

American Society for Pain Management Nursing Position Statement: Prescribing and Administering Opioid Doses Based Solely on Pain Intensity

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■ ABSTRACT:

The foundation of safe and effective pain management is an individualized, comprehensive pain assessment, which includes, but is not limited to, determining the intensity of pain if the patient is able to report it. An unforeseen consequence of the widespread use of pain intensity rating scales is the practice of prescribing specific doses of opioid analgesics based solely on specific pain intensity. Many factors in addition to pain intensity influence opioid requirements, and there is no research showing that a specific opioid dose will relieve pain of a specific intensity in all patients. The American Society for Pain Management Nursing (ASPMN) holds the position that the practice of prescribing doses of opioid analgesics based solely on a patient's pain intensity should be prohibited because it disregards the relevance of other essential elements of assessment and may contribute to untoward patient outcomes.

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The foundation of safe and effective pain management is an individualized, comprehensive pain assessment, which includes, but is not limited to, determining the intensity of pain if the patient is able to report it (McCaffery, Herr, & Pasero, 2011). Pain is a subjective experience (McCaffery, 1968); therefore, pain intensity is determined by the person experiencing the pain and is often assessed through the use of a pain intensity rating scale (McCaffery et al., 2011). The use of pain intensity rating scales has become integral to inpatient pain

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assessment in most hospitals in the United States over the past 15 years. An unforeseen consequence of the widespread use of pain intensity rating scales is the practice of prescribing specific doses of opioid analgesics based solely on pain intensity ratings (Pasero, Quinn, Portenoy, McCaffery, & Rizo, 2011; Pasero, 2014). This practice is commonly referred to as “dosing to numbers” (Pasero, 2014).

Prescribing opioid doses based solely on pain intensity is problematic for many reasons, including that pain intensity ratings are completely subjective, cannot be measured objectively, and are not repeatable findings even within the same individual (McCaffery, et al., 2011). Furthermore, many factors in addition to pain intensity influence opioid requirements (Aubrun, Salvi, Coriat, & Riou, 2005) (Table 1). There is no research showing that a specific opioid dose will relieve pain of a specific intensity in all patients (Aubrun & Riou, 2004; Blumstein & Moore, 2003).

BACKGROUND

Concerns about the undertreatment of pain led Dr. James Campbell to suggest in his 1996 American Pain Society (APS) presidential address that clinicians track pain in the medical record on the graphic sheet along with vital signs and that they consider the concept of “pain as the fifth vital sign” (Campbell, 1996; Morone & Weiner, 2013). In 2000, the Veterans Administration and other organizations, including The Joint Commission (TJC), a hospital accrediting agency, designated pain as the fifth vital sign in an effort to increase awareness of undertreated pain (Morone & Weiner, 2013; Veterans Health Administration, 2000). Critics of this designation argued that pain is a symptom, and as such, is complex, requires assessment, and is not the same as the objective data obtained from traditional vital signs, such as heart rate and respiratory rate. Nevertheless, many healthcare organizations adopted the concept to be consistent with what was thought to be an evolving practice standard. In 2000, TJC released comprehensive pain assessment standards and began surveying hospitals in 2001 for compliance with the standards. The agency continues to survey hospitals today for pain assessment practices that include the documentation of pain assessment data, such as pain intensity ratings.

Since the release of TJC pain standards, pain experts and others have questioned the safety and efficacy of focusing on pain intensity as the primary, and sometimes only, element of pain assessment (Backonja & Farrar, 2015; Lucas, Vlahos, & Ledgerwood, 2007; Morone & Weiner, 2013; Pasero,

2014; Twycross, Voepel-Lewis, Vincent, Franck, & von Baeyer, 2015; Vila et al., 2005; von Baeyer, 2012; White & Kehlet, 2007). Most of the concerns focused on an observed increase in opioid-related adverse events, many of which involved the administration of opioid doses based solely on pain intensity.

