

# Recommendation for Best Practices in the Management of Musculoskeletal Pain: An Evidence-To-Practice Review

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## ABSTRACT

While musculoskeletal (MSK) pain conditions are some of the most common health issues faced internationally, the quality of patient care with MSK pain is lacking. Problems with MSK care include the overuse of imaging, surgery, opioids, and failure to educate patients. Improving the quality of care for MSK conditions is considered a priority for all involved healthcare clinicians. The 2019 guiding systematic review addressed the concerns of MSK management by identifying common recommendations for high-quality care through appraisals of clinical practice guidelines (CPGs). Data was extracted from four databases and included articles examining the most common sites of MSK pain in adults. Selected articles were appraised using the AGREE II instrument that provided scores to indicate the level of quality. Researchers in the guiding systematic review then classified the CPGs to determine consistent recommendations. The results from the guiding manuscript identified eleven common and consistent recommendations for MSK pain management that focused on a comprehensive approach to address the overall well-being of the individual to ensure patient-centered care. The recommendations should be incorporated into healthcare and clinical practices to give healthcare professionals patient-centered outcomes for MSK pain management and improve the quality of care.

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## ORIGINAL REFERENCE

*Lin I, Wiles L, Waller R, et al. What does best practice care for musculoskeletal pain look like? Eleven consistent recommendations from high-quality clinical practice guidelines: systematic review. Br J Sports Med. 2020;54(2):79-86. doi:10.1136/bjsports-2018-099878.*

## SUMMARY

### CLINICAL PROBLEM AND QUESTION

Some of the leading causes of disability worldwide are musculoskeletal pain (MSK) conditions.<sup>1</sup> A lack of quality healthcare and a lack of universally agreed-upon treatment plans for these MSK conditions, are two primary reasons for the MSK related disability. A lack of quality healthcare results in the overuse of imaging,<sup>2,3</sup> unnecessary surgeries,<sup>4,5</sup> use of opioids,<sup>6,7</sup> and a failure to properly educate and advise patients about their conditions.<sup>8</sup> In order to combat quality of care issues and improve healthcare, clinicians can utilize clinical practice guidelines (CPGs), which are 'statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options'.<sup>9</sup> Patient care that follows CPG recommendations typically results in improved patient outcomes and lower costs to the consumer, especially with the management of low back pain (LBP).<sup>10,11</sup> These CPGs can also help ease transitions between different healthcare in terms of treatment options and care plans. Unfortunately, there are also many shortcomings with CPGs, creating discourse and criticism in the literature. Criticisms include the use of various guidelines for the same conditions having

inconsistent terminology, having too much or too little representation of certain conditions, and a lack of instruction for implementation into practice.<sup>12</sup> Despite criticisms, high quality CPGs may be effective methods for shaping how MSK conditions are treated in the healthcare system. MSK pain conditions in different body areas may share similarities in regard to mechanisms and clinical courses.<sup>13,14</sup> However, there is inconsistent evidence that CPGs share similarities for how best to treat MSK pain or that the recommendations can be applied across levels of healthcare. Therefore, the purpose of the reviewed study was to establish recommendations to better assess and manage MSK pain conditions based on available CPGs.

