PRACTICAL MEDICAL MANAGEMENT OF
ACUTE MUSCULOSKELETAL PAIN
FOR BUSY PRACTITIONERS

An interactive CME/CE
Online Program & Workbook
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LEARNING OBJECTIVES

1. Define and review mechanisms of acute pain.
2. Discuss the prevalence and types of acute pain.
3. Overcome barriers to assessing and managing acute pain in a busy primary-care practice setting.
5. Evaluate various therapeutic strategies to develop an acute pain management plan appropriate to the needs of the individual patient.

CME/CE INFORMATION

TARGET AUDIENCE: This activity has been designed for physicians, physician assistants, nurse practitioners, and nurses with an interest in the management of acute pain.

CME CREDIT: This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the Dannemiller Memorial Educational Foundation and MCM Education, Incorporated. The Dannemiller Memorial Educational Foundation is accredited by the ACCME to provide continuing medical education for physicians.

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Term: Two Years • Beginning February 25, 2005

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This program was planned in accordance with AAPA’s CME Standards for Enduring Material Programs and for Commercial Support of Enduring Material Programs.

TIME: This activity should take approximately 2-1/2 hours to complete, with 90 minutes of recorded material.

STATEMENT OF NEED: Over 75 million Americans suffer serious pain annually; 25 million of these suffer from acute pain. Acute pain has relatively high levels of pathology and the pain resolves with healing of the underlying injury.1 Acute pain may contribute to the development of chronic pain; therefore, attention should be focused on prevention and treatment of the acute pain. Acute pain also has a negative impact on a patient’s quality of life.2 Recent advances include a better understanding of pain. Differences in the quality of pain management may be due to physician variability and patient characteristics.3 Since pain is the most common symptom of any illness, a primary care physician will encounter acute pain frequently. It is important to have an understanding of pain assessment and treatments methods available to achieve optimal pain control.
OVERVIEW OF ACUTE PAIN

Pain is defined as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.” As such, pain is in part a subjective psychological state.

Pain can be classified as neuropathic (resulting from injury or disease of the nerves themselves) or nociceptive. Nociceptive pain is caused by the activation of nociceptors in body tissues by noxious stimuli. These stimuli can be mechanical, thermal, electrical, chemical/toxic, inflammatory, or pathologic. Pain can be classified according to etiology (malignant or non-cancer), physiology (neuropathic or nociceptive, visceral or somatic), and temporality (acute or chronic).

The distinction between acute and chronic pain is no longer considered primarily a function of how long the pain lasts, however. Instead, acute pain is characterized as pain that usually has an identifiable pathology and predictable prognosis; resolves with healing; and is treatable with analgesics. Chronic pain is pain that tends to be of unclear pathology and unpredictable prognosis; lasts beyond the expected course of healing; and requires multidisciplinary treatment to resolve.

Although acute pain by definition is limited in duration, long-term effects can result if pain is not treated. In sensitization, episodes of pain increase the excitability of dorsal horn neurons so that pain is amplified. In neuronal remodeling, frequent painful stimulation causes the central nervous system to develop a stronger response to stimuli. Even brief intervals of acute pain can induce neuronal remodeling and sensitization. To minimize patient distress and the potential for chronic pain, pain relief can be addressed as a therapeutic goal in itself.

ACUTE PAIN IN PRIMARY CARE

Pain is the most common symptom that prompts people to seek medical care, but it is often not adequately treated. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO), in conjunction with the National Pharmaceutical Council, has issued guidelines that recommend screening for the presence of pain; assessing its nature and intensity; keeping records of assessment so that follow-up can be performed; and establishing procedures to provide appropriate medication to patients in pain.

Successful management of acute musculoskeletal pain disorders can begin with a description of the underlying problem, with attention paid during patient history-taking and physical examination to rule out serious pathology or injury. Identifying the effects of the problem will guide the caregiver in targeting appropriate treatment. The management plan also includes a mechanism to monitor the patient’s response to treatment so that modifications can be made and treatment discontinued when the problem has been resolved.

