Practice Points: 
Acute Pain Management

Acute pain is a reaction to either traumatic stimulation of nociceptors in the peripheral nervous system or damage to the central nervous system. It is often, but not always, associated with objective physical signs of sympathetic branch autonomic nervous activity, including tachycardia, hypertension, and diaphoresis. Acute pain is a symptom, not a diagnosis, and it should be treated symptomatically while its source is investigated. When acute pain is prolonged or unrelieved, the physiological stress response has harmful physical consequences to the various systems of the body. This can interfere with overall function and quality of life. In addition, poor pain control can lead to the development of chronic pain. Therefore, early recognition of acute pain and effective pain management is essential to return to a normal lifestyle, independence, and levels of activity.

Acute pain is still significantly under treated. The elderly are more likely to under report pain, thinking it is a normal part of aging. Young and adolescent children may under report pain to avoid consequences of the pain relief intervention (e.g., needle stick, taking a pill, or taste of medicine). These populations are vulnerable and should be carefully assessed.

Classifications of Pain

There are many ways to classify pain. It is important that a systematized framework is used in order to assist practitioners in identifying and communicating about patients experiencing similar symptoms, prognoses, and causes of pain. It should be noted that no classification system is completely without overlap. The most commonly used classification system of pain is the International Classification of Diseases published by the World Health Organization.

Pain is usually classified in three major ways: temporally (acute or chronic), by etiology (malignant or nonmalignant), and by physiologic response (nociceptive or neuropathic). There are basically five categories used to classify pain (see Table 1). They are anatomic location, duration, underlying cause, intensity and frequency.

Table 1: Pain Classification Categories

<table>
<thead>
<tr>
<th>Categories</th>
<th>Description</th>
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<tbody>
<tr>
<td>Anatomic Location</td>
<td>Identifies either the anatomic area of the body or the body system involved (e.g., musculoskeletal, neurologic, vascular).</td>
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<tr>
<td>Duration</td>
<td>Acute pain resolves within 3 months from the onset of injury.</td>
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</tbody>
</table>
| Underlying Cause     | **Nociceptive:** arises from bone, joint, skin muscle or connective tissue – usually well localized.  
                        | **Visceral:** arises from viscera – diffuse, aching often referred.  
                        | **Neuropathic:** irritation or damage to nervous system – associated with burning tingling or altered sensation.  
                        | **Psychogenic:** pain due to psychological factors in the absence of physical pathology. |
| Intensity            | Subjective measure. Use reliable rating scales to help measure effectiveness of interventions. |
| Frequency            | Helps establish a pattern – isolated episodes vs. recurrent vs. persistent. |
Recognizing acute pain is a necessary factor in order to be able to appropriately diagnose the source of the pain, manage the pain and determine efficacy of the treatment plan. The nurse must recognize that pain and tissue damage are poorly related. Variations in patients' perceptions of pain versus the actual pathology can be significantly different among individuals. While this may pose a treatment challenge, the fundamental gold standard applied to clinical practice should be “the clinician must accept the patient’s report of pain.”

**Barriers to Effective Acute Pain Management**

There are many professional, system, social/cultural and patient centered barriers to the delivery of adequate pain management for acute pain. Some of the most prevalent patient specific are: patient age, developmental level, gender, culture, social status, medical history, level of cognitive function, current medication use, past pain responses, history of alcohol or opioid use, reported pain tolerance/threshold, depression, and difficulty or inability to communicate. In addition to these are regulatory restrictions, reimbursement considerations, and professional educational limitations.  

**What is best practice in assessing acute pain?**

**Recommended For Practice**

A comprehensive pain assessment should be conducted that is consistent with the scope of care, treatment, services, and the patient's condition. Assessment should occur prior to the initiation of treatment followed by reassessment throughout the duration of treatment. Thereafter, pain reassessment would be needed only as appropriate to the reason the patient is presenting for care or services. Reassessment of pain should be on a regular basis depending on type, intensity and treatment plan. With each new report of pain, new procedure, increased pain intensity, or unrelieved pain, there must be a new assessment/reassessment plan. Effectiveness of interventions should be assessed after expected peak effectiveness.

Self-reporting of pain is the most accurate indicator of pain and the primary source of assessment in the verbal, cognitively intact individual. The family/caregiver report and nursing assessment can be used in children and non-verbal, cognitively impaired adults.