## SUMMARY OF LITERATURE

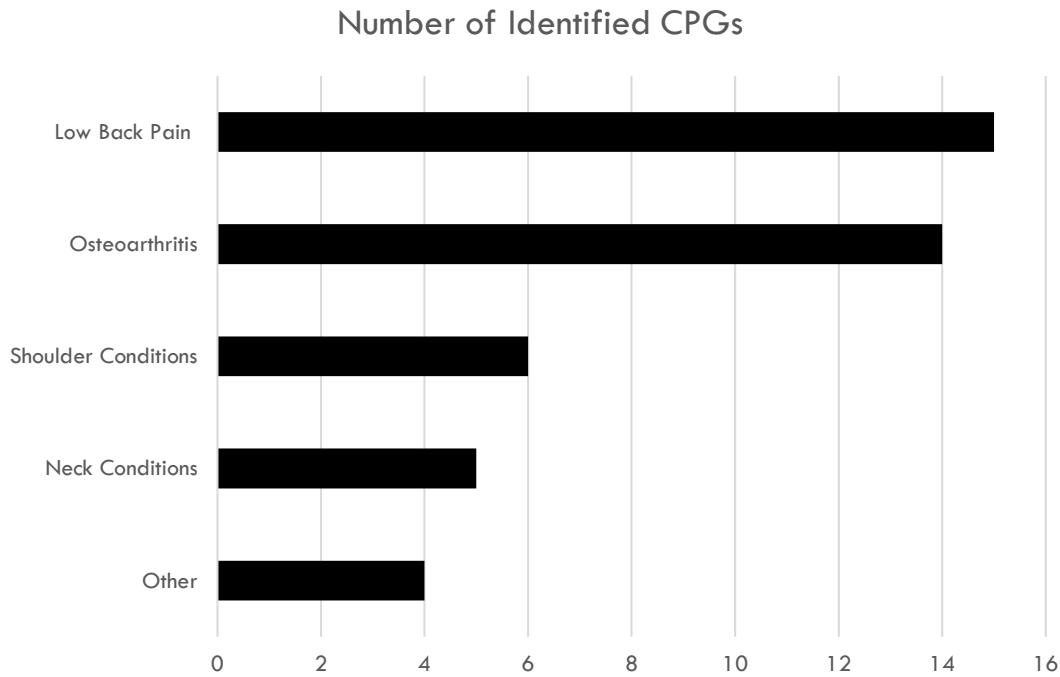
The authors of the guiding systematic review conducted a literature search of four databases that included MEDLINE, CINAHL, Embase, Physiotherapy Evidence Database, and four unnamed guideline repositories to evaluate MSK pain CPGs. The search terms and methods used in this study are the same as a previously published study.<sup>12</sup> For a CPG to be included in the systematic review, it had to meet certain criteria including: 1) published no earlier than 2011, 2) focused on adults, 3) described pain development processes, and 4) had to be written in English. The guidelines that only focused on traumatic MSK pain, single modalities, specific disease processes, and those that required payment were excluded from the systematic review.

The authors' initial search resulted in 6,232 CPGs, and after screening those results using their inclusion criteria, 44 guidelines were remaining for further appraisal. Appraisal was completed by three independent investigators using the Appraisal of Guidelines for Research and Evaluation II (AGREE-II) instrument, which resulted in eleven CPGs that were considered high quality. The AGREE-II instrument was utilized as it is the most widely used tool to obtain overall rating scores and identify high-quality CPGs.<sup>15,16</sup> Of the eleven CPGs that were high-quality and used in the systematic review, four of them evaluated low back pain, four investigated osteoarthritis pain, two evaluated neck pain, and one evaluated shoulder pain. After the appraisal, the CPGs were synthesized in four steps: extracting the CPG recommendations, classifying these recommendations, creating a narrative summary, and identifying common recommendations among MSK conditions when possible. The authors were able to use the information from their extensive search and evaluation to produce the following outcomes and results.

## SUMMARY OF OUTCOMES

The CPGs were classified according to “should do,” “could do,” “do not do,” and “uncertain” guidelines to help identify consistent recommendations which are defined in **Table 1**. The guidelines that were assigned either “should do” or “do not do” classifications and did not have conflicting evidence were considered consistent recommendations. Following the appraisal and classification process, only 44 CPGs of the 6232 identified records met the inclusion criteria. The 44 included CPGs applied to various MSK conditions which are specified in **Figure 1**. From the 44 CPGs, 11 common and consistent recommendations were chosen to be applied across MSK pain conditions. The guiding systematic review suggested that these recommendations could guide healthcare providers with a clear and simple consensus of current MSK pain priorities and, as a result, may help address the variations in the quality-of-care patients receive.<sup>2,17,8</sup> One intervention not listed in the systematic review was a consensus for CPGs related to opioid prescription. This is due to conflicting recommendations and the potential for harm; however, the only consistent view was to urge caution and discouraged the use of opioids.

**Figure 1. Number of appraised CPGs and their specific musculoskeletal conditions.**



**Table 1. Classification system the guiding systematic review used to determine consistent recommendations from relevant CPGs.**

Classification	Definition
Should Do	Recommendations that could be applied in all circumstances of musculoskeletal pain unless contraindications are present. These ‘should do’ recommendations are based on strong evidence such as having high-quality evidence of positive clinical effects or that the benefits of following the recommendations outweigh the risks.
Could Do	Recommendations that could be applied in individual circumstances depending on the patient. These ‘could do’ recommendations are based on lesser quality studies with consistent evidence and where the benefits outweigh the harms.
Do Not Do	Recommendations with strong evidence of no benefits and/or the harms outweigh the benefits.
Uncertain	‘Uncertain’ classification was applied because of incomplete or inconsistent findings and could not give a recommendation for or against a clinical practice.

