

Discuss the differential diagnosis for low back pain and the importance of clinical red and yellow flags in evaluation of low back pain.

- Integrate evidence-based pharmacologic and nonpharmacologic therapies into a comprehensive treatment plan for chronic low back pain.
- Evaluate early interventions for acute back pain in patients considered at high risk for transition to chronic low back pain.

Credits Available

Physicians - maximum of 1.50 *AMA PRA Category 1 Credit(s)*[™]

Nurses - 1.50 *ANCC Contact Hour(s)* (1.5 contact hours are in the area of pharmacology)

Pharmacists - 1.50 *ACPE Contact Hour(s)* (0.150 CEUs)

Psychologists* - 1.5 *CE credit*

*Psychologists may claim their credit by faxing their Certificate of Completion to Elena Gilliam at (949) 824-3037.

All other healthcare professionals completing continuing education credit for this activity will be issued a certificate of participation.

Physicians should only claim credit commensurate with the extent of their participation in the activity.

Accreditation Statements

For Physicians



This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint sponsorship of University of California, Irvine School of Medicine and The Physicians Academy for Clinical and Management Excellence. University of California, Irvine School of Medicine is accredited by the ACCME to provide continuing medical

education for physicians.

The University of California, Irvine School of Medicine, designates this educational activity for a maximum of 1.5 **AMA PRA Category 1 Credits**[™]. Physicians should only claim credit commensurate with the extent of their participation in the activity.

[Contact this provider](#)



Alliant International University (AIU) is approved by the American Psychological Association to sponsor continuing education for psychologists. AIU maintains responsibility for the program and its content. Up to 1.5 hours for CE credit is granted for

completion of this program.

[Contact this provider](#)

For Nurses



Purdue University Continuing Nursing Education (CNEP-09, 06/01/2011) is an approved provider of continuing nursing education by the Indiana State Nurses Association, an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation. This activity has been approved for 1.5 contact hours.

[Contact this provider](#)

For Pharmacists



Purdue University College of Pharmacy is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. This is a knowledge-based, continuing education activity of Purdue University, an equal access/equal opportunity institution. Universal Activity Number (UAN): 0018-9999-10-002-H01-P, 1.5 contact hours (1.5 CEU).



[Contact this provider](#)

For questions regarding the content of this activity, contact the accredited provider for this CME/CE activity noted above.

Instructions for Participation and Credit

There are no fees for participating in or receiving credit for this online educational activity. For information on applicability and acceptance of continuing education credit for this activity, please consult your professional licensing board.

This activity is designed to be completed within the time designated on the title page; physicians should claim only those credits that reflect the time actually spent in the activity. To successfully earn credit, participants must complete the activity online during the valid credit period that is noted on the title page.

Follow these steps to earn CME/CE credit*:

1. Read the target audience, learning objectives, and author disclosures.
2. Study the educational content online or printed out.
3. Online, choose the best answer to each test question. To receive a certificate, you must receive a passing score as designated at the top of the test. In addition, you must complete the Activity Evaluation to provide feedback for future programming.

You may now view or print the certificate from your CME/CE Tracker. You may print the certificate but you cannot alter it. Credits will be tallied in your CME/CE Tracker and archived for 6 years; at any point within this time period you can print out the tally as well as the certificates by accessing "Edit Your Profile" at the top of your Medscape homepage.

*The credit that you receive is based on your user profile. Psychologists may claim their credit by completing the activity evaluation and posttest and faxing their Certificate of Completion to Elena Gilliam at (949) 824-3037.

