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. Discuss the differential diagnosis for low back pain and the importance of clinical red and yellow flags in evaluation of low back pain.
2. Integrate evidence-based pharmacologic and nonpharmacologic therapies into a comprehensive treatment plan for chronic low back pain.
3. 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

UCIrvine SCHOOL OF MEDICINE

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. For technical assistance, contact CME@medscape.net

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.

This activity is supported by an educational grant from Lilly USA, LLC.

Authors and Disclosures

Author(s)

Bill McCarberg, MD

Founder, Chronic Pain Management Program, Kaiser Permanente San Diego; Adjunct Assistant Clinical Professor, University of California, San Diego, San Diego, California

Disclosure: Speakers Bureau: Abbott Laboratories; Cephalon, Inc; Eli Lilly and Company; Endo Pharmaceuticals; Forest Pharmaceuticals; King Pharmaceuticals; Ligand Pharmaceuticals, Inc; Merck & Co., Inc; Mylan Pharmaceuticals, Inc; Pfizer Inc; PriCara, Division of Ortho-McNeil-Janssen Pharmaceuticals, Inc; Purdue Pharma LP

Dr. McCarberg's presentation will not include discussion of off-label, experimental, and/or investigational uses of drugs or devices.

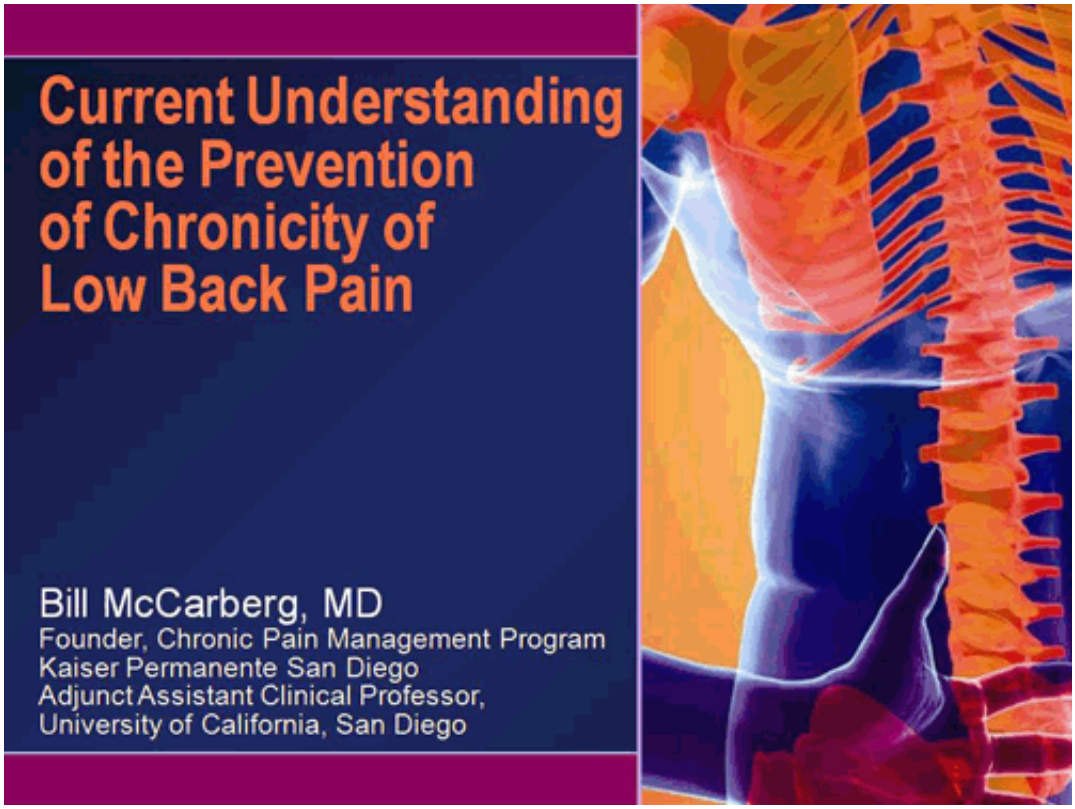
The Planning Staff, Committee, and CME Advisory Board of the UCI School of Medicine and the staff of CME Enterprise have nothing to disclose. All presentations have been peer reviewed for evidence base and fair balance. The views and opinions expressed in this activity are those of the faculty and do not necessarily reflect the views of the University of California, Irvine School of Medicine and CME Enterprise.

