



<b>Body System: Pain</b>		
<b>Session Topic: Low Back Pain</b>		
<b>Educational Format</b>		<b>Faculty Expertise Required</b>
<b>REQUIRED</b>	Interactive Lecture	Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience with audience response systems (ARS). Utilizing polling questions and engaging the learners in Q&A during the final 15 minutes of the session are required.
<b>OPTIONAL</b>	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. <u>Please describe your interest and plan for teaching a PBL on your proposal form.</u>
<b>Professional Practice Gap</b>	<b>Learning Objective(s) that will close the gap and meet the need</b>	<b>Outcome Being Measured</b>
<ul style="list-style-type: none"> <li>Physicians have statistically significant and meaningful gaps in the medical skill necessary to provide optimal care for patients with low back pain.</li> <li>Physicians have knowledge gaps with regard to the evaluation of low back pain, especially related to using effective physical exam techniques and maneuvers; recognizing red flags that indicate a need for immediate aggressive treatment or referral to a spine specialist; appropriate documentation of the evaluation; appropriate timing for conservative treatments and follow-up monitoring; appropriate use of diagnostic imaging; and evidence-based prescribing for treatment of low back pain.</li> </ul>	<ol style="list-style-type: none"> <li>Perform history and physical examination utilizing multidimensional pain, functional, psychological and opioid assessment tools to evaluate patients presenting with back pain.</li> <li>Select appropriate diagnostic imaging tests, as necessary, for patients with back pain emphasizing that imaging is not necessary in the absence of red flag signs and symptoms.</li> <li>Identify, elicit, and document red flags signs and symptoms that indicate a need for immediate aggressive treatment or referral to a spine specialist, and coordinate referral and follow-up as necessary.</li> <li>Develop collaborative care plans with appropriate pharmacologic, non-pharmacologic including appropriate physical therapy trials, or combination treatment plan for a patient with low back pain.</li> <li>Identify and consistently utilize evidence-based algorithms and focus on teaching self-management skills</li> </ol>	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.



<ul style="list-style-type: none"> <li>• Physicians are often non-adherent to clinical guidelines for low back pain.</li> <li>• Physicians will often focus on counseling patients about avoiding pain and symptomatic pain, rather than information about effective self-management and treatment.</li> <li>• Patients are often non-adherent to non-pharmacologic treatments for low back pain.</li> <li>• New (2017) ACP Low Back Pain guidelines released.</li> </ul>	<p>rather than salvage therapy for long-term control of back pain.</p>	
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**ACGME Core Competencies Addressed** (select all that apply)

X	Medical Knowledge	
X	Interpersonal and Communication Skills	Patient Care
	Professionalism	Practice-Based Learning and Improvement
		Systems-Based Practice

**Faculty Instructional Goals**

Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
  - Visit <http://www.aafp.org/journals> for additional resources
  - Visit <http://familydoctor.org> for patient education and resources
- Provide recommendations and specific strategies for performing a focused history and examination to diagnose the type and severity of low back pain experienced by a patient, including specific examination techniques.
- Provide recommendations regarding payor guidelines for advanced imaging coverage.
- Provide recommendations to determine which imaging test, if any, is most appropriate for patients who have low back pain with severe or progressive neurologic deficits, or



when history and examination suggest that a serious underlying condition may be the cause.

- Provide recommendations for identifying red flags that indicate a need for immediate aggressive treatment or referral to a spine specialist, and coordinate referral and follow-up as necessary.
- Provide strategies and resources for developing collaborative care plans with appropriate pharmacologic, non-pharmacologic, or combination treatment plan for a patient with low back pain – including an overview of current evidence-based treatments.
- Provide recommendations regarding guidelines for Medicare reimbursement.
- Provide recommendations to maximize office efficiency and guideline adherence to the diagnosis and management of low back pain.
- Provide an overview of newly available treatments, including efficacy, safety, contraindications, and cost/benefit relative to existing treatments.