At the same time, TJC and the Centers for Medicaid and Medicare Services (CMS) surveyors began to criticize the use of opioid dose range orders (e.g., morphine: 2-6 mg intravenously [IV] every 2 hours PRN [as needed] for pain) in hospitals, despite the fact that such orders have been prescribed for years and are considered by pain experts to be essential to the provision of individualized, safe opioid dosing for the treatment of pain (Drew et al., 2014; Gordon et al., 2004; Pasero et al., 2011). Surveyors cited the need for consistency among nurses in their selection of doses; thus the widespread objection to range orders. Some surveyors claimed that the nursing act of selecting a dose from a range order constituted “practicing medicine without a license” (R. C. Manworren, personal communication, November 25, 2013), although no state board of nursing in the country has provided opinion to support this claim (ASPMN Dosing to Numbers Task Force, 2015). Many surveyors insisted that prescriptions must stipulate a specific opioid dose dependent on a specific reported pain intensity (e.g., morphine: 2 mg IV for pain ratings of one through three [on a scale of zero to 10]; 4 mg IV for pain ratings of four through six; and 6 mg IV for pain ratings greater than six) (T. Aalund, personal communication, October 22, 2015; P. Barr, personal communication, October 22, 2015; P. BeVier, personal communication, October 22, 2015; M. Doll-Shaw, personal communication, October 22, 2015; N. Eksterowicz, personal communication, October 22, 2015; M. Golden, personal communication, October 22, 2015; M. Harnish, personal communication, October 22, 2015; A. Kazandjian, personal communication, October 22, 2015; F. Mooney-Cotter, personal communication, October 22, 2015; M. Rehm, personal communication, October 22, 2015; T. Reyburn-Orne, personal communication, October 22, 2015; C. Sarna-Marlow, personal communication, October 22, 2015; L. M. Ushiroda-Garma, personal communication, October 22, 2015; M. Yurgil, personal communication, October 22, 2015). This rigid approach to opioid dose administration can cause significant adverse events because it disregards other critically important patient factors that influence opioid dose requirement (Lucas, Vlahos, & Ledgerwood, 2007; Pasero, 2014; Vila et al., 2005; White & Kehlet, 2007). The same is true of an order that links an opioid dose solely to a

TABLE 1.
Factors in Addition to Pain Intensity that Influence Opioid Dose Requirement

Factor	Considerations
Age	Opioids are metabolized in the liver and excreted by the kidneys either unchanged or as metabolites. Some degree of renal insufficiency occurs as a result of normal aging, making older adults susceptible to drug effects and metabolite accumulation. The need to reduce initial opioid doses and establish longer dosing intervals should be anticipated for both older adults and the very young, such as neonates and infants, who have incomplete organ development.
Quality of pain	The words patients use to describe their pain are helpful in determining the underlying pain mechanism and appropriate treatment. "Aching" or "throbbing" pain may indicate nociceptive pain, which is responsive to such analgesics as acetaminophen, nonsteroidal anti-inflammatory drugs, local anesthetics, and opioids. "Burning" or "shooting" pain is associated with neuropathic pain, which is responsive to such analgesics as anticonvulsants, antidepressants, and local anesthetics.
Sedation level	Increased levels of sedation precede opioid-induced respiratory depression, making sedation assessment prior to and at peak effect time following opioid administration essential. Opioid dose should be reduced whenever increased sedation is detected and monitoring of sedation level and respiratory status should be increased in frequency and intensity until sedation and respiratory status are normalized and stable.
Respiratory status	All patients are at risk for opioid-induced respiratory depression; however, patients with pulmonary compromise, such as chronic obstructive pulmonary disease or obstructive sleep apnea, are at elevated risk. Initial and ongoing assessment of patient risk for opioid-induced respiratory depression helps to determine appropriate opioid dosing and level of monitoring.
Functional status	The goal of analgesic treatment is to improve the patient's ability to achieve functional goals, such as ambulation and participation in physical therapy (PT). The patient's functional goals and activity schedule are important considerations in determining opioid dose selection and timing of administration. There may be a need for higher doses prior to painful activities than at bedtime. Include efficacy of opioid treatment toward goal achievement in handoff reports for continuity of care.
Tolerance	Opioid tolerance is the state of adaptation in which exposure to an opioid induces changes that result in diminution of one or more of the opioid's effects over time, making assessment of previous and current opioid use prior to opioid administration essential. Patients receiving long-term opioid therapy may experience decreased analgesia and side effects due to the presence of opioid tolerance.
Drug-drug interactions	When two drugs are given at the same time, one drug may alter the effect of the other drug either by changing its effectiveness or increasing its side effects. For example, concomitant administration of other sedating drugs during opioid therapy increases the risk of respiratory depression.
Reaction/response to prior opioid treatment	Assessment prior to opioid treatment should include the patient's response to previous opioids including analgesic efficacy and side effects. Many factors influence response to opioid analgesics. Changes in opioid or dose may be effective in patients who report a lack of efficacy or intolerable side effects with a previously prescribed opioid.
Physical and psychiatric comorbidities	Assessment prior to opioid administration should include the presence, severity, and treatment of comorbidities. Physical comorbidities can affect hepatic metabolism and renal excretion of opioids; psychiatric comorbidities can affect how pain is perceived and expressed; drugs used to treat comorbidities can act synergistically or in an additive manner to affect opioid analgesic efficacy and side effects.
Genitourinary status	Opioids can increase smooth muscle tone in the bladder, ureters, and sphincter, which can cause bladder spasms and urine retention. Urinary tract infections and stones can cause pain. Assessment of potential sources of pain and optimizing treatment with multimodal analgesia may help to improve analgesia with the lowest effective opioid dose.
Cardiovascular status	Opioids can lower blood pressure by dilating peripheral arterioles and veins. Dehydration and hypotensive drugs can worsen postural hypotension. In addition to optimal hydration, multimodal analgesia strategies that allow the lowest effective opioid dose may be helpful in minimizing adverse cardiovascular effects.