The following should be included for patient assessment:
- Self-reporting;
- Pain assessment tools;
- Physiologic and behavioral indicators;
- Preliminary comprehensive pain assessment;
- Reassessment;
- Documentation of findings; and
- Communication to others.

An initial comprehensive pain assessment should include the following:
- Physical exam;
- Laboratory/diagnostic testing;
- Effect and understanding of current illness/injury;
- Pain history;
- Meaning of pain and distress caused by pain;
- Coping responses to pain/stress;
- Psychosocial, spiritual, and psychological effects;
- Situational factors;
- Personal preferences for pain management and expectation;
- Beliefs; and
- Patient’s preferred teaching method.
Recommended for Practice (continued)

Standardized Pain Assessment Tools

Available pain assessment tools consist of either single dimensional (pain intensity only, self-report) or multi-dimensional (intensity, location, impact on activity/mood). The tool facilitates identification of the presence of pain and is valid over time with multiple users. The patient and care provider must be educated about the proper use of the tool. In addition, the tool should be appropriate for the patient’s developmental, physical, emotional and cognitive status. It is important to remember that for the elderly and children, the measure of pain may be influenced by limited cognition or language skills, positive or negative consequences of the result of behavior, or pain reported.

What is best practice in the management of acute pain?

Recommended For Practice

Treatment of pain is multidisciplinary, multimodal, and should be flexible according to the needs of the patient. Treatment should begin with the establishment of a written plan of care for the patient. Consider the following for pharmacologic management:

1. Selecting analgesics in a stepwise approach.
2. Consulting with pain management experts for complex situations, adjuvant drug therapy.
3. Identifying measures to optimize pain relief with opioids.
5. Anticipating and preventing pain episodes.
6. Educating family/patient about treatment side effects.
7. Documenting effectively.

The effectiveness and the safety of the treatment are the major outcomes to be considered. It has frequently been reported in the literature that the most under treated patients are children, the elderly, and the cognitively impaired patient.

Acute Pain Management Interventions

Use the most effective analgesic dose schedule and the least invasive modality. Options to consider:

1. The oral method is the preferred route for persistent pain and acute pain as healing occurs.
2. The butterfly injection system can be used for intermittent SQ infusion.
3. The IV route is still used after major surgery.
4. Multimodal analgesia provides effective management of acute and chronic pain.
5. The regional route of medication administration is recommended for postoperative acute pain. Regional routes offer site-specific pain relief and may be used in the elderly. Epidural/intrathecal routes are usually more effective than IV PCA in certain surgical procedures and should be considered in eligible patients.
6. Around-the-clock is the preferred method of timing in acute pain for all age levels.
7. PRN – should not be considered as the first round of administration in the acute phase of pain. It is a viable option later in treatment as healing occurs. When used, it should be offered 30 minutes prior to activity and on a regular ongoing basis.
8. Consider pre-emptive analgesia initiation prior to surgery as it may decrease postoperative requirements. Use step-wise approach to match intensity of pain unless contraindicated due to age, renal impairment, or other drug-related issues.
Recommended Medications

Use NSAIDS for mild to moderate pain and opioids for moderate to severe pain. Adjuvant medications and non-pharmaceuticals can reduce the need for opioids.

Since many older adults experience acute pain along with a chronic or persistent pain condition, it is advisable to be aware of the new American Geriatric Society Clinical Practice Guidelines for pharmacologic management of persistent pain in this population. Chronic pain is pain or discomfort that continues for an extended period of time. An example of this is a person with the diagnosis of a degenerative spine condition.

Anesthesia Techniques for Acute Pain

Regional intraoperative techniques can provide prolonged pain relief in the initial postoperative phase and include spinal, epidural, regional nerve blocks and local wound infiltration.

Side Effect Management

Symptom control of drug-induced side effects is necessary to provide optimum management.