### Needs Assessment

Low back pain persists as one of the most common complaints from patients, with the first attack typically occurring between the ages of 20 and 40.<sup>1</sup> In 2009, there were nearly 6 million office visits to family physicians from patients suffering from low back pain.<sup>2</sup> In a report from the Institute for Clinical Systems Improvement (ICSI), approximately two-thirds of the people who recover from a first episode of acute low back symptoms will have another episode within 12 months, and that most of the total cost for low back pain is dedicated to the small percentage of sufferers whose condition has progressed to the chronic disabling stage (pain for more than 12 weeks).<sup>3</sup>

Data from a recent American Academy of Family Physicians (AAFP) CME Needs Assessment survey indicate that family physicians have statistically significant and meaningful gaps in the medical skill necessary to provide optimal care for patients with low back pain.<sup>4</sup> More specifically, CME outcomes data from 2012-2016 AAFP FMX (formerly Assembly): *Back Pain; Low Back Pain; and Back Pain: An Evidence-Based Approach to Mechanical Low Back Pain* sessions suggest that physicians have knowledge and practice gaps with regard to the evaluation of low back pain, especially related to using effective physical exam techniques and maneuvers; recognizing red flags that indicate a need for immediate aggressive treatment or referral to a spine specialist; appropriate documentation of the evaluation; appropriate timing for conservative treatments and follow-up monitoring; appropriate use of diagnostic imaging; advising patients about OTC medications, topicals, and other non-pharmacologic treatments for pain; and evidence-based prescribing for treatment of low back pain, especially with regard to patient education and health coaching.<sup>5-9</sup>

A review of the literature reveals that while clinical guidelines recommend screening for red flags that indicate a need for immediate aggressive treatment or referral to a spine specialist, red flag symptoms alone may result in multiple false positives and result in unnecessary diagnostic testing.<sup>10</sup> In the absence of red flag findings, diagnostic imaging is not useful in management, and may be safely delayed for a trial of conservative therapy.<sup>11</sup> As diagnostic errors for the evaluation of musculoskeletal pain are among the most common in primary practice, physicians



need further training to minimize errors and increase appropriate use of such tests.<sup>12,13</sup> In fact, current Choosing Wisely® recommendations state, “Don't do imaging for low back pain within the first six weeks, unless red flags are present. (Red flags include, but are not limited to, severe or progressive neurological deficits or when serious underlying conditions such as osteomyelitis are suspected.) Low back pain is the fifth most common reason for all physician visits. Imaging of the lower spine before six weeks does not improve outcomes, but does increase costs.”<sup>14</sup>

Another barrier to providing optimal relief of low back pain is that physicians will often focus on counseling patients about avoiding pain and symptomatic pain, rather than information about effective self-management and some specific treatments such as exercise, manual therapy, acupuncture and cognitive-behavioral interventions.<sup>15,16</sup> Additionally, patient psychosocial factors, such as depression, passive coping strategies, fear avoidance beliefs and low expectations of recovery, often negatively impact health outcomes.<sup>16</sup>

Physicians may improve their care of patients with low back pain by engaging in continuing medical education that provides practical integration of current evidence-based guidelines and recommendations into their standards of care, including, but not limited to the following:<sup>14,17-24</sup>

- The AAFP concludes that the evidence is insufficient to recommend for or against routine use of interventions to prevent low back pain in adults in primary care settings.
- Do not order imaging studies, without performing a thorough physical examination, unless there is concern for infection, fracture, or cauda equina syndrome, or unless required before invasive interventions.
- NSAIDs, opioids, and topiramate (Topamax) are more effective than placebo in the short-term treatment of nonspecific chronic low back pain.
- Acetaminophen, antidepressants (except duloxetine [Cymbalta]), skeletal muscle relaxants, lidocaine patches, and transcutaneous electrical nerve stimulation are not more effective than placebo in the treatment of chronic low back pain.
- Epidural steroid injections are not more effective than placebo for long-term relief of chronic back pain from various causes.
- Spinal manipulation therapy results in small improvements in pain and function in chronic low back pain for up to six months.
- Don't do imaging for low back pain within the first six weeks, unless red flags are present. (Red flags include, but are not limited to, severe or progressive neurological deficits or when serious underlying conditions such as osteomyelitis are suspected.)
- Physicians should conduct a focused history and physical examination to classify patients into one of three categories: (1) nonspecific pain; (2) pain possibly associated with radiculopathy or spinal stenosis; and (3) pain from another specific spinal cause (e.g., neurologic deficits or underlying conditions, ankylosing spondylitis, vertebral compression fracture). Patient history should be assessed for psychosocial risk factors. (Strong recommendation, moderate-quality evidence)
- Routine use of imaging and other diagnostic testing is not recommended for patients with nonspecific pain. (Strong recommendation, moderate-quality evidence)
- Diagnostic imaging and testing should be performed in patients who have low back pain with severe or progressive neurologic deficits, or when history and examination suggest that a serious underlying condition may be the cause. (Strong recommendation, moderate-quality evidence)