Hardware/Software Requirements

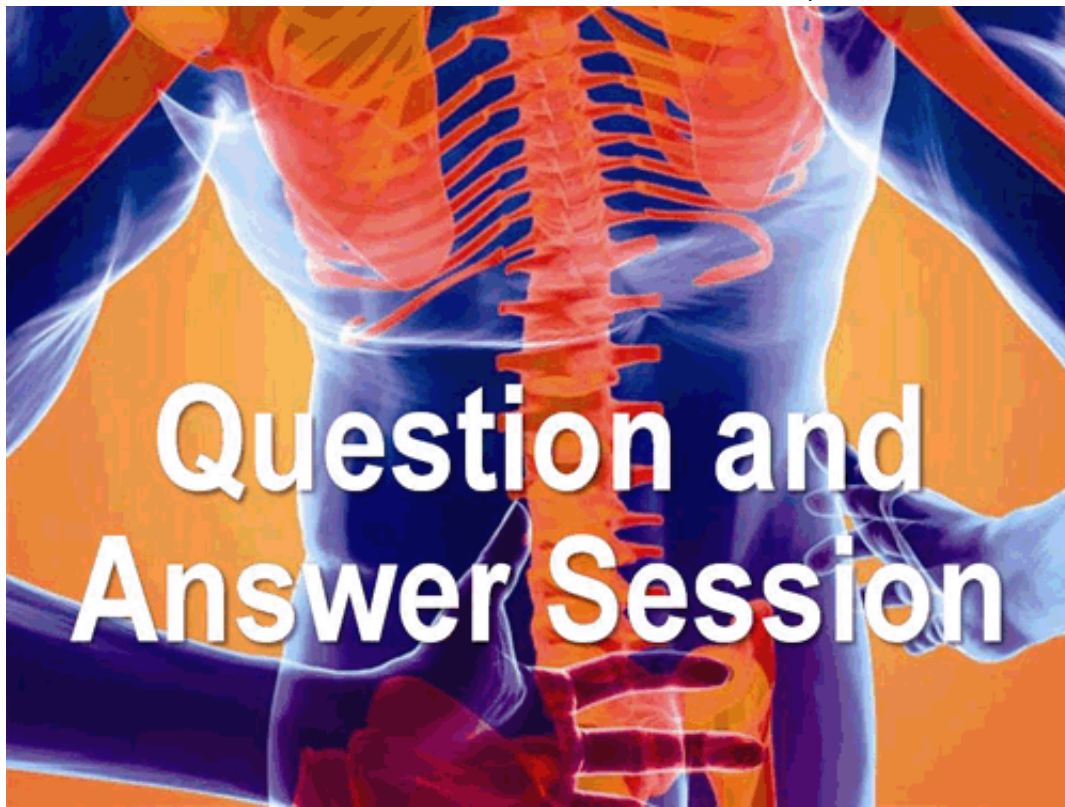
MedscapeCME is accessible using the following browsers: Internet Explorer 6.x or higher, Firefox 2.x or higher, Safari 2.x or higher. Certain educational activities may require additional software to view multimedia, presentation or printable versions of their content. These activities will be marked as such and will provide links to the required software. That software may be: [Macromedia Flash](#), [Adobe Acrobat](#), or [Microsoft PowerPoint](#).



Question and Answer Session **CME/CE**

Faculty

Posted: 09/02/2010



Slide 1.

B. Eliot Cole, MD, MPA: Okay, we're going to answer a few questions now. Dr Chou, I have an interesting question about—can you comment on the utility of surgery for idiopathic scoliosis, with long-standing scoliosis not responding to physical therapy, body mechanics, etc?

Roger Chou, MD, FCAP: This was not evaluated as part of the guidelines. Patients with scoliosis were not included with the guideline, but there aren't good randomized trials. So, this is one of those situations where the evidence is not great to guide what to do. So, that's the best I can say about it, unfortunately.

Bill McCarberg, MD: So Roger, certainly in a younger adult population—the adolescent who has a 20-30 degree scoliosis—it's real clear what to do with those patients. So, if you have an adult, a 60-year-old that has pain and has a 5 degree scoliosis, you must have looked at that and seen that that wasn't going to make any difference. What about the larger degrees where they did get treated for whatever reason, and they have a lot of scoliosis.

Roger Chou, MD, FCAP: Well, the problem is there aren't that many of those patients out there, so most patients who do have a high degree of scoliosis, as you know, young adults or adolescents, they're often treated still. Maybe not as much as they were in the past, but I would still say we don't have a lot of even large case series of adults 40s, 50s, etc, with significant degrees of scoliosis.

