

Optimizing acute pain management

A guide to multimodal analgesia
and quality improvement



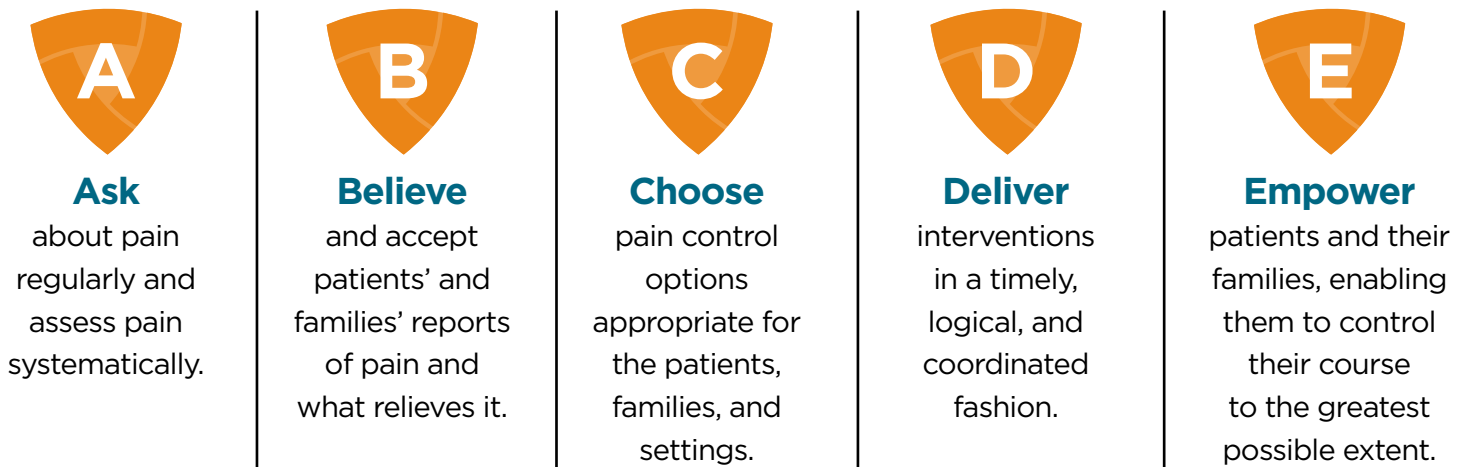
Recommendations for acute pain management

Acute pain, traditionally defined by a quick onset and a short duration, is often associated with surgery, trauma, or acute illness.¹

This section includes evidence- and clinical practice-based recommendations that support quality improvement in acute pain assessment, treatment, and education.

ABCs of acute pain management

The following easy-to-remember steps summarize a recommended clinical approach to assessing and managing acute pain²:



Adapted from Jacox A et al, 1994.²

Pain management quality indicators

The following pain management quality indicators are meant to help hospital staff evaluate pain management protocols and identify areas for improvement³:

1. Patients are adequately informed about acute pain and the options available to them for managing it.
2. Pain intensity is adequately documented at appropriate intervals using a numeric or descriptive rating scale.
3. Pain is managed and prevented to a degree that facilitates patients' functional goals and quality of life.
4. Pain is treated with regularly administered analgesics by a route other than intramuscular injection.
5. Pain is managed with a multimodal regimen that includes, as indicated, combinations of regional or local techniques with non-opioid, opioid, and adjuvant analgesics, as well as non-pharmacologic approaches.

Recommendations for **non-pharmacologic** acute pain management

The Joint Commission recommends a multimodal approach to acute pain management that combines both pharmacologic and non-pharmacologic approaches.⁴ Clinicians are encouraged to consider the following non-pharmacologic methods⁴⁻⁶:

1. Physical therapy
2. Relaxation or breathing exercises
3. Cognitive behavioral therapy
4. Acupuncture
5. Massage
6. Chiropractic therapy
7. Heat or cold therapy
8. Sedating or soothing music

Recommendations for **pharmacologic** acute pain management

The following are recommendations from a variety of organizations for the pharmacologic management of acute pain*:

1. Administer non-opioids as foundational analgesics for mild pain, followed by the addition of opioids for moderate to severe pain.⁷⁻⁹
2. Unless contraindicated, administer non-opioid analgesics (acetaminophen, NSAIDs, or cyclooxygenase-2-specific inhibitors [COXIBs]) using an around-the-clock dosing regimen, and consider regional techniques with local anesthetic infiltration of the surgical wound.^{7,8}
3. When administering opioids, begin with a low dose and adjust according to patients' responses.⁵
4. Assess the effect of the previous analgesic dose (pain intensity, relief, and side effects experienced) before modifying dosing or administration.⁵
5. Consider the drug's onset of and peak action when assessing patients' responses to an analgesic.⁵
6. Patients may respond differently to various non-opioid and opioid analgesics. If a drug does not provide adequate pain relief, another drug in the same class may be more effective.⁵
7. Certain analgesics contain an opioid ingredient in combination with acetaminophen. When prescribing a multimodal regimen for acute pain, consider administering opioid and non-opioid analgesics separately to avoid exceeding recommended maximum daily limits of individual components.^{10,11}

* Always consult full prescribing information prior to medication administration.



