volicer, B. J., Hanrahan, P. A., Houde, S., & Volicer, L. (1992). Assessment of discomfort in advanced Alzheimer's patients. *Research in Nursing and Health*, 15(5), 369-377.

Mobily, P., & Herr, K. A. (2001). Pain. In M. Maas, K. Buckwalter, M. Hardy, T. Tripp-Reimer, M. Titler, & J. Specht (Eds.), *Nursing care of older adults: Diagnoses, outcomes & interventions* (pp. 455-475). St. Louis: Mosby.

Puntillo, K., & Weiss, S. J. (1994). Pain: Its mediators and associated morbidity in critically ill cardiovascular surgical patients. *Nursing Research*, 43(1), 31-36.

Sherbourne, C. D. (1992). Pain measures. In A. L. Stewart & J. E. Ware, Jr. (Eds.), *Measuring functioning and well-being* (pp. 220-234). Durham, NC: Duke University Press.

+ Walker, S. N., Sechrist, K. R., & Pender, N. J. (1995). *The health-promoting lifestyle profile II*. Omaha, NE: University of Nebraska at Omaha.

+Walker, S. N., Sechrist, K. R., & Pender, N. J. (1987). The health-promoting lifestyle profile: Development and psychometric characteristics. *Nursing Research*, 36(2), 76-81.

Appendix S

ACUTE PAIN MANAGEMENT KNOWLEDGE ASSESSMENT TEST - KEY

Acute Pain Management Knowledge Assessment Test Key

1. B (False)
2. A (True)
3. A (True)
4. C
5. A (True)
6. D
7. C
8. C
9. C
10. A (True)

Appendix S

ACUTE PAIN MANAGEMENT KNOWLEDGE ASSESSMENT TEST

1. Research has shown that older adults receive the same amount of analgesic medication than younger adults experiencing similar conditions or procedures.
2. People with mild to moderate cognitive impairment can provide a self-report of pain intensity.
3. Less common observed behaviors of acute pain in cognitively impaired individuals include agitation, restlessness, resisting care, and changes in usual behavior patterns.
4. All of the following are general principles of pharmacological management of acute pain in older adults EXCEPT include:
5. Combining nonpharmacologic pain management strategies with pharmacologic therapy may result in reduced medication doses and less risk for side effects.
6. Of the following physical pain relief strategies, the research evidence is strongest for:
7. Strategies for developing an effective pain management plan with the patient include:

ACUTE PAIN MANAGEMENT KNOWLEDGE ASSESSMENT TEST

8. An older adult with *mild* knee pain due to injury from falling rates the severity of their pain, most of the time, as a 2 on the Verbal Rating Scale. A medication that may be appropriate to use as an initial pain medication would be:
9. Cognitive behavioral therapies for managing acute pain does not include:
10. Older people who use opioid medications should receive prophylactic laxative treatment.

Total Score: _____

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Appendix T

ACUTE PAIN MANAGEMENT PROCESS EVALUATION MONITOR

Introduction: The purpose of this monitor is to evaluate perceived understanding and support of each care provider in carrying out the Acute Pain Management guideline.

Instructions: Once the care providers who are using the guideline complete this Process Evaluation Monitor, the individual in charge of implementing the guideline should provide feedback to each nurse who completed a form and offer further education or support as needed.

For the six questions, please tally up the responses provided by adding up the numbers circled. For example, if Question 1 is answered '2' and Question 2 is answered '3' and Question 3 is answered '4' the nurse's score for those three questions (2+3+4) equals 9. The total score possible on this monitor is 36, while the lowest score possible is 9. Those who have higher scores on this monitor are indicating that they are well-equipped to implement the guideline, and understand its use and purpose. On the other hand, those who have relatively low scores are in need of more education and organizational support to use the guideline. Assessment items with lower scores may reveal areas where more education, root cause analysis or process improvement activities should be focused.

ACUTE PAIN MANAGEMENT PROCESS EVALUATION MONITOR

Instructions: Please circle the number that best communicates your perception about your use of the Acute Pain Management guideline.

		<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Strongly Agree</i>
1	I feel knowledgeable to carry out the Acute Pain Management guideline.				
2	Implementing the Acute Pain Management guideline enhances the quality of nursing care.				
3	I feel supported in my efforts to implement the Acute Pain Management guideline.				
4	I feel well prepared to carry out the Acute Pain Management guideline.				
5	I am able to identify acute pain behaviors in patients who are unwilling or unable to report pain.				
6	I am able to identify and carry out the essential activities of the Acute Pain Assessment Guideline.				
7	I had enough time to learn about the Acute Pain Management guideline before it was implemented.				
8	We are managing acute pain better with the use of the guideline.				
9	The guideline enables me to meet the acute pain needs of older patients.				

Total Score: _____

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Appendix U

ACUTE PAIN MANAGEMENT OUTCOMES MONITOR

Instructions: Assist the patient in determining the acceptable level of pain and functioning according to the scales provided. A realistic goal for some patients may be pain that is tolerable, and that allows them an optimal level of functioning, while minimizing medication side effects (Vallerand, 2003).

Therefore, if it is not realistic to expect total elimination of pain, it may be advisable to discuss with the patient their acceptable level of pain and functioning according to the scales provided.

For example, a patient may use the verbal descriptor scale and indicate that slight or mild pain is acceptable and prefer no extra medication at this level. They may also indicate that mild limitations of activity (as indicated by the score on question 9 of the Brief Pain Inventory) may be acceptable.

The patient's goal or acceptable level of discomfort should be indicated on the outcome monitor on the next page. Pain management measures should be instituted for any rating above the acceptable level.

Place the appropriate criteria key next to each separate outcome for each patient assessment. We have provided a total of 5 boxes, which represent the first 5 intervals between assessments.

ACUTE PAIN MANAGEMENT OUTCOMES MONITOR

Criteria Key

Y=Yes/met criteria N=No/criteria not met J=Justified Variation.
 (Justified Variation e.g. patient not included in the monitor; note *why* patient is not included)

Please place the appropriate criteria key next to each outcome for each assessment period.

	Interval 1	Interval 2	Interval 3	Interval 4	Interval 5
Outcome 1¹: Acceptable pain level for this patient					
♦ Pain intensity is maintained at acceptable levels or below. (Yes/No)					
Pain intensity is monitored and recorded. Record score from preferred pain scale (BPI Question #5, VDS, VNS, or FPS) in each box					
♦ For pain intensity score greater than patient's acceptable level, measures are instituted to reassess, treat & monitor pain. (Yes/No)					
Outcome 2²: Acceptable level of function for this patient					
♦ Pain impact on functioning is maintained at acceptable levels. (Yes/No)					
Pain impact score is monitored and recorded. Record average score from BPI Question #9 A-G in each box.					
♦ For pain impact score greater than patient's acceptable level, measures are instituted to refine pain treatment and improve functioning (Yes/No)					

¹Acceptable levels of pain maybe determined by asking the patient to verbalize an acceptable rating according to the preferred pain rating scale.

²Acceptable levels of impact on function may be determined by asking the patient to verbalize an acceptable rating according to question 9 of the BPI.

Comments:

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