Current Understanding of the Prevention of Chronicity of Low Back Pain CME/CE

Bill McCarberg, MD

Posted: 09/02/2010

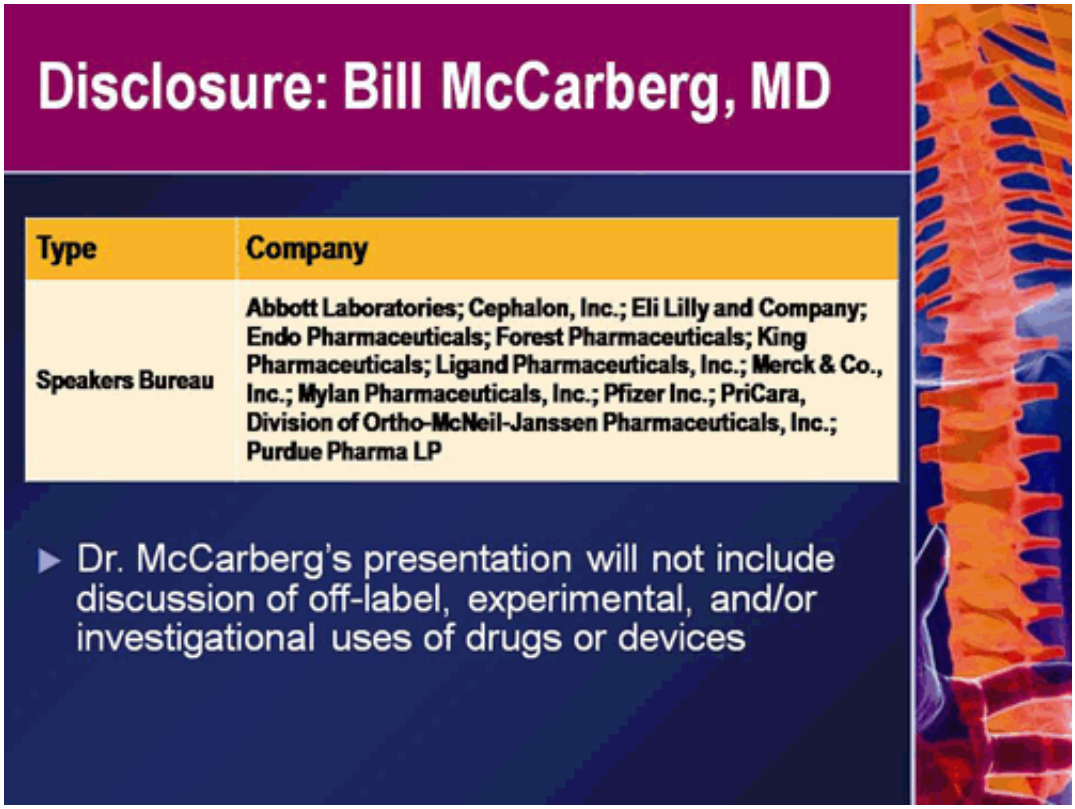
Introduction



Slide 1.