The subjective nature of pain makes good communication an essential element of patient care. During initial patient assessment, the caregiver can use pain rating scales to determine a baseline value that patients assign to their level of pain. This is most often done using a numerical rating: “On a scale of 0 to 10, with 0 being no pain and 10 being the worst pain you can imagine, how would you rate your pain?” The FACES pain scale, in which increasing levels of pain are represented by progressively more “unhappy”-looking schematic drawings of faces, has been validated for use with children but is sometimes used for adults.

In order to obtain a complete assessment of pain, practitioners may use a variety of methods to determine the effect of pain on the patient. Functional status questionnaires (eg, Health Assessment Questionnaire [HAQ], Roland Morris Disability Questionnaire) can produce useful
information.\textsuperscript{10-12} These instruments are time-consuming, however, and may not be practical for use in primary care. Functional status can be assessed during patient history-taking by asking the right questions:

What did you used to do before the pain started?  
What do you have trouble doing now?  
What would you like to be able to do?

The patient’s responses will indicate areas for further exploration in the history and physical examination.

The key principle during physical examination of patients with acute pain syndromes, recognizing that any intervention may add discomfort, is to ask oneself whether a particular finding or test would alter the management plan. If not, it may be better to move on to potentially more fruitful methods of investigation. Any apparent abnormalities in the structure, movement, or function of the body that correspond with significant points in the patient history may indicate the source of pain.

**PHARMACOLOGIC TREATMENT**

According to JCAHO guidelines, the goals of acute pain management include early intervention, with prompt adjustments in the regimen for inadequately controlled pain; reduction of pain to acceptable levels; and facilitation of recovery from underlying disease or injury.\textsuperscript{8}

The American Geriatric Society developed guidelines for persistent pain management in older persons.\textsuperscript{13} These guidelines suggest an order of progression from weaker to stronger analgesics based on published evidence of their efficacy and safety, as follows:

1. Acetaminophen  
2. COX-2-selective nonsteroidal anti-inflammatory drug (NSAID)  
3. Nonselective NSAID with proton-pump inhibitor (PPI) or misoprostol  
4. Opioids

Acetaminophen is a relatively safe drug – especially in terms of the gastrointestinal (GI) risks that are more common among older patients – so long as it is not contraindicated.

NSAIDs, both cyclooxygenase-2 (COX-2) selective and nonselective, offer the benefits of being anti-inflammatory and antipyretic.\textsuperscript{14} Since many acute musculoskeletal pain syndromes have an inflammatory component, this may be especially beneficial in this group. There is also no risk of physical dependency with these medications. Nonselective NSAIDs, which some people refer to as conventional or traditional, are equally as effective as the selective NSAIDs, also referred to as coxibs. COX-2 normally can be upregulated to mediate pain and inflammation.

Certainly, nonselective NSAIDs, because they inhibit COX-2, are effective. Unfortunately, because they also inhibit COX-1 (the enzyme that protects the gastric lining and has a thromboxane effect to maintain the clotting mechanism), they may induce gastrointestinal and bleeding complications. All NSAIDs may have hepatic and renal side effects such as hypertension, edema, and congestive heart failure, particularly in patients at risk for heart disease.\textsuperscript{14} Recent studies have shown that coxibs may exert cardiovascular prothrombotic effects, thus increasing the risk of myocardial events.\textsuperscript{15,16} Recommendations for the use of these drugs are currently in flux. NSAIDs also have a “dose ceiling,” which is a maximum dosage after which the risk of side effects but not the level of analgesia continues to increase.

If pain is not adequately controlled on acetaminophen, a COX-2-selective NSAID may be tried next in order to minimize potential GI side effects. (Program participants should check the most current prescribing information for COX-2 selective NSAIDs. The recommendations in this program activity are based on the U.S. regulatory status of these medications as of April 2005.) A PPI or misoprostol may be prescribed along with nonselective NSAIDs to reduce potential GI side effects. H\textsubscript{2} antagonists are not as effective.\textsuperscript{14}
The therapeutic efficacy of NSAIDs can be idiosyncratic. Fortunately, if the patient’s pain does not respond to one, another drug in the same class or a different class may be effective. In cases where none of these medications can control pain adequately, it may then be necessary to move on to opioids.