- Patients with persistent low back pain and signs and symptoms of radiculopathy or spinal stenosis should be evaluated with MRI (preferred) or CT only if they are potential candidates for surgery or epidural steroid injection. (Strong recommendation, moderate-quality evidence)
- Patients should be provided with evidence-based information about their expected treatment course, advised to remain active, and given information about self-care options. (Strong recommendation, moderate-quality evidence)
- In combination with information and self-care, the use of medications with proven benefits should be considered. Before beginning treatment, physicians should evaluate the severity of the patient's baseline pain and functional deficits and the potential benefits and risks of treatment, including the relative lack of long-term effectiveness and safety data. In most cases, acetaminophen or nonsteroidal anti-inflammatory drugs (NSAIDs) are the first-line medication options. (Strong recommendation, moderate-quality evidence)
- If a patient does not improve with self-care, physicians should consider adding non-pharmacologic therapies with proven benefits. (Weak recommendation, moderate-quality evidence)
- Red flags are common in patients with acute low back pain and do not necessarily indicate serious pathology; therefore, physicians should rely on a comprehensive clinical approach to evaluating red flags in these patients.
- Without findings suggestive of serious pathology, imaging is not indicated in patients with acute low back pain.
- Nonsteroidal anti-inflammatory drugs, acetaminophen, and muscle relaxants are effective treatments for nonspecific acute low back pain.
- Patient education that includes advice to stay active, avoid aggravating movements, and return to normal activity as soon as possible and a discussion of the often benign nature of acute low back pain is effective in patients with nonspecific pain.
- Although regular exercises may not be beneficial in the treatment of nonspecific acute low back pain, physical therapy (McKenzie method and spine stabilization) may lessen the risk of recurrence and need for health care services.
- Spinal manipulation and chiropractic techniques are no more beneficial than established treatments for nonspecific acute low back pain, and their addition to established treatments does not improve outcomes.
- Bed rest is not helpful for nonspecific acute low back pain.
- Acetaminophen and NSAIDs are first-line medications for treating chronic low back pain.
- Imaging, such as lumbar spine radiography, should be delayed at least one to two months in patients with nonspecific low back pain without red flags for serious disease.
- Do not order an electromyogram for low back pain unless there is leg pain or sciatica.
- Evaluation of psychosocial problems and “yellow flags” are useful in identifying patients with chronic low back pain who have a poor prognosis.
- Treatment options include: beneficial (analgesics, NSAIDs, acupuncture, multidisciplinary rehabilitation); likely to be beneficial (herbal medications, tricyclic antidepressants, exercise therapy, behavior therapy, massage, spinal manipulation); trade-off between benefit and harm (muscle relaxants for short-term use, opioids); insufficient



or conflicting data (antiepileptic medication for radicular symptoms, viniyoga, back school, low-level laser therapy, lumbar supports, prolotherapy, short wave diathermy, traction, transcutaneous electrical nerve stimulation, ultrasound, epidural steroid injection)

Based on a recent Cochrane review, here is low- to moderate-quality evidence that Pilates exercises taught by certified instructors improve pain and reduce disability in patients with chronic low back pain. It is unclear whether a Pilates regimen is superior to other exercise plans for the treatment of low back pain. Adverse effects are uncommon.<sup>25</sup>

In the event that referral is necessary, physicians can improve patient satisfaction with the referral process by using readily available strategies and tools such as, improving internal office communication, engaging patients in scheduling, facilitating the appointment, tracking referral results, analyzing data for improvement opportunities, and gathering patient feedback.<sup>26,27</sup>

