

Editorials

Management of Acute Pain from Musculoskeletal Injuries: Guidance for Family Physicians

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See related Practice Guideline on page 697.

Family physicians commonly encounter patients with pain from acute musculoskeletal injuries that do not involve the lower back, but the comparative effectiveness of therapies has not been well studied. Previously published guidelines focused on the management of chronic pain and the appropriate prescribing of opioids, with less emphasis on the treatment of acute pain.^{1,2} Primary care plays a large role in the management of acute pain; therefore, the American College of Physicians (ACP) and the American Academy of Family Physicians (AAFP) developed a clinical practice guideline for the nonpharmacologic and pharmacologic management of acute pain from non-low back, musculoskeletal injuries in adults,³ which is summarized in this issue of *American Family Physician*. The management of low back pain was excluded from the guideline’s scope because a previous guideline addressed that topic.²

Summary of Guideline

The guideline was developed using the GRADE (Grading of Recommendations Assessment, Development, and Evaluation) methodology,⁴ and the evidence base consisted of two systematic reviews and one network meta-analysis.⁵ The first review addressed the efficacy (i.e., pain relief less than two hours after treatment, pain relief one to seven days after treatment, physical function, symptom relief, and treatment satisfaction) and safety (i.e., gastrointestinal, dermatologic, and neurologic adverse effects) of pharmacologic and nonpharmacologic therapies using a network meta-analysis; direct comparisons of treatments using a traditional meta-analysis were also performed where appropriate. The second systematic

review identified longer prescribing periods (i.e., greater than seven days compared with one to three days) and higher morphine milligram equivalents per day as risk factors for long-term opioid use.

The guideline committee considered only management options that improved at least two of the efficacy outcomes. Associated risks and costs, when known, were also considered during the development of the recommendation statements. Pain relief and physical functioning were measured by using a minimally important difference of 1 cm on a 10-cm visual analog scale. Symptom relief, treatment satisfaction, and adverse events consisted of more dichotomous outcomes with variations in definitions across studies. The guideline recommends topical nonsteroidal anti-inflammatory drugs (NSAIDs), with or without menthol, as first-line therapy because the gel improved all efficacy outcomes. Products that combine a topical NSAID with menthol gel were not found to be superior to a topical NSAID alone, but the combination was included to provide additional treatment options.

Moderate-certainty evidence demonstrated benefits of oral NSAIDs and acetaminophen; however, these options improved a lower number of efficacy outcomes and demonstrated a risk of adverse events. Moderate-certainty evidence demonstrated a benefit of oral NSAIDs in physical function and pain relief at less than two hours after treatment and one to seven days after treatment. Acetaminophen demonstrated a benefit for pain relief at less than two hours after treatment and one to seven days after treatment, but not for physical function. The guideline also suggests consideration for specific acupuncture and transcutaneous electrical nerve stimulation. There is low-certainty evidence for these options, and although costs were considered for pharmacologic options, cost data were not available.

The guideline does not suggest the use of opioids for the management of acute pain from non-low back, musculoskeletal injuries. A combination of acetaminophen and opioids improved more than one efficacy outcome (i.e., pain relief at less than two hours after treatment and one to seven days after treatment), but other opioids evaluated in the studies did not fare as well. Furthermore, the risk of adverse effects with opioids was high, and the committee was concerned

about the risk of prolonged use after initiation for acute injury. These potential harms were considered to outweigh the benefits of opioids, resulting in a conditional recommendation based on a low certainty of evidence.

Limited but Beneficial Advice

The guideline was developed using the best evidence available; however, much of the available evidence is derived from indirect comparisons because of the limited number of studies examining different treatments' comparative effectiveness. The limitations in grouping all non-low back, musculoskeletal injuries reduce the ability to determine the relative effectiveness of management options for specific injuries. The guideline also acknowledges that patient-specific factors, such as the severity of the injury, should be considered for management strategies.

The AAFP will call for more research on non-opioid and nonpharmacologic therapies for pain. Although many family physicians may find these recommendations unsurprising or consistent with common practice, the guideline provides support for the use of nonopioid therapies given their effectiveness at reducing pain and improving symptoms without the short- and long-term complications associated with the use of opioids.

Guideline Implications

The guideline does not provide a one-size-fits-all approach to management of acute musculoskeletal pain; however, the GRADE framework provides a transparent discussion to help family physicians in shared decision-making with patients in the context of patient values and preferences and health equity. Disparities in pain management are well known.⁶⁻⁸ Equitable coverage and affordability of first-line treatments (acetaminophen and oral and topical NSAIDs), which are available over the counter,⁹ are essential to reduce such disparities. Guidelines can influence health care spending by government agencies and insurers, and greater attention will be needed to ensure that evidence-based

strategies for the management of acute non-low back, musculoskeletal injuries are equitable across populations.

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Author disclosure: No relevant financial affiliations.

Editor's Note: Dr. Lin is deputy editor of *AFP*. Drs. O'Gurek and Lin were voting members on this guideline committee.

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