Opioids function by activating the mu and kappa opioid receptors in varying degrees. Oral opioid analgesics are divided into the categories of weak (for moderate pain) and strong (for severe pain). The weak opioids include the weak mu agonists (codeine, oxycodone, and hydrocodone); one drug (tramadol) that is a dual-action weak mu agonist monoamine reuptake inhibitor; and the kappa agonists (pentazocine). The strong oral opioid analgesics include strong mu agonists (morphine, hydromorphone, oxycodone, methadone, and levorphanol) and kappa agonists (butorphanol nasal spray and pentazocine). Oral meperidine is not recommended in the American Pain Society guidelines because toxic metabolites tend to accumulate in the body when the drug is taken orally.

Most of these drugs are available commercially as combinations with acetaminophen or an NSAID. With these medications, the nonopioid in the formulation determines the upper limit of the recommended dosage.

There is no analgesic dose ceiling with opioids, but side effects such as respiratory depression can occur. Patients on central nervous system depressants may be more susceptible to respiratory depression. If it occurs at all, respiratory depression tends to be seen in the first 5 days of opioid administration. Careful monitoring of patients during this period is advisable.

The patient response to opioids is highly variable, so it is important to give them an adequate trial before concluding that they will not control pain adequately. During this trial, administer opioids on a regular schedule and use longer-acting formulations to avoid the return of pain between doses.

Various coanalgesics that enhance the efficacy of opioids in many patients have been identified. These include tricyclic antidepressants, selective serotonin reuptake inhibitors, and skeletal muscle relaxants/antispasmodics. When indicated, these medications may be used in conjunction with opioids in the management of acute musculoskeletal pain syndromes.

Opioids for acute pain do not cause organ-damaging side effects, but often produce nuisance adverse reactions such as nausea, vomiting, sedation, and dizziness. There are infrequent abuse issues.

**LOW-BACK PAIN**

Non-specific mild to severe low-back pain is a common occurrence. When it results from a musculoskeletal cause (injury, “strain,” etc.), it often seems to involve a pain-spasm-pain feedback loop. Pain causes muscle spasm, which releases biochemical pain mediators that intensify the pain, further reinforcing muscle spasm. Low-back pain of this type often follows a trivial event (e.g., sneezing) or overexertion (lifting heavy weight) that the patient mentions during history-taking. The pain is usually centered on one side and is aggravated by forward flexion.

Although most cases of low-back pain resolve within less than 6 weeks, even without treatment, a prospective, randomized clinical trial showed that patients who receive treatment have a better psychological profile, better general health, and report a higher quality of life. But even when one episode of low-back pain was treated successfully, there was a good chance of the patient returning with the same complaint within 2 years.

In order to confirm that there is no origin of low-back pain other than musculoskeletal, the healthcare-provider looks for “red flags” that would indicate underlying pathology, including fracture, infection, malignancy, or cauda equina syndrome. Cauda equina syndrome is a potentially serious compression of spinal nerve roots (the cauda equina) that would call for emergency treatment. The symptoms are a loss of sensation or movement...
of the legs, bladder or bowel incontinence, and “saddle” numbness affecting the perineal area.

In patients with low-back pain and a history or suspicion of infection or malignancy, unrelenting night pain or pain at rest, or high fever for longer than 48 hours, it is advisable to obtain lumbar spine radiographs and appropriate laboratory tests to rule out these “red-flag” conditions. In the absence of suspicious history or clinical signs or symptoms, radiographs and magnetic resonance imaging tend to contribute little to the effective management of low-back pain. Abnormalities are frequently seen on diagnostic imaging but do not correlate well with treatment outcomes in clinical studies.\(^2\)

Treatment of mechanical low-back pain is generally successful. The practitioner can begin by acknowledging the presence of pain and describing the typically limited clinical course of low-back pain to the patient. Discussing a plan for analgesia can help minimize the patient’s anxiety. Above all, advise activity rather than bed rest. Clinical studies have clearly shown that bed rest for more than an initial period of 48 hours rarely accelerates and often prolongs the time to recovery.\(^1\) However, vigorous exercise, especially heavy lifting, is to be avoided. Heat and range-of-motion exercises may offer symptomatic relief.