Physicians should be familiar with recently released (2017) American College of Physicians (ACP) clinical practice guideline, “Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain”, endorsed by the AAFP on April 2017.<sup>28,29</sup> Recommendations are summarized as follows:

- **Recommendation 1:** Given that most patients with acute or subacute low back pain improve over time regardless of treatment, clinicians and patients should select nonpharmacologic treatment with superficial heat (moderate-quality evidence), massage, acupuncture, or spinal manipulation (low-quality evidence). If pharmacologic treatment is desired, clinicians and patients should select nonsteroidal anti-inflammatory drugs or skeletal muscle relaxants (moderate-quality evidence). (Grade: strong recommendation)
- **Recommendation 2:** For patients with chronic low back pain, clinicians and patients should initially select nonpharmacologic treatment with exercise, multidisciplinary rehabilitation, acupuncture, mindfulness-based stress reduction (moderate-quality evidence), tai chi, yoga, motor control exercise, progressive relaxation, electromyography biofeedback, low-level laser therapy, operant therapy, cognitive behavioral therapy, or spinal manipulation (low-quality evidence). (Grade: strong recommendation)
- **Recommendation 3:** In patients with chronic low back pain who have had an inadequate response to nonpharmacologic therapy, clinicians and patients should consider pharmacologic treatment with nonsteroidal anti-inflammatory drugs as first-line therapy, or tramadol or duloxetine as second-line therapy. Clinicians should only consider opioids as an option in patients who have failed the aforementioned treatments and only if the potential benefits outweigh the risks for individual patients and after a discussion of known risks and realistic benefits with patients. (Grade: weak recommendation, moderate-quality evidence)

A review of the literature indicates that approximately one-half of all patients with low back pain who take an opioid analgesic will stop treatment because of ineffectiveness or adverse effects. Patients staying the course will experience, on average, a small decrease in pain relative to patients who take placebo (similar to the benefit from nonsteroidal anti-inflammatory drugs) and will not have improved function. (Level of Evidence = 1a)<sup>30</sup> Faculty should be prepared to



provide recommendations regarding the latest evidence-based research regarding the safety and efficacy of prescribing opioids for low back pain.

These recommendations are provided only as assistance for physicians making clinical decisions regarding the care of their patients. As such, they cannot substitute for the individual judgment brought to each clinical situation by the patient's family physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations. These recommendations are only one element in the complex process of improving the health of America. To be effective, the recommendations must be implemented. As such, physicians require continuing medical education to assist them with making decisions about specific clinical considerations.

Resources: Evidence-Based Practice Recommendations/Guidelines/Performance Measures

- ACP Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain<sup>29</sup>
- Common Questions About Chronic Low Back Pain<sup>24</sup>
- ACP/APS Diagnosis and treatment of low back pain: a joint clinical practice guideline<sup>20</sup>
- AAFP Imaging for Low Back Pain Choosing Wisely<sup>14</sup>
- AAFP Low Back Pain. Clinical Preventive Service Recommendation<sup>17</sup>
- Diagnosis and treatment of acute low back pain<sup>21</sup>
- Chronic low back pain: evaluation and management<sup>22</sup>
- Acupuncture for pain<sup>23</sup>
- Appropriate and safe use of diagnostic imaging<sup>18</sup>
- Exam documentation: charting within the guidelines<sup>31</sup>
- Adding health education specialists to your practice<sup>32</sup>
- Envisioning new roles for medical assistants: strategies from patient-centered medical homes<sup>33</sup>
- The benefits of using care coordinators in primary care: a case study<sup>34</sup>
- Engaging Patients in Collaborative Care Plans<sup>35</sup>
- The Use of Symptom Diaries in Outpatient Care<sup>36</sup>
- Health Coaching: Teaching Patients to Fish<sup>37</sup>
- Medication adherence: we didn't ask and they didn't tell<sup>38</sup>
- Encouraging patients to change unhealthy behaviors with motivational interviewing<sup>39</sup>
- Integrating a behavioral health specialist into your practice<sup>40</sup>
- Simple tools to increase patient satisfaction with the referral process<sup>26</sup>
- FamilyDoctor.org. Low Back Pain | Overview (patient education)<sup>41</sup>

References

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