References: Belfer, 2013; Chow, Ko, Rosenthal, & Esnaola, 2012; Gilron, Tu, & Holden, 2013; Jarzyna et al., 2011; Lee, 2012; Lehne, 2013; Parmar & Parmar, 2013; Pasero et al., 2011; TJC, 2012.

patient's verbal descriptor of pain intensity (e.g., morphine: 2 mg IV for mild pain; 4 mg IV for moderate pain; and 6 mg IV for severe pain).

Reports of widespread prohibition of range orders in hospitals and an increase in opioid-related adverse events nationally prompted the ASPMN and the APS to publish a consensus statement supporting the use of opioid dose range orders that included recommendations for their appropriate prescription and implementation (Gordon et al., 2004). Both organizations reaffirmed the statement in 2014 (Drew et al., 2014).

In 2010, the Institute of Safe Medication Practices (ISMP) published guidelines for the development of standard order sets (Institute of Safe Medication Practices [ISMP], 2010). The ISMP recommendations advised that well-designed order sets should:

- Have the potential to reduce unnecessary calls to physicians for clarifications and questions about orders (ISMP, 2010, p. 1).
- Include objective, organization-determined measures associated with medication doses that vary based on the degree of the presenting symptom (ISMP, 2010, p. 3).
- Exclude range orders without objective measures to determine the correct dose (ISMP, 2010, p. 3).

More recently, the ISMP issued draft *Guidelines for the Safe Communication of Electronic Medication Information* that reinforce its earlier recommendation to allow only range orders with objective measures to determine the correct medication dose (ISMP, 2015). Objective measures for opioid administration include such patient characteristics as age, comorbidities, sedation level, respiratory status, and concurrent sedating medications, among others (Jarzyna et al., 2011; Pasero, 2014). Pain intensity, on the other hand, is a completely subjective measure (McCaffery et al., 2011).

In response to the pressures imposed by accrediting and licensing surveyors, many hospital prescribing policies prohibited *all* opioid dose range orders and required instead orders that link opioid doses to pain intensity (T. Aalund, personal communication, October 22, 2015; P. Barr, personal communication, October 22, 2015; P. BeVier, personal communication, October 22, 2015; M. Doll-Shaw, personal communication, October 22, 2015; N. Eksterowicz, personal communication, October 22, 2015; M. Golden, personal communication, October 22, 2015; M. Harnish, personal communication, October 22, 2015; A. Kazandjian, personal communication, October 22, 2015; F. Mooney-Cotter, personal communication, October 22, 2015; M. Rehm, personal communication, October 22, 2015; T. Reyburn-Orne, personal

communication, October 22, 2015; C. Sarna-Marlow, personal communication, October 22, 2015; L. M. Ushiroda-Garma, personal communication, October 22, 2015; M. Yurgil, personal communication, October 22, 2015). Such policies not only completely disregard the ISMP recommendations for well-designed order sets (ISMP, 2010) and appropriate prescription of range orders (ISMP, 2015), but also violate the ISMP's earlier recommendations to avoid the dangers of prescribing opioids based solely on a patient's estimation of pain intensity (ISMP, 2002). This type of opioid prescription is also contrary to TJC's recommendation to avoid using opioids to meet an arbitrary pain intensity goal (The Joint Commission, 2012).