Bill McCarberg, MD: They get operated on though, I can tell you.

B. Eliot Cole, MD, MPA: Dr McCarberg, I know this is trendy in California, but is thermography ever really indicated for anything?

Bill McCarberg, MD: So, thermography is you put a heat sensor up on a patient's body at an area where you think there is pain and the sensor should pick up areas in the body, thermal areas that are the painful areas, and because of that then it would guide therapy. You know, it used to be fairly popular for a whole variety of things. Maybe even 10 years ago they were being used quite actively in different practices. I just don't see them very much anymore, so I don't think they're used very much. We don't use them in our facility at all, so I don't know very much about them because we're not using them very much. You may have more information about it, but I'm sure there are not very good randomized trials on thermography. Roger?

Roger Chou, MD, FCAP: It's unclear how thermography actually affects clinical decisions, whether it affects the kind of the

treatments that you use, or other diagnostic testing, so there just hasn't been anything out there. People use thermography to try to identify abnormalities and kind of how muscles are used and stuff like that. But, that's the big question with all these diagnostic tests, is what do you actually do with that information and can it help you get patients better? And, we don't have anything like that yet.

B. Eliot Cole, MD, MPA: One of you asked me about the VAS scales perhaps being confusing for older adults. The context of this was VAS used postsurgically as a way to measure postoperative pain. Dr McCarberg and I published this paper about a year and a half ago, and between the two of us, we can't remember what the specifics were except that it was more observational that the numeric rating scale was better understood than the VAS.

Bill McCarberg, MD: One of the things that Barry and I published was about—I think it was an older population, wasn't it? And that, sometimes after surgery, they can have whatever minor cognitive impairment they already had going into surgery get magnified greatly. So, you give them, "On a scale of 0 to 10, compared to your pain before surgery, what's your pain after surgery." And they say, "What surgery, what are you talking about?"

So, it's hard, whereas if you put a faces scale up in front of them, or a "Can you tell me what your pain is like now, tell me, does it hurt now?", they're easily able to identify that question. But, if it's something more complicated where they may go in a little bit low on the cognition, it's more difficult.

B. Eliot Cole, MD, MPA: Dr McCarberg, one of our colleagues asks, what percentage of adults with chronic LBP begins having their symptoms during adolescence, and will we have any differences in treating teens vs adults?

Bill McCarberg, MD: You know, teens with LBP is almost a red flag; you rarely see LBP. You can see injuries to the back—you see the cheerleaders that get thrown up and not get caught—but those usually recover fairly quickly. But, when the person comes in, a teenager, a 15- or 16-year-old, comes in with back pain that's out of the blue and you don't have scoliosis or something, really you've got to look into that. Discitis is much more common in that population, and you've got to be thinking about other things. So, it's very, very uncommon to see it unrelated to trauma, and even trauma often gets better all on its own. So, when I see a teenager, to answer your question, it's uncommon that it will go on to chronic.

B. Eliot Cole, MD, MPA: Dr Chou, cyclobenzaprine is a tricyclic and as a result is an effective muscle relaxer by descending inhibitory facilitation, yet the guidelines recommend against the use of tricyclics. Could you explain that for us?

Roger Chou, MD, FCAP: Yeah, so the guideline actually doesn't recommend against tricyclics, we just say it's not a first-line drug. It is true that cyclobenzaprine is basically amitriptyline with 1 molecule added to it essentially. The skeletal muscle relaxants are a very messy drug class to begin with because this is a class of completely unrelated drugs that are just grouped together because of their FDA indication, and they all cause sedation. We're actually not sure how much actual muscle relaxation per se they cause; maybe this is all related to their sedative effects.

So, the skeletal muscle relaxants are not considered a first-line option because of the sedative effects, and tricyclics aren't necessarily considered a first-line option either. But, they're both options.