Analgesia for low-back pain can begin with non-opioid medications: acetaminophen, nonselective NSAIDs, or COX-2 inhibitors (check most current prescribing information). Adjuvant treatment with the skeletal muscle relaxant cyclobenzaprine in addition to NSAIDs has been demonstrated in clinical trials to speed recovery of function.\(^2\) The side effects of cyclobenzaprine include potentially dangerous central nervous system events, so careful patient monitoring is warranted.

If adequate analgesia cannot be achieved with non-opioids, it may be necessary to try using an opioid medication in order to facilitate the patient’s return to activity. Adding a weak opioid (tramadol, codeine, oxycodone, and hydrocodone) to the nonopioid medication may achieve greater efficacy at lower dosages. For severe or nonresponsive pain, it may be necessary to try one of the strong opioids, again in conjunction with a nonopioid to help minimize dosage.

**SHOULDER PAIN**

The shoulder is the most commonly dislocated joint in the body.\(^2\) Dislocation of the glenohumeral joint or the acromioclavicular joint can result from traumatic injury (usually from a fall onto an outstretched arm, less often from a direct blow to the body) or from overuse (often from degenerative processes in patients over age 60 or sports-related injury in younger patients). The clinical course of shoulder injury, particularly of the glenohumeral joint, is usually lengthy, with only 50% recovering by 6 months. Poor prognosis seems to be associated with high-intensity pain, middle age, and more severe functional disability.

Acute shoulder pain is a diagnostic challenge, as serious conditions (including myocardial infarction) can present as shoulder pain. This makes it especially important for the practitioner to rule out infection, malignancy, and other diseases if there is an index of suspicion.

Although the differential diagnosis of shoulder pain is difficult, the fact that the treatment for most of these syndromes is similar may make an exact diagnosis unnecessary.\(^2\) A standard course of rest, ice, analgesics, and exercise with physical therapy will usually alleviate pain and restore function.

Local intra-articular corticosteroid injection, either with or without a local analgesic, often gives patients an immediate additional degree of pain relief. Its use in primary care is somewhat problematic. The success of the technique depends on the skill of the practitioner, and even experienced care-givers can fail to achieve intra-articular injection. The difficulty of verifying intra-articular injection also calls into question the reliability of clinical studies of this method.\(^2\)\(^,\)\(^2\)\(^5\) One advantage, however, is that it has relatively few side effects.
Acute shoulder pain of musculoskeletal origin may be caused by:

**Fracture of the clavicle, humerus, or scapula.** Fracture usually follows a fall or a blow to the shoulder. It may be accompanied by sternoclavicular dislocation, and it is confirmed by radiography.

**Glenohumeral joint instability.** Joint instability is confirmed by radiography, and computed tomography may be considered if plain films are not definitive. The instability may result in anterior or posterior glenohumeral dislocation. Anterior dislocation is the most common type and is marked by the palpable presence of the humeral head anteriorly and a dimple on the skin under the acromion. Posterior dislocation is uncommon and often follows a fall onto a flexed, adducted arm. When compared to the unaffected shoulder, an affected shoulder will have subtle posterior fullness and anterior flatness.

Both anterior and posterior dislocation can be recurrent, and a clinical study found that the etiology of the dislocation indicated the best treatment. In atraumatic cases, exercise gave “good” or “excellent” results 80% of the time. Exercise was successful in only 16% of traumatic cases, however. Surgery as a first-line therapy for anterior dislocation was better only for the first occurrence in young, highly active patients.