Prescribers and bedside nurses alike voiced concern over the prescribing requirements to link opioid doses to pain intensity, citing patient safety issues when prescriptions require nurses to administer opioid doses without consideration of other critical assessment parameters, such as patient age and comorbidities, as well as dynamic patient data such as iatrogenic risk, sedation level, and respiratory status (Lucas, Vlahos, & Ledgerwood, 2007; Pasero, 2014; Zacharoff, 2015). Secondary effects of prescriptions that link opioid dose solely to pain intensity include increased nursing time spent contacting prescribers for alternative safe prescriptions while patients wait in pain for new order implementation. The practice of dosing solely to pain intensity also discourages nurses from conducting crucial assessments and applying critical thinking to the care of their patients, which is a contradiction to nurses functioning at the highest level of their licensure.

Despite the strong recommendations put forth in the ASPMN/APS consensus document on opioid dose range orders and published reports of the dangers of linking opioid doses solely to pain intensity, policies in many hospitals continue to require prescribers to write this type of order and nurses to implement them. Even after TJC published a sentinel event alert presenting concerns about opioid administration in hospitals (TJC, 2012), many of its surveyors continue to insist that prescribers link opioid doses to pain intensity for the management of pain in the acute care setting.

One could consider these historical events similar to the "perfect storm" in that their concomitant occurrence poses great risk for patients and increased liability for prescribers, nurses, and hospitals. There is an urgent need to take action to prevent the occurrence of more adverse outcomes (Lucas et al., 2007; Pasero, 2014; Vila et al., 2005; White & Kehlet, 2007).

DEFINITIONS OF TERMS

Behavioral pain score: A numerical score obtained by observing a set of predetermined pain behaviors identified in a behavioral pain assessment tool. Behavioral pain scores help to determine whether pain is present and guide analgesic administration but are not pain intensity scores and cannot be equated with the numbers on a numerical pain rating scale (see Numerical pain rating scale) (McCaffery et al., 2011).

Dosing to numbers: Prescription of an opioid dose according to a specific pain intensity rating or ratings (e.g., morphine: 2 mg IV for pain ratings of one through three on a scale of zero to 10; oxycodone + acetaminophen: 1 tablet PO for pain ratings one through three on a scale of zero to 10) (Pasero, 2014).

Iatrogenic risk: Conditions, circumstances, and interventions that predispose a patient to increased risk of an opioid-related adverse event (Jarzyna et al., 2011).

Multimodal analgesia: Combinations of nonpharmacological methods and drugs with different underlying analgesic actions administered to achieve better pain control with lower doses than would be possible with one method or drug alone (Pasero et al., 2011).

Numerical pain (intensity) rating scale: Numbers ranging from zero to 10 (sometimes zero to five) spaced equally apart along a horizontal or vertical line; the patient is instructed that zero means “no pain” and 10 is the “worst possible pain” (note that a variety of descriptions are used for the 10 anchor) and is asked to select the number that best represents the level of pain intensity the patient is experiencing (McCaffery et al., 2011).

Opioid-related adverse event: A life-threatening event the patient experiences as a result of opioid administration, most often respiratory in nature (Pasero et al., 2011).

Opioid analgesic: Opioid agonists or opioid agonist-antagonists binding to the mu, delta, and/or kappa opioid receptor sites in the central and/or peripheral nervous systems. Examples of opioid agonists are morphine, hydromorphone, fentanyl, oxycodone, and methadone. Examples of opioid agonist-antagonists are nalbuphine, butorphanol, and buprenorphine (Jarzyna et al., 2011).

Opioid dose range order: Prescription of a range of opioid doses (e.g., morphine: 2-8 mg IV every 2 hours PRN pain). Guidelines and recommendations for proper range order prescription are provided elsewhere (Drew et al., 2014; Gordon et al., 2004).

Pain intensity: Severity of pain, which can be described or depicted in a variety of ways (McCaffery et al., 2011).

Self-report of pain: The patient’s description of his or her pain experience (McCaffery et al., 2011).

POSITION STATEMENT

The American Society for Pain Management Nursing (ASPMN) holds the position that the practice of prescribing doses of opioid analgesics based solely on a patient’s pain intensity should be prohibited because it disregards the relevance of other essential elements of assessment and may contribute to untoward patient outcomes, such as excessive sedation and respiratory depression as a result of overmedication (Pasero, 2014; White & Kehlet, 2007). Administering opioid analgesics based solely on pain intensity can also result in poor pain control from undermedication (Pasero et al., 2011).

ETHICAL CONSIDERATIONS

Ethical care of all patients is based on morals, tenets, rules, and practices of society (Beauchamp, Walters, Kahn, & Mastroianni, 2008). When the goal of care is to relieve pain and suffering by using opioid analgesics, many ethical challenges can arise, including those related to assessment, treatment, education, and the actual control of pain. Four ethical principles are intrinsic to providing optimal care for this group of patients: beneficence, nonmaleficence, autonomy, and justice.