Bill McCarberg, MD: Roger, did the reason that it got put down, the tricyclics, was the side effects, because you took risk benefit as—

Roger Chou, MD, FCAP: It's partly side effects. There actually was a *Cochrane Review* that came out, and they actually found no benefit with tricyclics for chronic LBP. And, a lot of it, it gets into some kind of esoteric methodologic issues, but some of those trials had problems with big baseline differences. There was a study that I showed you guys about RFDN that had this problem, and some of the tricyclic trials have this problem. So, you actually come to different conclusions about whether something works depending on whether you looked at difference from baseline or if you just compare the results at, say, 6 weeks—so, whether you controlled for what the baseline differences were to begin with.

There's some uncertainty about how well tricyclics work for chronic LBP, but I would say that there's probably some small benefit and it's probably similar to cyclobenzaprine if you look at tricyclic antidepressants.

B. Eliot Cole, MD, MPA: Dr McCarberg, are there any studies regarding weight loss for chronic LBP? It seemed that you

were saying that weight loss isn't the way to go, but practically it makes sense.

Bill McCarberg, MD: It would make sense, but when Roger looked at weight loss—Again, as a secondary prevention, the patient has back pain and you're predicting whether they go on to chronicity, does losing weight predict less chronicity? And, you didn't find it in your study, as I recall. Am I quoting you right?

Roger Chou, MD, FCAP: Well, yes, that's almost right. We looked at body mass index (BMI), or high body weights, obesity, or overweight as a predictor of chronicity. It was not a predictor of chronicity, even though that's often discussed or listed as one of the predictors. There are also some interesting studies that are coming out suggesting that higher weight may be protective in some people because they're used to carrying more, maybe kind of have a heavier load on their backs, and there's all sorts of interesting stuff out there. But, I think you can safely say that nobody has ever shown that losing weight takes away somebody's LBP, as much as we'd like it to. It's the same thing with smoking. Smoking is associated with LBP, but no one's been able to show that getting people to quit smoking eliminates LBP.

I would say that there are lots of reasons to lose weight and to quit smoking, and LBP shouldn't be the only reason for you to be quitting—healthy lifestyle and all that stuff. There are certainly lots of other things you can tell your patients.

B. Eliot Cole, MD, MPA: Dr Chou, relative to the lumbar fusion surgical rates, why is lumbar fusion increasing at such a high rate when advances are being made with less invasive discectomy and laminectomy procedures, and then also, what's driving the surgery?

Roger Chou, MD, FCAP: Those are good questions. One of the reasons that fusion rates are going up I think more quickly is because nonspecific LBP is just much, much more common than herniated disc or spinal stenosis. Remember, the statistics we put up is only < 10% of patients are going to have a symptomatic herniated disc or spinal stenosis, so you don't have a big population to kind of crank up the surgery levels.

I also think that the surgery indications have been kind of established for herniated disc and spinal stenosis probably a bit better than fusion for nonradicular LBP, and the thing with fusion is we are kind of doing more and more of it because we can. Fusion surgeries are often reimbursed, the reimbursement rates are very high, and if you're going to talk about somebody coming into the primary care office, how much a primary care doc gets vs how much a surgeon gets, it's noncomparable.

I'm not saying that surgeons are doing this just to make money, but when you have a procedure that you can do, you think there may be some benefit, and somebody sends someone to you, what do you think is going to happen, especially if you know you're going to get compensated for it?

I actually think that the leadership in surgery really has tried to push the message that some of these surgeries are unnecessary and to try to crank it back, but that doesn't necessarily trickle down to what's happening out in the community.

B. Eliot Cole, MD, MPA: Dr. McCarberg, when the rubber meets the road, what NSAID of choice do you prescribe, and at what point in therapy will you start a proton pump inhibitor (PPI) or H₂ blocker for gastroprotection?

Bill McCarberg, MD: So, I follow guidelines, and my guidelines are that I'm in a managed care organization. They tell me what nonsteroidal I should be prescribing. Meloxicam is the drug that they recommend that we use. My organization thinks it has less problems with the stomach, but if a patient is over 65, they get a PPI with a nonsteroidal just out of the box. If they have any risk factors, they're on other drugs that could do it, they've had a history, they either won't get that, or they'll get a PPI with it. So, the protection of 1 nonsteroidal over another, I think that we don't exactly know. There's a lot of literature out there, and the only COX-2 selective agent we have out there is supposed to be better. But then they come out with new literature that maybe with long-term use, maybe it isn't better, and you got all the cardiac risk with it. It's a very confusing picture.