**Rotator cuff impingement syndrome.** Pain occurring in the anterolateral shoulder that radiates to (but not below) the elbow, that is usually worse at night, and that is aggravated by overhead activity is usually a result of rotator cuff impingement. The pain is also typically associated with weakness of the arm on the affected side.

Primary rotator cuff impingement syndrome is associated with degeneration of the supraspinatus tendon and atrophy of supraspinatus muscle. Initial treatment with rest and NSAID analgesia, followed by strengthening exercises, will eventually restore function. Secondary syndromes result from an underlying joint instability. Symptoms are more often described as heaviness and numbness than pain. Initial treatment is the same as in primary impingement, but consultation for stabilization surgery will be necessary to achieve long-term resolution.

**Rotator cuff tear.** Complete or partial tear of the rotator cuff is most commonly seen as a degenerative condition in patients over the age of 40 years. In younger patients, it is more likely to result from trauma. Radiographs may show concomitant calcific tendinitis. Ultrasonography is diagnostically accurate for complete rotator cuff tears, but less reliable in cases of partial tear. MRI is highly sensitive and specific for complete and partial tears and cuff degeneration. Treatment is the same for impingement syndrome, i.e., analgesics, local corticosteroids, and physical therapy. Arthroscopic surgery may be indicated for certain tears.

**Frozen shoulder (adhesive capsulitis).** Frozen shoulder is most often seen as a consequence of immobilization after shoulder injury or any condition that fosters immobility of the upper extremity. It is most common in the 40- to 60-year-old age group and twice as common in women as men. Classic symptoms include initial pain followed by progressive loss of motion, particularly in elevating and externally rotating the arm. The prognosis is good, with most patients responding to a course of anti-inflammatories, local corticosteroids, moist heat, and physical therapy to promote range of motion. Full or near-normal motion may not return for several months.

**Biceps tendinitis.** This condition may occur independently or along with rotator cuff impingement syndrome or rotator cuff tear. It is distinguished from other acute shoulder pain conditions by the presence of discrete pain and tenderness in the bicipital groove. Treatment is similar to that of rotator cuff tendinitis.
FIBROMYALGIA

In a recent survey, 11.2% of those surveyed reported having “chronic, widespread pain.” This pain was found to be correlated with other somatic complaints, depression, and anxiety.

Among the conditions that can cause widespread pain are rheumatoid arthritis, other inflammatory arthropathies, generalized osteoarthritis, polymyalgia rheumatica, and the poorly understood condition fibromyalgia. The key to differential diagnosis of fibromyalgia from these other conditions is the lack of inflammation, as revealed by an elevated erythrocyte sedimentation rate, and tender points.

The American College of Rheumatology formulated a definition for fibromyalgia in 1990. The criteria were:

- Widespread pain lasting longer than 3 months
- Bilateral pain
- Upper and lower body and axial skeletal involvement
- Tenderness at 11 or more of 18 key points

A recent literature review reported the incidence of fibromyalgia as 2% in the U.S. population, with a rate approximately 7 times higher in women (3.4%) than men (0.5%).

It can sometimes be difficult to distinguish fibromyalgia from myofascial pain syndromes. The primary difference is the presence of tender points in fibromyalgia, versus trigger points in myofascial pain syndromes. Tender points are areas of local pain that are present at multiple, specific sites in fibromyalgia. Trigger points are marked by taut muscles that exhibit a local twitch response upon transverse palpation, and they cause referred pain. Any skeletal muscle can become a trigger point. The 18 specific locations of fibromyalgia tender points are shown in the Topic Overview section of the CD-ROM portion of this program.

Associated symptoms of fibromyalgia include sleep disturbance, chronic fatigue, and depression. The generalized nature of the symptoms can make a definitive diagnosis of fibromyalgia difficult, and treatment must sometimes be initiated based on a presumptive diagnosis.

An evidence-based fibromyalgia management paradigm has been presented in the Journal of the American Medical Association. This paradigm comprises patient assessment, initial therapy, and follow-up / referral.

Patient assessment. Upon arriving at a diagnosis of fibromyalgia, the healthcare provider can begin by explaining the condition to the patient. Comorbidities may also be evaluated so that an overall management plan can be developed.