## FINDINGS AND CLINICAL IMPLICATIONS

The appraisal and classification process in the guiding systematic review revealed 11 consistent recommendations for health care providers to incorporate into their practice. Recommendations are summarized in **Table 2**. The 11 recommendations may be used in a variety of ways to improve patient care. The reviewed article provided three examples of improvement. First, the recommendations may assist patients in making more informed decisions about their healthcare and help them recognize that some care they are receiving may be suboptimal. Second, the recommendations can guide clinicians in their decision making for the best course of action for their patients. Clinicians may also use them to identify areas where continued professional development is needed to improve their patient care. Third, with continued development of the recommendations, a set of indicators could be used as a benchmark of quality care or as minimum standards.

Limitations of the article were also addressed. The AGREE II instrument that scored the CPGs reflects processes and reporting of guidelines, not necessarily the quality of that content; therefore, high quality trials could have been excluded. Also, the investigators created their own criteria for appraising CPGs based on the AGREE II instrument which has the potential for bias. The study only reviewed CPGs in English, leaving out other relevant guidelines; however, the article is confident that, through their appraisal process, all relevant CPGs were included.

## CLINICAL BOTTOM LINE

MSK pain can greatly impact the quality of life for affected individuals. Furthermore, variation in healthcare makes receiving care difficult for patients, as there are no common recommendations for the treatment of MSK conditions. The assessment and management of MSK conditions is the most effective way to improve the overall well-being of patients, and the lack in quality of care from the healthcare system is the largest problem faced by patients. The CPG recommendations were developed to address the shortcomings of the assessment and management of MSK pain conditions, and implementation of the recommendations may begin to fix this problem. After reviewing this article, all members of the healthcare team should utilize the recommendations put forth by the guiding systematic review to provide measurable, impactful care.

Athletic trainers are included in the healthcare team and are no exception when it comes to following the guidelines presented by the reviewed article. Athletic trainers have primary roles involving prevention, emergency care, assessment, and therapeutic interventions for illnesses and injuries, specifically with orthopedic and musculoskeletal care.<sup>18</sup> Athletic trainers also work with a variety of patients in various settings that can affect MSK health. One of the eleven recommendations suggests completing an inclusive exam which may include neurological screenings and mobility and strength testing, which all athletic trainers are already trained to do during patient evaluations. Athletic trainers already incorporate some of the CPG recommendations into practice by providing mobility, strength, and flexibility exercises and conservative management into rehabilitation therapy for their patients. However, even though this approach is already practiced, athletic trainers are still not perfect in their care. A study from 2016 indicated athletic trainers have knowledge about using evidence-based care, such as the CPG recommendations, in clinical settings, but less than 30% actually implemented evidence-based healthcare into practice.<sup>19</sup> Constant awareness, intentional implementation, and daily practice of the 11 recommendations is necessary to improve patient care in patients with MSK pain conditions.

**Table 2.** Recommendations and examples to improve patient care

Recommendation	Examples	Classification of Recommendations
Care should be patient centered	<ul style="list-style-type: none"> <li>• Viewing the patient holistically</li> <li>• Viewing each patient as an individual</li> <li>• Allowing the patient to be involved with the decision-making process</li> <li>• Using effective communication</li> <li>• Base context on patient's preferences</li> </ul>	Categorized as "should do" for osteoarthritis (4/4), low back pain (4/4), neck pain (2/2), and shoulder pain (1/1)
Practitioners should screen patients for serious pathological conditions	<ul style="list-style-type: none"> <li>• Suspected infections, malignancy, fracture, inflammatory causes of pain, or neurological deficits</li> <li>• Serious conditions that present as MSK pain but are not (aortic aneurysm)</li> <li>• Gout</li> <li>• Other arthritis or malignancy (bone pain)</li> </ul>	Categorized as "should do" for osteoarthritis (1/1), low back pain (3/3), neck pain (2/2), and shoulder pain (1/1)
Assess psychosocial factors which can be affected by their injuries/illnesses	<ul style="list-style-type: none"> <li>• Emotions/moods such as depression and anxiety</li> <li>• Fear/kinesiophobia (irrational fear of physical movement due to injury or reinjury)</li> </ul>	Categorized as "should do" for osteoarthritis (2/2), low back pain (4/4), neck pain (2/2), and shoulder pain (1/1)
Only use radiological imaging in specific situations	<ul style="list-style-type: none"> <li>• Suspecting serious pathology</li> <li>• Conservative care is not working</li> <li>• Unexplained progression of signs and symptoms occurs</li> <li>• Imaging is likely to change management</li> </ul>	Categorized as "do not do" routine use of radiological imaging for osteoarthritis (1/1), low back pain (4/4), and shoulder pain (1/1)
Assessments should be complete and all inclusive	<ul style="list-style-type: none"> <li>• Physical exams</li> <li>• Neurological screening</li> <li>• Mobility</li> <li>• Muscle strength testing</li> </ul>	Categorized as "should do" for osteoarthritis (2/2), low back pain (3/3), neck pain (1/1), and shoulder pain (1/1)
Use validated patient-oriented outcome measures to evaluate patient progress	<ul style="list-style-type: none"> <li>• Patient self-rated recovery questions</li> <li>• Pain intensity measures</li> <li>• Functional capacity or activities of daily living</li> <li>• Quality of life questionnaires</li> </ul>	Categorized as "should do" for osteoarthritis (2/2), low back pain (1/1), neck pain (1/1), and shoulder pain (1/1)
Educate patients about their conditions and the management options	<ul style="list-style-type: none"> <li>• To encourage self-management of their conditions</li> <li>• Inform and reassure patients</li> </ul>	Categorized as "should do" for osteoarthritis (3/3), low back pain (4/4), neck pain (2/2), and shoulder pain (1/1)