Roger Chou, MD, FCAP: Meloxicam is a partially selective COX-2 blocker, and there are limited data that it's safer on the GI system; it's really not very convincing, I would say. The data on celecoxib are certainly better. The problem is that it's not just GI risk we need to think about; it's also cardiovascular risk. We're actually reviewing this for the Agency for Healthcare Research and Quality right now; we did this 4 years ago, and we're doing an update of this comparative

effectiveness review, looking at all of the different NSAIDs for people with osteoarthritis and/or arthritis. That'll come out in the next year or so.

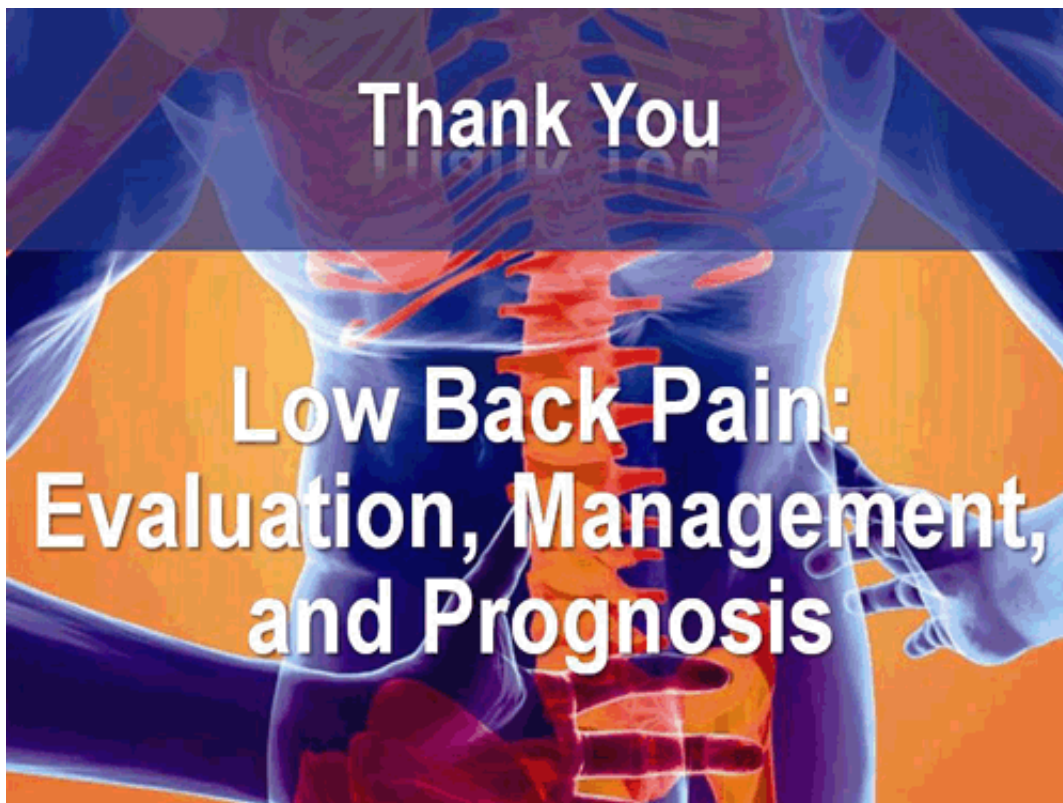
B. Eliot Cole, MD, MPA: And, we have another question about prognosis for LBP due to chronic sacroiliitis vs other nonspecific and specific causes. What can you tell us about prognosis?