Table 2: Side Effect Management

<table>
<thead>
<tr>
<th>Drug Classification</th>
<th>Side Effect</th>
<th>Management Strategies</th>
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<tbody>
<tr>
<td>Opioids</td>
<td>Nausea &amp; Vomiting</td>
<td>Consider adding scheduled “stacked” antiemetics</td>
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<tr>
<td></td>
<td>Constipation</td>
<td>Initiate a bowel program with softener/stimulant when opioid therapy initiated (e.g., Pericolace, Colace, Senecot; Methylaltrexome for persistent constipation in despite stool softener/laxative treatment). Avoid fiber laxatives – may cause gas, bloating, cramping.</td>
</tr>
<tr>
<td></td>
<td>Itching</td>
<td>May use scheduled antihistamines; however, Benadryl may be sedating. Naloxone IV bolus (0.04-0.08mg) or IV infusion (0.4to0.8mg/1000mL at 100ml/h or 1 to 2mcg/kg/h) for severe pruritus.</td>
</tr>
<tr>
<td></td>
<td>Myoclonus</td>
<td>Consider switching to different opioid or cautiously use a benzodiazepine or anticonvulsant.</td>
</tr>
<tr>
<td></td>
<td>Respiratory Depression</td>
<td>Use Naloxone 0.4mg with 0.9% sodium chloride 9 ml (total volume =10 ml). Administer 0.02 mg (0.5ml) boluses every 1-minute until respiratory rate increases.</td>
</tr>
<tr>
<td></td>
<td>Delirium</td>
<td>Common side effect in older adults; monitor closely. Consider decreasing opioid dose. Use Haloperidol (short term use) to control agitation, paranoia, and fear.</td>
</tr>
<tr>
<td>NSAIDS</td>
<td>GI Upset</td>
<td>Administer with food/antiemetics; consider use of a proton pump inhibitor.</td>
</tr>
<tr>
<td></td>
<td>Bleeding due to platelet dysfunction</td>
<td>Consider changing to NSAID with no effect on platelet aggregation.</td>
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</table>
**Breakthrough Pain**

If a patient is receiving long-acting pain medications and experiences “breakthrough pain” episodes, pain experts have recommended using 10-20% of the total daily long-acting oral opioid dose. Since duration of action for most shorter-acting opioids is about 4 hours, the frequency should be every 4 hours as needed.

**Adjuvant Drugs**

When combined with opioids, adjuvants can enhance efficacy – examples include acetaminophen, ASA, NSAIDS, anticonvulsants, tricyclic antidepressants, SSRIs, dopamine agonists, corticosteroids, local anesthetics, skeletal muscle relaxants, antispasmodics, benzodiazepines, stimulants. Such drugs may provide significant pain relief when prescribed alone or in combinations, especially for neuropathies. Proper use is very important to successful pain management and depends on evaluating risks vs. benefits. Use in older adults must be based on assessment of co-morbidities with the goal to select drugs that have the least adverse effects and lowest risk of interactions.

**Equianalgesic Doses**

Observe patients closely when changing from one opioid to another or from one route to another to prevent under- or over-dosing. Following specific procedural guidelines can help in choosing the appropriate dose of the new drug.

**Non-Pharmacologic Interventions**

The following modalities are effective as adjuncts to traditional pain management: bracing, massage, heat, cold, TNS, biofeedback, relaxation, distraction, graded exercise, acupressure, acupuncture, and herbal therapy. Modalities should be considered to assist in management of acute pain and is applicable in all age populations with appropriate assessment. Avoid use of imagery in patients with severe cognitive impairment or psychosis.

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**Not Recommended for Use in Acute Pain Management**

**Meperidine.** There is a risk of neurotoxicity of metabolite normeperidine. Meperidine is not reversible with Naloxone. It should not be used in infants and children, as there is increased risk of seizure. There may be serious lethal hyperpyrexic syndrome in patients taking MAO inhibitors. Meperidine has a lack of drug efficacy and there is an increased potential for toxicity within 72 hours of use.

**Adjuvant Drugs.** Most agents do not carry FDA-labeled indications for use in children and safety has not been evaluated in any well-controlled clinical trials. Use with caution in the elderly; significant potential for anticholinergic/sedative adverse effects.

**Basal infusion PCA.** Due to high toxicity potential, avoid in opioid-naïve older adult unless the patient is awakened with pain during sleep.

**IM injections.** Painful and unreliable.
References


Web Resources:

American Academy of Pain Management: www.painmed.org

American Pain Society: www.ampainsoc.org

American Society for Pain Management Nurses: www.aspnn.org

American Society of Regional Anesthesia and Pain Medicine: www.asra.com

American Geriatric Society: www.americangeriatrics.org

Society of Pediatric Nurses: www.pedsnurse.org
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