

# Highlights of the American College of Physicians' Guideline on Management of Low Back Pain

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*The ACEP Clinical Policies Committee regularly reviews guidelines published by other organizations and professional societies. Periodically, new guidelines are identified on topics with relevance to the clinical practice of emergency medicine. This article highlights recommendations for the management of acute and chronic low back pain, developed by the American College of Physicians and published in 2017.<sup>1</sup>*

Low back pain (LBP) results in upwards of 3.4 million annual visits to US Emergency Departments (ED), and it has been identified as a leading cause of disability worldwide.<sup>2,3</sup> ED visits for LBP are associated with significant healthcare costs and utilization, making it one of the largest resource burdens in the American healthcare system.<sup>4</sup> Fortunately, the majority of patients with acute LBP are thought to improve within a few weeks regardless of intervention, however high-quality evidence supporting this adage is somewhat lacking.<sup>5</sup> Moreover, up to one third of patient with acute LBP will have a recurrence after resolution.

Emergency physicians often struggle to meet patient expectations around the management and treatment of acute or chronic LBP. Furthermore, in the midst of a national opioid crisis, the role of opiates must be evidence-based. This makes the management of LBP, particularly in patients who have failed conservative therapies, more challenging than ever.

The American College of Physicians partnered with the Agency for Healthcare Research and Quality to conduct meta-analyses evaluating the effectiveness of pharmacologic and nonpharmacologic treatments for acute and chronic LBP. Here is a highlight of their recommendations:

**1. For acute or subacute LBP, physicians should recommend nonpharmacologic therapies first (eg, heat, massage, acupuncture). If using pharmacotherapy, choose an NSAID or skeletal muscle relaxer (SMR).**

Twenty-seven different comparisons of treatments or treatment combinations were evaluated in the meta-analysis for acute/subacute LBP. Nonpharmacologic interventions that showed a statistically significant benefit versus placebo or usual care included heat (4 randomized controlled trials [RCTs], mean difference for pain of 1.06 on 0-5 scale and 20 on 0-100 scale), massage (2 RCTs, standardized mean difference at 1 week of -0.92 for pain and -1.76 for function), and acupuncture (2 RCTs, 9.38 mean difference for pain on 0-100 scale). As a second line therapy, they recommend NSAIDs or SMRs (eg, cyclobenzaprine, tizanidine), though the level of evidence was low for NSAIDs and the magnitude of effect minimal for both (weighted mean difference 8.39 on 0-100 scale for NSAIDs, 1.72 relative risk of pain at 5-7 days for placebo versus SMRs). No single NSAID or SMR was found to be superior to another. It is worth noting that while acetaminophen for acute LBP was not found significant, only one RCT comparing acetaminophen versus placebo was evaluated.

**2. For chronic LBP, physicians should still recommend nonpharmacologic therapy before a pharmacologic option.**

Similar to the above recommendation, first line therapy in chronic back pain should include nonpharmacologic options the patient has not already failed. Some of these nonpharmacologic interventions, which were minimally effective for acute LBP, have greater efficacy for chronic back pain. Exercise is associated with small improvement in both pain (19 RCTs, weighted mean difference of 10 on 0-100 scale) and function (18 RCTs, 12.35 weighted mean difference on 0-100 scale) for chronic, but not acute, LBP based on moderate quality evidence.

- 3. For chronic LBP requiring pharmacotherapy, physicians should consider NSAIDs to be first-line therapy, while duloxetine (Cymbalta) or tramadol (Ultram) may be used as second-line therapy after NSAIDs have failed. Opiates should only be considered if all other options have failed and there has been a thorough discussion of risks versus benefits with the patient.**

Improved pain, but not function, was shown with mild effects for NSAIDs (6 RCTs, 12.4 weighted mean difference on 0-100 scale) and duloxetine (3 RCTs, 0.58-0.78 mean difference on 0-10 scale). Both pain and function were improved for tramadol (7 RCTs, <1 mean difference for pain and ~1 mean difference for function on 0-10 scale) and other opiates (10 RCTs, mean difference ~1 for on 0-10 pain scale and ~1 point mean difference on Roland Disability Questionnaire). The addictive potential and public health ramifications for tramadol and opiates, however, creates risks that may outweigh any such benefits.

### **Take Home Points:**

This guideline offers some helpful evidence to support emergency physicians in choosing therapies for acute and chronic LBP, especially when advocating for nonpharmacologic therapies first. However, it should be noted that this guideline was intended for all physicians, not just emergency physicians. This creates certain limitations that should be recognized. First, given a lack of established relationships or follow-up with most ED patients, the risks of starting opiates or tramadol for the first time are even greater than in the primary care setting. Second, the guideline does not address several important questions about LBP for emergency physicians, such as diagnostic strategies for rare but life-threatening conditions, or indications and effectiveness of therapies such as epidural injections. Future guidelines focusing on the specific issues surrounding LBP in the ED patient may be useful.

Overall, emergency physicians should feel comfortable advocating for nonpharmacologic therapy in both acute and chronic LBP. Referrals and recommendations for these interventions, when formulated as part of a realistic plan for follow-up with the patient, will hopefully allow for less use of potentially harmful interventions like opiates. More research, however, is required to assess the effects of these strategies on opiate use and healthcare resource utilization.

### **References**

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