Beneficence is the duty to do what is good for the patient with consideration of the patient’s values and desires (Macciocchi, 2009). Beneficence requires that nurses assess, treat, educate, support, encourage, and advocate for patients to achieve a balance between optimal pain control and optimal safety. In doing so, nurses expand the concept of beneficence from doing good to doing the highest possible good.

Simultaneously, beneficence encompasses the principle of nonmaleficence, which is the duty to remove and prevent harm to patients (Andersson et al., 2010). It is incumbent upon nurses and other healthcare providers (HCPs) to carefully and frequently monitor patients for side effects and other untoward effects of opioid analgesics that can result in various degrees of harm to patients. Nurses and other HCPs also have an ethical obligation not to administer a medication or treatment that is likely to cause harm. For example, if a patient is excessively sedated and reporting severe pain, the reasonable nurse should know that continuing to administer a sedating medication, such as an opioid, would likely cause harm and would instead seek further evaluation and alternative orders for pain control.

The principle of autonomy requires that nurses advocate for patients to make sound decisions about their

healthcare and, once made, to respect and support those decisions (Andersson et al., 2010; Fowler, 2008). Fundamental to this principle is that patients must be able to understand relevant information about their choices and be unrestricted by limitations, interferences, restrictions, outside forces, and controlling influences (Brennan, Carr, & Cousins, 2007). When working with patients receiving opioid analgesics, nurses must educate patients about side effects and safety concerns, especially the need to balance pain control with personal safety (beneficence, nonmaleficence).

The ethical principle of justice is based on the concept that people with similar diagnoses should be treated in a similar manner, while those with different diagnoses should be treated differently (Andersson et al., 2010). Diagnosis of disease may require similar therapies, but the phenomenon of pain requires unique treatments. The intricacy of justice when working with patients to control pain is accentuated by the fact that pain is unique for every individual (McCaffery, 1968). Patients may have very different reports of pain, analgesic requirements, responses to analgesics, and expectations for pain control, despite sharing the same diagnosis, injury, or surgery. Simultaneously, the care for these patients' underlying pathology and safety needs to be equally optimized. This can be challenging and dangerous when medication is prescribed in a rigid and arbitrary manner such as assigning a dose to a reported pain intensity number. The uniqueness of each patient requires that opioid prescriptions be individualized considering the diagnosis, comorbidities, vulnerabilities, and medication contraindications. Likewise, opioids can cause adverse reactions that may require dose limitations in some patients to maintain safety, function, and quality of life.

When considering the ethical principle of justice for patients receiving opioid analgesia, there must be a critical balance between optimal pain control (beneficence) and optimal safety for all patients (nonmaleficence). Thus the principle of justice is actualized when all patients with the same diagnosis are treated equally in terms of appropriate pain assessments with individualized treatments toward the goal of relieving pain. The primary goal should place safety first (beneficence, justice, nonmaleficence) while advocating for effective pain control for all patients (autonomy, beneficence, justice).

BARRIERS

There are many barriers to providing safe and effective pain management. Although divided into three major

categories here, the barriers listed are not exclusive to just one category. In fact, they often overlap.

Nurses

- Not all nurses understand the legal consequences for themselves, prescribers, and the hospital when nurses overmedicate or undermedicate for pain as a result of simplistic prescriptions, such as those that link opioid doses solely to pain intensity.
- Nurses, as well as other HCPs and even family members, tend to use a variety of words to define the high-end anchor of numerical pain rating scales (i.e., different words are used to describe a "10" on a scale of zero to 10) (McCaffery et al., 2011). The anchor wording "the worst pain you've ever experienced" is very different from "the worst pain imaginable." In the first example, the patient's current pain intensity is relative to and dependent on prior experiences with pain; the second example is limited only by the scope of the patient's imagination of terrible pain and suffering. The wording used to define the anchors may influence patient responses, which can lead to different pain ratings by the same patient (Hjermstad et al., 2011). Different ratings, even by the same patient, in response to varying anchor descriptions could result in inaccurate dosing of opioids.
- Some nurses do not appreciate that most adverse opioid drug reactions are preceded by an increase in the patient's level of sedation, which emphasizes the importance of a proper clinical assessment that includes other factors in addition to pain intensity prior to opioid administration (Pasero, 2014; Vila et al., 2005).
- Many nurses lack knowledge regarding the importance of using a multimodal approach to analgesia, which can lead to over-reliance on opioids as the main intervention for both acute and chronic pain.