Initial therapy. Published studies have presented strong evidence that low-dose tricyclic antidepressant medications (amitriptyline 25 to 50 mg at bedtime or cyclobenzaprine 10 to 30 mg at bedtime) can alleviate symptoms. The evidence for using NSAIDS alone was unclear, and opioids were not evaluated in any published clinical studies, an exception being tramadol (see below).

It was also found to be beneficial to start patients on a cardiovascular fitness program and to begin cognitive behavioral therapy (CBT). These patients often seek treatment for a specific acute-pain complaint, and treatment plans that included fitness and CBT seemed to help patients avoid the feelings of helplessness and frustration that can arise during longer-term fibromyalgia management.

Follow-up / referral. When pain is inadequately controlled, it is appropriate to conduct a trial of an alternate medication. Moderate evidence was found to support the use of a selective serotonin reuptake inhibitor (fluoxetine 20 to 80 mg per day), serotonin/norepinephrine reuptake inhibitor (milnacipran b.i.d., dose not stated, or duloxetine 60 mg b.i.d.), or tramadol (200 to 300 mg per day with or without acetaminophen). Studies also support the value of a multiple-medication trial or the use of an adjunctive anticonvulsant. When appropriate, patients can benefit from referral for additional treatment by a rheumatologist, physiatrist, psychiatrist, or pain specialist.
ROUND TABLE DISCUSSION

In this dialogue, two pain specialists consider some of the controversies surrounding the use of COX-2 selective nonsteroidal anti-inflammatory drugs and opioids, and also make recommendations for the role of primary-care practitioners in combatting a widespread clinical problem: acute musculoskeletal pain. Bill McCarberg, MD, is Director, Chronic Pain Management Program, Kaiser Permanente, San Diego, California. Warren A. Katz, MD, is Adjunct Clinical Professor, Rheumatology Division, University of Pennsylvania School of Medicine, Philadelphia, PA, and former Chief of Rheumatology and Chairman of Medicine at the Presbyterian Medical Center.

COXIB CONTROVERSIES

QUESTION: Assuming that the regulatory situation remains stable and COX-2 selective NSAIDs are still available to practitioners participating in this educational program, would you advise them to use these drugs in their practices? What should they tell their patients?

KATZ: The whole topic is in such flux, it’s like hitting a moving target. The standard approach for most practitioners in the short term will probably be not to use these drugs in patients who have significant cardiovascular disease, pending more information about the cardiovascular effects of coxibs.

MC CARBERG: So the question becomes, why would you use a COX-2 selective agent for an acute problem? The answer is that if there is overwhelming evidence of increased GI risk, an elderly patient, history of GI bleed, taking corticosteroids, or similar risks, then you would use them.

KATZ: I agree. Patients who have taken or are taking multiple NSAIDs are another risk group. Patients who have certain types of chronic diseases, such as heart disease, diabetes, or kidney disease, should take nonselective NSAIDs with caution. Moreover, a patient of any age with preexisting edema or hypertension should use any NSAID with caution. There is no difference in the ability of these drugs – whether nonselective or COX-2 specific – to cause hypertension, fluid retention, and edema. Fortunately, these side effects are uncommon, in the range of approximately 4%. But for significant acute pain in these patients, it might be beneficial to try alternative analgesics like acetaminophen, tramadol, or other opioids.

In patients who do have GI risk it is wise to use either a COX-2 selective NSAID or a nonselective NSAID with a concomitant proton-pump inhibitor. There is enough published evidence to support that approach, although it is a relatively new finding.

SAFE PRESCRIBING OF OPIOIDS

QUESTION: In another clinical/regulatory area, the DEA recently issued a new set of investigation criteria for opioid prescription. This was seen by many as stepping back from an earlier statement drafted in cooperation with health-care organizations and posted on the DEA web site. At this point, what would you recommend as the best clinical course for practitioners, especially those who might currently prescribe opioids infrequently?