Management options should address physical activity and exercise	<ul style="list-style-type: none"> <li>• Strengthening</li> <li>• Flexibility</li> <li>• Mobility exercises (range of motion and stretching)</li> <li>• Water-based exercises</li> <li>• Neuromuscular education</li> </ul>	<p>Categorized as “should do” for osteoarthritis (4/4), low back pain (2/4), neck pain (2/2), and shoulder pain (1/1)</p> <p>Categorized as “could do” for low back pain (2/4)</p>
Use manual therapy only in combination with other evidence-based treatments	<ul style="list-style-type: none"> <li>• Used with other management strategies like:                             <ul style="list-style-type: none"> <li>○ Exercise</li> <li>○ Psychological therapy</li> <li>○ Information/education</li> <li>○ Activity advice</li> </ul> </li> </ul>	<p>Categorized as “should do” with other modalities for osteoarthritis (1/1), low back pain (4/4), and shoulder pain (1/1)</p>
Offer non-surgical treatments before considering surgery unless “red flag” conditions are present	<ul style="list-style-type: none"> <li>• Conservative treatment yields no progress or makes the conditions worse</li> </ul>	<p>Categorized as “should do” for osteoarthritis (1/1), low back pain (2/2), and shoulder pain (1/1)</p>
Facilitate continuation or resumption of work after MSK injury	<ul style="list-style-type: none"> <li>• Avoid inactivity</li> <li>• Gradually increase normal daily activity levels</li> <li>• Return to work and while continuing rehabilitation services</li> <li>• Communication between workers, employers, and health providers</li> </ul>	<p>Categorized as “should do” for osteoarthritis (1/1), low back pain (2/3), neck pain (1/1), and shoulder pain (1/1)</p> <p>Categorized as “could do” for low back pain (1/3)</p>

*Numbers provided in the classification of recommendation column refer back to the 11 CPGs (osteoarthritis=4, low back pain=4, neck pain=2, shoulder pain=1)*

Athletic trainers also have a unique role in the healthcare team, as they practice in collaboration with other healthcare professionals, such as physicians, physical therapists, nurses, dietitians and pharmacists.<sup>18</sup> If all of the healthcare professionals follow the recommendations of the guiding systematic review, the transfer of patient care will be seamless, the overall quality of care will increase, and better outcomes can occur for the patient in the event of a patient transfer between collaborating healthcare professionals. This holds true for athletic trainers when they perform an initial evaluation but must refer the patient to a physician for further testing or a physical therapist for a more focused rehabilitation plan. Following the guidelines will allow for referrals to be smooth and will benefit the patient in the end. Healthcare services can also use the CPG recommendations as benchmarks or minimum standards for documentation, reporting, or clinical audit purposes. For example, athletic trainers may base performance evaluation criteria on the CPG recommendations to evaluate the staff’s clinical performances and ensure patient-centered care is being practiced.

In conclusion, MSK pain conditions are common issues in various populations. Unfortunately, the treatment and management of MSK conditions can be inconsistent and suboptimal. Treatment options and plan of care for patients can be lost during the transition between different healthcare providers and professions. Improving

patient-oriented quality of care for MSK conditions also poses a challenge in healthcare; fortunately, the CPG recommendations provide simple and direct guidelines to implement into practice. The eleven recommendations can serve as an educational tool and reference for all healthcare professionals who provide care for MSK pain conditions, as well as a benchmark for comparing the quality of care between health services and minimum standards during reporting or clinical audits. The healthcare team, including athletic trainers, should be able to implement the eleven recommendations with ease which would in turn improve care for MSK patients. The recommendations can be applied with minimal or no resources as several of the recommendations require the clinician to be patient-centered in their exam and delivery of information. Examples of implementation without resources including assessing psychosocial factors, using validated outcome measures, and providing clear patient education.

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