Prescribers

Knowledge Limitations.

- Training and knowledge about pain management pharmacotherapy remains inadequate among many prescribers (Coulling, 2005; D'Arcy, 2009; Douglass, Sanchez, Alford, Wilkes, & Greenwald, 2009; Grissinger, 2013; Lewthwaite et al., 2011; McCaffery & Ferrell, 1997; Morone & Weiner, 2013; Polomano, Dunwoody, Krenzischek, & Rathmell, 2008).
 - There is a lack of knowledge regarding the importance of using a multimodal approach to analgesia, which can lead to over-reliance on opioids as the main intervention for both acute and chronic pain.
 - There is a lack of understanding among prescribers regarding the intricacies of pain assessment and opioid administration, including the legal consequences for prescribers, nurses, and hospitals when nurses overmedicate or undermedicate as a result of simplistic prescriptions, such as those that link opioid doses to pain intensity.

- Variability in knowledge about pain management is widespread and may be due to a lack of education (Lebovits et al., 1997; Lewthwaite et al., 2011; Wilson, 2007), environment (Lebovits et al., 1997; Wilson, 2007), or experience (Al-Shaer, Hill, & Anderson, 2011; Lewthwaite et al., 2011).
- Misconceptions about assessment, side effects of analgesics, and addiction persist and adversely affect the provision of high quality patient care (Coulling, 2005; Lebovits et al., 1997; Wilson, 2007).
- There is a lack of understanding of the appropriate use and limitations of pain assessment tools.
 - Pain intensity is just one component of a proper pain assessment.
 - Behavioral pain assessment tools assist clinicians in determining the presence of pain (Herr, Coyne, McCaffery, Manworren, & Merkel, 2011; McCaffery et al., 2011). The score obtained from a behavioral pain assessment tool is not a pain intensity rating. Pain intensity is a self-reported, subjective measure; therefore, behavioral pain tools cannot measure pain intensity (Herr et al., 2011; McCaffery et al., 2011). Opioid doses should not be linked to behavioral pain scores.

Prescribing Limitations.

- Standardized pain order sets have been proposed to improve pain management (Office of the Army Surgeon General Pain Management Task Force, 2010; Weber, Ghafoor, & Phelps, 2008); however, when standardized orders are used for PRN analgesics, the prescriber's ability to customize orders based on the patient's characteristics may be limited.
 - The default mechanism often is the selection of predetermined orders, which can place the patient at risk for inadequate analgesia, untoward side effects, increased morbidity, or mortality.

Institutions

- Both clinicians and institutional leadership are often reluctant to challenge unsafe practice recommendations made by regulators (e.g., TJC, CMS surveyors) who may have no background in pain management and may not understand the basic principles of safe pain management.
- Most institutions lack experts who could provide guidance in the development of safe and effective pain management policy and practice and could respond effectively to regulators' practice recommendations that risk optimal pain control or patient safety.
- Clinical leadership's lack of familiarity with the principles of pain management and advances made over the past 25 years perpetuates a culture that relies on myths and misinformation regarding pain management.
- Institutional pain assessment policies often promote the assessment of pain intensity as the most important

component of pain assessment, which can result in clinicians erroneously thinking that obtaining the patient's pain intensity rating constitutes a complete pain assessment. Pain intensity is only one element of a complete pain assessment.

- As with prescribers, there is often a lack of understanding among non-nursing professionals regarding the intricacies of pain assessment and opioid administration, including the legal consequences for prescribers, nurses, and hospitals when nurses overmedicate or undermedicate as a result of simplistic prescriptions, such as those that link opioid doses to pain intensity ratings.
- There is a high tolerance for variation in prescriber practices, without adequate oversight, and a reluctance to shape the behavior of prescribers in a way that supports safe and effective pain management practices.

RECOMMENDATIONS

The following recommendations are listed for nurses, prescribers, and institutions. They are intended to facilitate and guide decision-making with regard to safe opioid administration.