KATZ: The guidelines of the American Pain Society will certainly hold. Basically, these guidelines recommend that for severe acute pain regardless of cause – whether it’s postoperative pain, acute injury such as fracture, or other things like that – then opioids are the appropriate route. For mild, mild-to-moderate, or moderate pain, the non-opioids should be tried first. If patients do not have a good response or have some contraindication to non-opioid medications, then alternatives should be investigated.
MC CARBERG: Certain practices do raise a flag. However, the reality is that the DEA very rarely comes down on a practitioner for prescribing opioids. The state medical boards are much more commonly involved, and in my experience the DEA will defer to state medical boards when there’s an issue. That is, unless there is a real concern about a trafficking issue, with one name continually coming up on prescriptions of certain drugs, for example. Now that doesn’t mean that a normal type of primary-care practice can’t get investigated. But it is extremely rare.

QUESTION: So the agency to look to would be one’s own state medical board, and make sure you’re in compliance with those guidelines?

MC CARBERG: Yes. Most state medical boards follow the Federation of State Medical Boards model guidelines for prescribing opioids. Many of the model guidelines have led to intractable pain acts in many states, starting in 1989 with Texas. Part of the intractable pain act is actually the attempt by medical boards to encourage clinicians to use opioids more, because they are known to be effective analgesics.

QUESTION: The Oregon medical board has recently said that under-prescribing could be considered just as poor patient care as over-prescribing.

MC CARBERG: That’s right. David B. Morris wrote in his book The Culture of Pain that undertreatment of pain in America will not change until practitioners are held accountable. And indeed that has started to occur, first with the well-known James v. Hillhaven case in North Carolina in 1990 and later cases like Bergman v. Eden Medical Center in California that have led to changes in state laws. But this is just the tip of the iceberg. I think we’re going to see multiple lawsuits about under-prescribing. The double-edged sword is that if it’s deemed that we’re doing too much, the medical boards will investigate us. If it’s suggested that we’re doing too little, the lawyers will come after us. There is this perception that it’s a no-win situation for the clinician.

KATZ: There is much less concern about the use of opioids for acute pain than for chronic, non-malignant pain, but this takes us back to the question how long “acute” pain lasts. Although the standard had been set at 6 months or less, that sounds like a long time to many of us. Even 3 months sounds like a long time when we’re talking about prescribing opioids.

There are other reasons why we should be concerned about opioid use, such as abuse potential. Abuse potential does not mean patients are sure to abuse the drug, but you want to use caution in a patient with a history of medication abuse or even alcoholism. Acute administration of opioids can also have side effects, such as nausea and constipation, much more than other analgesic drugs. They are much more likely to affect the sensorium, make people lightheaded and dizzy, and may impair their thought processes. None of this should discourage you from using opioids when medically indicated.

Quantifying pain is something that as a pain doctor, I am faced with every day. I think all of us would agree that the amount of pain patients have is what they say they have and not what we think they have. However, you do have some patients who say they’re a 10 on the pain scale. Then when you ask what they did that day, they say “Well I worked all day long.” That’s where functional ability, whether we assess it formally or informally, adds to the overall evaluation of the patient.

Sometimes it’s the other way around. Patients say “I feel much, much better,” but when you ask why they say it’s only because they took their medication that day: “But without the medication I’m up to a 7.” I look at pain scales as quasi-objective. Besides asking them how much pain they have, we need to ask key questions in terms of functioning in activities of daily living.
OPTIMAL ANALGESIA

QUESTION: Considering all this, what’s the optimal approach for primary-care practitioners to take toward analgesia in patients with acute musculoskeletal pain syndromes?