Recommendations for acute pain management

Assessing acute pain

The first step in relieving acute pain is properly assessing it. The following assessment recommendations, provided by the Agency for Healthcare Research and Quality (AHRQ), can help ensure that your patients receive appropriate treatment⁵:

1. Patients' self-reports are the most reliable indicator of their experiences of pain. If patients are unable to self-report, a behavioral assessment tool may be used to estimate the presence and severity of pain.
2. If patients are able, assess pain intensity by showing them a pain rating scale, such as the Numerical Rating Scale or the Wong-Baker FACES Pain Rating Scale.
3. Once patients are able to self-report pain using a pain rating scale, teach them how to establish a comfort-function goal. This is the pain level at which patients can easily perform certain activities necessary for recovery.

Educating patients and caregivers about acute pain

AHRQ also provides recommendations for helping patients and caregivers know what to expect with acute pain, including the following communication points⁵:

1. Pain prevention and control are important to your care.
2. Many treatments are available for acute pain. Be sure to ask your health care team about the different treatment options available to you.
3. Your acute pain may be managed using both opioid and non-opioid analgesics. If you have any questions or concerns about using opioids, be sure to discuss them with your health care team.
4. It is your responsibility to communicate when you are experiencing pain or when the nature of your pain changes.
5. Acute pain cannot always be eliminated, but your health care team will work to manage it so that you can perform the activities necessary for your recovery.

Implementing an acute pain management quality initiative

The following recommendations from the Society of Hospital Medicine provide a basic framework for implementing a quality initiative¹²:

-  Form an interdisciplinary team with shared objectives.
-  Secure institutional stakeholder support to advance the program.
-  Assess existing acute pain management protocols.
-  Review guidelines and best practices for acute pain management.
-  Identify performance metrics and develop a data collection plan.
-  Implement and continually monitor impact of pain management protocols.

Opioids and the state of acute pain management

Opioids are traditionally used as the foundational agents in acute pain management protocols^{11,13}

According to patient surveys, postoperative pain continues to be undermanaged. Of patients reporting postoperative pain in multiple independent, random patient surveys published from 1995 to 2014¹⁴⁻¹⁶:



44% to 51%

reported **moderate pain**



8% to 22%

reported **extreme pain**

Results from the survey published in 2014 also demonstrated that, when given a choice between narcotic and non-narcotic pain medications, **57% of patients preferred non-narcotics¹⁶**

Opioids may also be associated with adverse drug events¹⁷

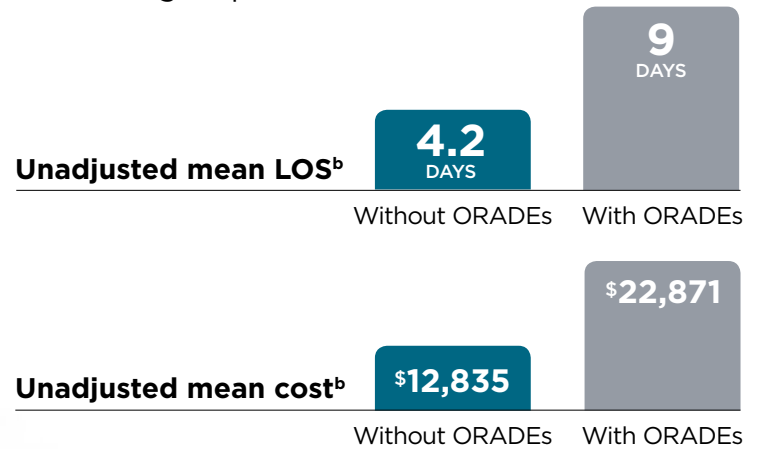
Opioid-related adverse drug events (ORADEs) can impact length of stay (LOS) and cost.^{18,19}

Length of stay

In 402 patients who received opioids after orthopedic surgery, a significant relationship was observed between incidence of ORADEs and increased LOS.¹⁸

Overall cost

ORADEs have been observed to significantly increase not only LOS, but also overall cost of certain surgical procedures.^{19,a}



^a Open colectomy, laparoscopic colectomy, laparoscopic cholecystectomy, total abdominal hysterectomy, and hip replacement.