Nurses

- Participate in educational endeavors to improve knowledge related to pain assessment and management.
- Conduct comprehensive pain assessments that guide sound clinical decision-making.
 - Patient-specific, key factors to consider are listed in Table 1.
 - Consider self-reported pain intensity ratings and behavioral pain scores within a context of multiple factors, including clinical history, patient preferences, response to previous treatments, and current respiratory status and sedation level (Jarzyna et al., 2011; Pasero et al., 2011; Twycross et al., 2015).
- Use pain assessment tools that are valid, reliable, and individualized to the patient's needs and characteristics (McCaffery et al., 2011). Ensure the healthcare team uses the selected tool consistently for that patient. Use appropriate behavioral pain assessment tools and methods for patients who cannot self-report their pain experience (Drew et al., 2014; Herr et al., 2011).
- Do not use pain intensity ratings or descriptors or behavioral pain scores alone to dose analgesics. This simplistic approach negates the complexity of clinical decision-making that is needed to provide safe and effective analgesia.
- Contact the prescriber for alternative orders whenever the dose prescribed is inappropriate or unsafe to administer.
- Contact the prescriber to request an individualized, multimodal treatment plan to manage pain whenever an opioid-only treatment plan has been prescribed

(American Society of Anesthesiology, 2012; Jarzyna et al., 2011; Pasero, 2014; Pasero et al., 2011; TJC, 2012).

- Include the use of nonopioid analgesics and non-pharmacological interventions (Jarzyna et al., 2011; Pasero, 2014; TJC, 2012).
- Assist with the development of policies, processes, and methods of documentation (e.g., electronic health records [EHRs]) that ensure safe administration of analgesics (ISMP, 2010, 2015).

Prescribers

- Participate in educational endeavors to improve knowledge related to pain assessment and management.
 - The Food and Drug Administration (FDA) mandated Risk Evaluation Mitigation Strategies (REMS) for extended-release and long-acting opioids, which includes a component of prescriber education (United States Food and Drug Administration, 2012).
 - REMS training may provide clinicians with valuable core knowledge in pain management assessment and evaluation, but may not equip clinicians faced with prescribing PRN analgesics in the acute care setting.
- Conduct a pain assessment that includes, but is not limited to, the duration of the pain (acute vs. chronic); the type of pain (nociceptive, inflammatory, neuropathic); the patient's age and pain history; the reported pain intensity; previous use of and response to opioids; comorbidities; and risk for excessive sedation and respiratory depression (McCaffery et al., 2011).
- Prescribe an individualized, multimodal analgesia treatment plan to manage pain.
 - Extend analgesic choices beyond opioids to avoid the prescription of opioid-only treatment plans. For those with postoperative pain and acute trauma pain, ensure that nonopioids, such as acetaminophen and nonsteroidal anti-inflammatory drugs (NSAIDs), are prescribed around the clock (not PRN) as the foundation of the pain management plan, unless there is a contraindication to the use of these medications (American Society of Anesthesiologists Task Force on Acute Pain Management, 2012).
 - Include the use of nonpharmacological interventions, such as repositioning and application of ice or heat (Jarzyna et al., 2011; Pasero, 2014; TJC, 2012).
- After establishing a nonopioid foundation, prescribe PRN opioid analgesics, allowing for a range of doses that may be administered within a fixed interval of time (e.g., morphine: 2-6 mg IV every 2 hours PRN for pain [based on objective and subjective measures as outlined in institutional pain management policy]) (see Institution Recommendations below).
 - The use of PRN opioid dose range orders enables nurses to consider multiple patient factors when administering opioids (Drew et al., 2014; Pasero, 2014).

- Do not prescribe opioids to meet an arbitrary pain rating or behavioral score or a planned discharge date (TJC, 2012).

Institutions

- Provide mandatory, ongoing pain education for prescribers, nurses, and pharmacists that includes the appropriate use of pharmacological and nonpharmacological methods of pain control as part of a multimodal treatment plan, safety concerns regarding the various pain management methods, and the provision of patient and family education regarding a variety of treatment options.
 - Ensure prescribers and nurses understand the medical and legal ramifications of simplistic approaches to pain management, such as prescribing and administering opioid doses based solely on pain intensity.
- Provide clinical leaders with up-to-date, evidence-based information about the principles of pain management.
 - With a good knowledge base, clinical leaders can quickly recognize practices like dosing to numbers as potentially harmful to patients.
 - Improvements in clinical performance come when institutional leadership appreciates and supports the complexities of practice (Tsai et al., 2015).
- Use on-site pain management experts or seek outside consultants who can provide guidance in developing safe and effective pain management practices and who can respond effectively to regulators' practice recommendations that risk optimal pain control or patient safety.
- Ensure that policies and procedures and written and/or electronic documentation systems include information to guide sound decisions regarding opioid dosing.
 - Present pain intensity as just one component of a proper pain assessment.
 - Specify the words the institution prefers clinicians and patients use to describe the numbers within numerical pain rating scales (e.g., zero = "no pain"; 10 = "worst possible pain").
 - Include in pain assessment policies and EHRs a list of subjective measures (e.g., self-reported pain intensity rating) and objective measures (e.g., age, comorbidities, previous response, sedation level, respiratory status) that prescribers and nurses are required to consider prior to opioid dose prescription and administration.
- Implement an institutional template for safe prescribing of analgesics and include this in written and/or electronic order set development.
 - Promote the prescription of multimodal pain treatment plans that incorporate a strong nonopioid foundation prior to opioid prescription.
 - Support the proper prescription and implementation of opioid dose range orders as described in the ASPMN position paper, "Use of 'As-Needed' Range