MC CARBERG: The number-one issue is to try to determine the reason for the pain, come to a diagnosis, and treat the underlying condition. In an acute musculoskeletal problem, however, we oftentimes cannot establish the actual reason for the pain. If that’s the case, you try to figure out the overall pathophysiology. For example, if it’s a low-back pain case in a patient who had been playing volleyball and felt a rip when he bent over, there probably is an inflammatory component. So you would treat the supposed underlying etiology and use an anti-inflammatory. If you feel a muscle spasm during the examination, it would be worthwhile to try a muscle relaxant. If the patient is in a lot of pain, then just treating the pain itself with an analgesic in addition to treating the underlying cause would make sense. If the patient is having trouble sleeping, then something to ameliorate that would also be reasonable. But once again, you’re always trying to target what you think the underlying problem is.

KATZ: When it comes to pharmacologic management for acute musculoskeletal pain, we actually have limited choices. There are really only four classes: acetaminophen, NSAIDs, tramadol – which is in its own class because of its dual mechanism of action (binding to mu opioid receptors in the central nervous system and inhibiting the reuptake of serotonin and norepinephrine) – and opioids.

Acetaminophen would be indicated for patients with mild-to-moderate pain, or pain that we think is going to be short-lived. We’ve already discussed the NSAIDs, ranging from over-the-counter medications like ibuprofen or naproxen to the prescription NSAIDs, both COX-2 selective and nonselective. There is no single NSAID of choice, only options to choose among based in part on the patient’s history of whether a drug has helped or not helped.

I would put NSAIDs and tramadol on equal footing as analgesic options for mild-to-moderate pain. I tend to lean toward tramadol if patients have a history of high blood pressure, edema, fluid retention, peptic ulcer disease, or simply a history of poor NSAID efficacy. For moderate-to-severe pain, I usually go to tramadol first, or to an opioid if tramadol does not help or there is a history of tramadol side effects. And then for severe pain, I tend to go to an opioid.

As for other therapies, local corticosteroid/analgesic injections can help some patients. And then there are the adjunctive medications that may be useful, depending upon the type of pain syndrome: muscle relaxants, antidepressant drugs like amitriptyline for fibromyalgia, gabapentin, and so on.

ALTERNATIVE TREATMENTS

QUESTION: What place do other modalities like topical analgesics, heat and ice, and physical therapy have in acute musculoskeletal pain management?

KATZ: Nonpharmacologic options like heat, ice, splints, braces, slings, casting when necessary can also make the medications at least seem to work better. For more regional types of pain syndromes, we do have some topical applications such as capsaicin or lidocaine that may be of benefit. The 5% lidocaine patches, which are approximately 4 inches square and can be put on various parts of the body for 12 hours a day, are popular and seem to work well. Specialists are aware of them, but some primary-care providers may not be as familiar.

MC CARBERG: You have to look at the specific condition – a sprained ankle would be different from a rotator cuff tear, which would be different from tennis elbow. We don’t have a lot of data on those, but we have a good body of literature on acute low-back pain. Ice and heat don’t seem to help, as far as data reviewed by the Agency for Health Care Policy and Research and the Quebec Task Force on Spinal Disorders. On the other hand, there is some newer evidence on back pain that low-level heat for
prolonged periods – 8 hours at 104°F – was about as good as ibuprofen or acetaminophen.\textsuperscript{43,44} I have seen a poster presentation that showed some effectiveness for a 5\% lidocaine topical patch for acute low-back pain. So there’s some new information coming out, but for many conditions we don’t have good randomized-trial evidence that physical or topical treatments are effective. However, they are commonly used in practice, commonly used by patients, and certainly we can support them.

I’d like to make a plea most of all for practitioners to recognize the amount of pain that is being suffered by patients. Nobody knows exactly, but based on Social Security statistics, workers’ compensation disability data, and surveys of patients, the number of people who have pain is enormous. Acute musculoskeletal pain is often so short-lived that there’s not enough time for the patient to pass into specialty practice. Therefore, the primary-care provider – whether it is a nurse practitioner, physician assistant, or physician – has to become more adept at handling the complex issues of pain. It is another skill to provide relief, as we have learned to do in other complex illnesses like hypertension, diabetes, congestive heart failure, and reactive airway disease. Otherwise, patients will continue to suffer with unrelieved pain into the 21\textsuperscript{st} century just as they have suffered for so many years in the past.
REFERENCES