^b $P < 0.001$.

The Joint Commission supports the need for the judicious and safe prescribing and administration of opioids⁴

More than 70 million patients per year receive opioids in a hospital or clinic following surgery.^{20,21} Opioid abuse has reached epidemic proportions. Today, numerous state and federal programs, as well as hospital associations, support efforts to decrease opioid abuse and dependence.²²⁻²⁵



Multimodal analgesia for balanced acute pain management

Multimodal analgesia (MMA) can help optimize pain management with less opioids^{4,7}

MMA combines 2 or more analgesic agents or techniques that use different mechanisms to provide better pain relief with less opioids.^{4,7} By combining different analgesics, MMA can optimize efficacy with a lower dose of each respective agent and may also reduce the risk for dose-related adverse events.²⁶

Intervening at various points along the pain pathway²⁶⁻²⁹

Perception of pain involves both the peripheral and central nervous systems, and different types of analgesics can intervene at different levels of this signal transduction:

- Cortical level (opioids, α_2 -agonists, acetaminophen, NMDA antagonists)
- Spinal cord level (local anesthetics, opioids, α_2 -agonists, NMDA antagonists)
- Peripheral level (local anesthetics, NSAIDs, COXIBs)

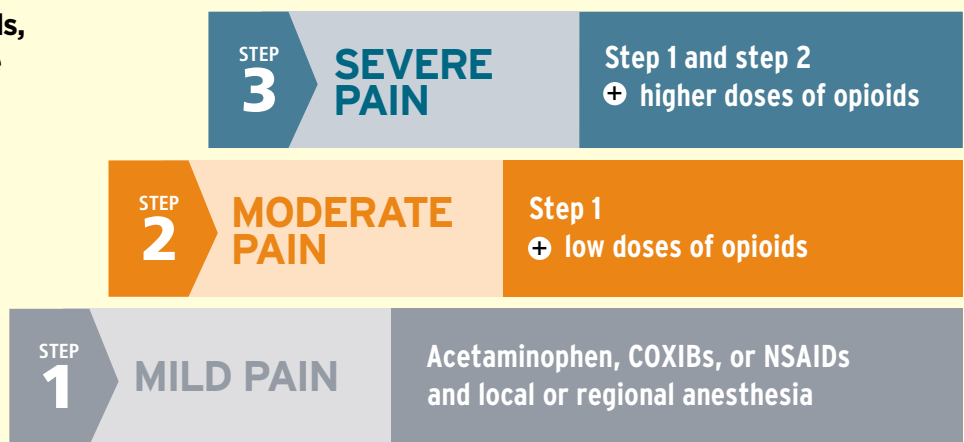
COXIB, cyclooxygenase-2-specific inhibitor; NMDA, N-methyl-D-aspartate.

MMA is believed to contribute to:

- Reduced doses of opioids^{26,30-32}
- Reduced risk of ORADEs^{26,30,33,34}
- Shorter LOS³⁵
- Less pain during rest and activity^{36,37}
- Improved patient satisfaction³⁸

When used in combination with opioids, non-opioid treatments may reduce the dose of opioids required to effectively manage pain⁴

Schedule non-opioid analgesics first, adding opioids for moderate to severe pain.⁷⁻⁹



In 2012, The Joint Commission issued a *Sentinel Event Alert* calling for the safe use of opioids in hospitals to reduce the risk of adverse events. Its recommendations include combining non-pharmacologic and non-opioid pharmacologic approaches for effective pain management.⁴

Non-pharmacologic therapies:

- Acupuncture
- Ice
- Manipulation or massage
- Music therapy
- Physical therapy

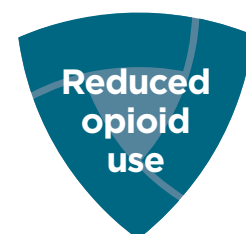


Non-opioid pharmacologic therapies:

- Acetaminophen
- Anticonvulsants
- Muscle relaxants
- NSAIDs



Goal



Organizations recommending an MMA approach to acute pain management

Agency for Healthcare Research and Quality (AHRQ) “The objective for postsurgical and procedural pain is to prevent and control pain. . . . A multimodal approach (balanced analgesia), which includes opioids, nonopioids such as nonsteroidal anti-inflammatory drugs (NSAIDs), and adjuvant medications such as anticonvulsants, is recommended. . . . When more than one analgesic is used, the same level of pain relief may be achieved with a lower dose of each analgesic.”⁵