Orders for Opioid Analgesics in the Treatment of Acute Pain” (see [Gordon et al., 2004](#) and [Drew et al., 2014](#)).

- Include written instructions or screens in the EHR that require both prescribers and nurses to consider subjective measures (e.g., self-reported pain intensity rating) and objective measures (e.g., age, comorbidities, previous response, sedation level, respiratory status) prior to opioid dose prescription and administration.
- Avoid promoting the administration of opioids to meet an arbitrary pain intensity rating or behavioral pain score ([TJC, 2012](#)).
- Recognize that safe and effective pain management is fundamental to nursing practice.
 - Support nurses in conducting regular pain assessments that include responses to previous medication administrations, careful respiratory and sedation evaluations, and expected patient activity to determine appropriate treatment.
 - Ensure this complex determination is not reduced to a simplistic prescriptive order that prevents nurses from functioning within the scope and standards of their practice.
 - Foster a work environment that empowers nurses to question unsafe or inappropriate analgesic prescriptions and request alternative safe orders.
 - Encourage and support nurses to function at the highest level of their educational preparation and licensure.

SUGGESTIONS FOR FUTURE RESEARCH

Many questions remain unanswered regarding pain management and specifically the issues surrounding how best to determine a patient’s optimal opioid dose. Research is needed to:

- Identify key factors that should be included in the initial pain assessment and follow-up reassessments that will guide safe and effective opioid dosing;
- Examine adverse drug events, pain control, and other patient outcome indicators associated with an opioid dose-range-order approach compared with an opioid dosing-to-numbers approach;
- Evaluate how the opioid requirements differ among patients with similar diagnoses and what factors may affect those differences;
- Examine how nurses’ assessment of pain may differ when pain is treated using an opioid dose-range-order approach compared with an opioid dosing-to-numbers approach;
- Ascertain the amount of nursing and prescriber time that is spent modifying prescriptions when pain is treated using an opioid dose-range-order approach compared with an opioid dosing-to-numbers approach;

- Determine the most reliable wording for describing the high-end anchor in numerical pain rating scales (e.g., “10” on a scale of zero to 10);
- Discover a method to objectively quantify the intensity of pain.

SUMMARY AND CONCLUSIONS

Pain is a multifaceted, subjective experience that is unique for each individual. There currently is no method to objectively quantify the intensity of pain; therefore, the patient’s subjective report of pain intensity is considered the most reliable method. Most often pain intensity is recorded as the number the patient designates on a pain intensity rating scale (e.g., zero to 10) or the words the patient uses to express the intensity (e.g., “mild” to “severe”). Although there are published recommended starting doses for opioids ([Pasero et al., 2011](#)), unfortunately, there is no known correlation between any reported pain intensity and an opioid dose that is both safe and effective.

ASPMN advocates for the nurse’s role in the safe and effective management of acute pain using multimodal analgesia that may include the administration of opioid analgesics. It is not safe to dose opioids based solely on a patient’s pain intensity or the score obtained from a behavioral (observational) pain assessment tool. Optimal (safe and effective) opioid dosing depends on the careful assessment of multiple objective measures, including the patient’s age, comorbidities, sedation level, respiratory status, concurrent sedating medications, and previous response to opioid administration, in addition to the subjective measure of pain intensity.

Registered nurses (RNs) are educated and licensed to conduct comprehensive pain assessments, critically consider the information garnered from the assessment, and administer analgesics in a safe and effective manner based on their knowledge and assessment of the whole patient. Furthermore, RNs are encouraged to always function at the highest level of their educational preparation and scope of practice to ensure patient-centered care ([Institute of Medicine of the National Academies, 2010](#)), which includes the provision of safe and effective pain control for all patients. ASPMN believes that the practice of dosing to numbers prevents RNs from functioning at their highest potential and jeopardizes patient safety and effective pain control.

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