Roger Chou, MD, FCAP: We don't actually have good data on this. Sacroiliitis undoubtedly occurs in some patients; in some patients, the sacroiliac joint is probably the source of pain. The problem is we don't know the diagnostic accuracy of tests like sacroiliac blocks or the accuracy of clinical maneuvers to diagnose sacroiliitis. We're forced to lump sacroiliac pain into nonspecific LBP. The exception is when sacroiliac pain is associated with inflammatory back disease, like ankylosing spondylitis, or one of the nonspecific spondyloarthropathies, and in that case, you know you want to treat those patients because they may benefit from different treatments, so anti-inflammatory drugs, anti-tumor necrosis factor (TNF) agents, and stuff like that.

We do in our guidelines recommend that you think about sacroiliitis, or inflammatory sacroiliitis at least, in patients who are younger, who have chronic LBP, who have morning stiffness and all that kind of stuff. Ankylosing spondylitis is undoubtedly underdiagnosed in populations out there.

B. Eliot Cole, MD, MPA: And gentlemen, our last question. Should the APS advise employers who have employees standing all day to provide seating options to give postural relief, and should this really be elevated to maybe an OSHA workplace health issue?

Roger Chou, MD, FCAP: There are some reviews out there that have tried to look at work-related things, having the work station appropriate and lifting practices and stuff like that, and it's hard to show just how effective they are. We all think that they help, that if you teach people how to lift properly and stuff like that you're going to prevent some proportion of LBP. It's just hard to determine really what the effects are. From an evidence perspective, it's kind of hard to say, "Yes, that's something that should be regulation." I'm not an occupational med person, I don't know if Bill has other thoughts, but I would say no comment because I don't have the information.



Slide 2.

B. Eliot Cole, MD, MPA: Let me thank my colleagues Dr McCarberg and Dr Chou for joining me today. We hope this was an informative session for you.

This article is part of a CME/CE certified activity. The complete activity is available at:
<http://cme.medscape.com/viewprogram/31426>

Disclaimer

The material presented here does not necessarily reflect the views of Medscape, LLC, or companies that support educational programming on www.medscape.com. These materials may discuss therapeutic products that have not been approved by the US Food and Drug Administration and off-label uses of approved products. A qualified healthcare professional should be consulted before using any therapeutic product discussed. Readers should verify all information and data before treating patients or employing any therapies described in this educational activity.

© 2010 University of California, Irvine

Contents of *Low Back Pain: Evaluation, Management, and Prognosis* **[<http://cme.medscape.com/viewprogram/31426>]**

All sections of this activity are required for credit.

1. Welcome and Overview
[<http://cme.medscape.com/viewarticle/726138>]
2. Evidence-Based Evaluation of Patients With Low Back Pain
[<http://cme.medscape.com/viewarticle/726140>]
3. Treatment of Low Back Pain: Pharmacologic and Nonpharmacologic Options
[<http://cme.medscape.com/viewarticle/726139>]
4. Current Understanding of the Prevention of Chronicity of Low Back Pain
[<http://cme.medscape.com/viewarticle/726141>]
5. Question and Answer Session
[<http://cme.medscape.com/viewarticle/726142>]

This article is part of a CME/CE certified activity. The complete activity is available at:
<http://cme.medscape.com/viewprogram/31426>

cme.medscape.com

This article is part of a CME/CE certified activity. The complete activity is available at:
<http://cme.medscape.com/viewprogram/31426>

CME/CE Information

CME/CE Released: 09/02/2010; Valid for credit through 09/02/2011

Target Audience

This activity is designed for physicians, psychologists, nurses, pharmacists, and other healthcare professionals and research scientists interested in the evaluation and management of chronic low back pain, including those specializing in pain management, anesthesiology, rheumatology, psychiatry, neurology, and internal medicine.

Goal

This activity will bring together clinical and research experts to review and discuss the evaluation, treatment, and prognosis of patients presenting with low back pain. The activity will consist of 3 lectures and a question and answer session to provide an in-depth and comprehensive discussion of the epidemiology, disparate etiologies, and clinical assessment of both acute and chronic low back pain. Evidence-based treatment strategies, including pharmacologic and nonpharmacologic therapies, and the evolving research into early interventions for patients at high risk for transitioning from acute low back pain to chronic low back pain will also be presented.

Learning Objectives

Upon completion of this activity, participants will be able to:

1. Disc