American Academy of Orthopaedic Surgeons (AAOS) “Neurostimulation, local anesthetics, regional anesthetics, epidural anesthetics, relaxation, combination techniques, and pain protocols have been shown to reduce pain as well as improve satisfaction, improve function, reduce complications, reduce nausea and vomiting, reduce delirium, decrease cardiovascular events, and reduce opiate utilization.”³⁹

American College of Surgeons and American Geriatrics Society (ACS/AGS) “An appropriate analgesic plan should be developed in every older adult patient prior to an operation. This plan should be multimodal in nature. . . .”⁴⁰

American Heart Association (AHA) “When choosing any medication, both safety and efficacy should be considered. In general, the least risky medication should be tried first, with escalation only if the first medication is ineffective. In practice, this usually means starting with acetaminophen or aspirin at the lowest efficacious dose, especially for short-term needs.”⁴¹

American Society for Pain Management Nursing (ASPMN) “Nurses should act as strong advocates for pain management plans that incorporate opioid dose-sparing strategies initiated early in the course of treatment, e.g., on admission, before surgery, during surgery, and early after surgery. . . . Multimodal analgesic therapy that combines opioids with nonopioids, e.g., acetaminophen, NSAIDs, anticonvulsants, and antidepressants, has proven efficacy in the treatment of pain.”⁴²

American Society of Anesthesiologists (ASA) “Whenever possible, anesthesiologists should use multimodal pain management therapy. . . . Unless contraindicated, patients should receive an around-the-clock regimen of COXIBs, NSAIDs, or acetaminophen.”⁷

Enhanced Recovery After Surgery (ERAS) Society “During the postoperative phase, a multimodal analgesic regimen has been employed aiming to avoid the use of opioids. Paracetamol is a vital part of multimodal analgesia.”⁴³

Society of Critical Care Medicine (SCCM) “We suggest that nonopioid analgesics be considered to decrease the amount of opioids administered (or to eliminate the need for IV opioids altogether). . . .”⁴⁴

The Joint Commission “A multimodal approach combines strategies such as psychosocial support, coordination of care, the promotion of healthful behaviors, nonpharmacologic approaches, and non-opioid pain medications. Upon assessment, the best approach may be to start with a non-narcotic.”⁴

Society of Hospital Medicine (SHM) “The purpose of multimodal analgesic therapy is to improve analgesia and reduce opioid requirements and the resulting opioid-related adverse effects. . . . [T]he use of multimodal analgesia may provide better pain relief than opioids alone while reducing opioid-related adverse effects.”⁴⁵

Pain management and patient satisfaction

Assessing patient satisfaction

Using the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey, postdischarge inpatients evaluate the quality of hospital care by assessing the following^{46,47}:

• Pain management

- Nurse communication
- Doctor communication
- Responsiveness of hospital staff
- Communication about medicines
- Hospital cleanliness and quietness
- Discharge information
- Care transition
- Overall hospital rating

Effective pain control and patient satisfaction are highly correlated

HCAHPS results show a strong correlation between patient reports of “always” receiving good pain control and high global satisfaction with the hospital. Results also show a strong relationship between effective pain management and other HCAHPS measures.⁴⁸



Pain Stewardship Program™ (PSP)

Visit PainStewardship.com for more information and educational materials.

PSP provides educational resources that include acute pain management recommendations from a variety of organizations

- ❖ Establish a multimodal analgesic foundation for the management of acute surgical pain^{7,8}
 - Unless contraindicated, administer non-opioid analgesics (acetaminophen, NSAIDs, or COXIBs) using an around-the-clock dosing regimen, and consider regional techniques with local anesthetic infiltration of the surgical wound^{7,8}
 - Administer opioid analgesics as needed to patients with increasing pain levels following non-opioid analgesic administration⁸
- ❖ Incorporate appropriate non-pharmacologic interventions as part of a multimodal treatment plan⁴
- ❖ Screen patients for risk factors for postoperative nausea and vomiting (PONV), respiratory depression, and obstructive sleep apnea, preventing when possible^{4,49,50}
- ❖ Monitor patients and systematically assess for PONV, quality of respiration, and level of sedation^{4,49}
- ❖ Avoid routinely starting patients on opioid monotherapy^{4,7,8}
- ❖ Avoid rapid dose escalation of opioid analgesics to meet an arbitrary pain rating⁴
- ❖ Ensure adequate gastric function before converting patients from IV to oral analgesics^{44,51}

PSP, Pain Stewardship Program.

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