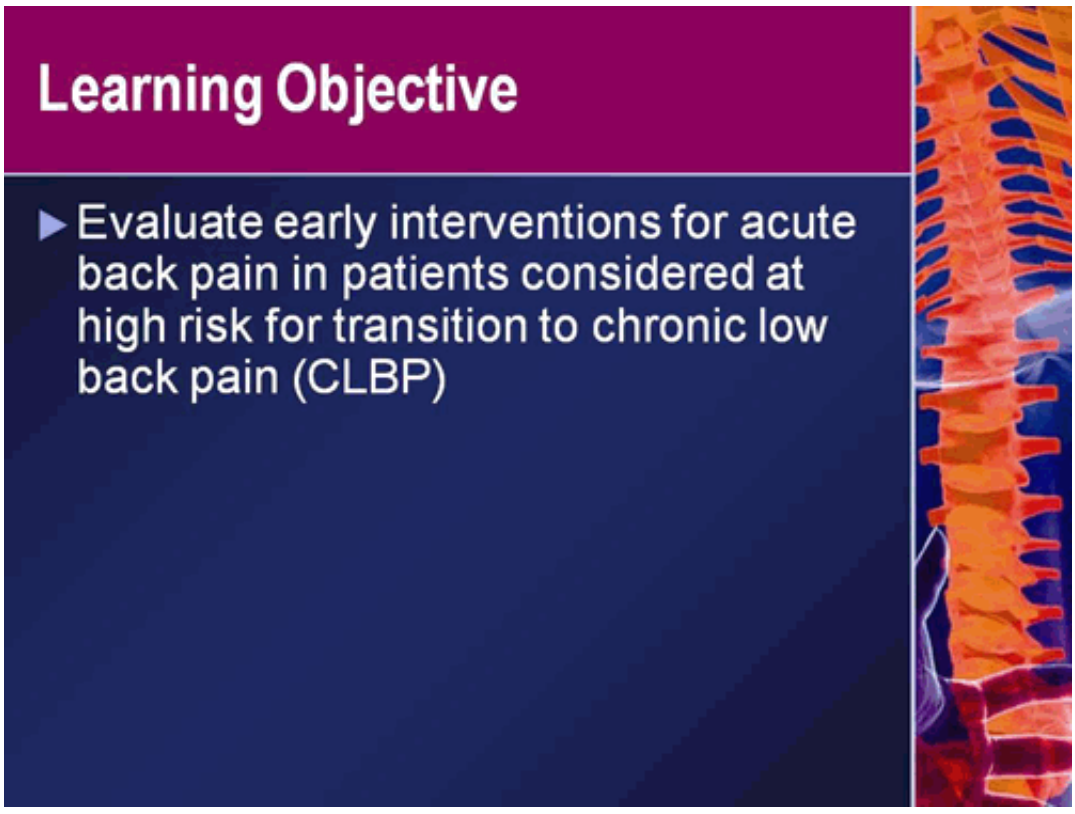
I'm Bill McCarberg. I'm going to talk to you about preventing chronicity. An ounce of prevention is worth a pound of cure; my mother told me that some years ago. That's what we're talking about here. How many of you see acute back pain the first week of their injury? Yeah, so not many of you, do you? You see them later on down the road. You see them when they're much more either subacute—3 weeks, 4 weeks, 5 weeks—or you see them when they're chronic and it's really a problem at that point. It would be nice if we could do something to prevent people from becoming the train wrecks, the ones that for which almost nothing works it seems like anymore.

I am going to be talking about secondary prevention. So, they've already had their back injury and you don't want that acute injury to become chronic. Since not many of you are doing the acute injury like I am—I am seeing them in primary care day in, day out—I get the sense when they come in that "Oh my God, this is going to be a problem." You know, it's that whiplash that comes in and they have more pain than you'd expect, and you just know from your history this is going to be a problematic case. Those are the secondary preventions, and that's what I'm going to talk about. It's not the primary prevention—like the Boeing study that looked at all these people that were just joining the Boeing aircraft industry, which is kind of a heavy job, you do a lot of lifting in that job, so they tried to predict what would tell you who would get in more trouble with back pain. That's a primary prevention, trying to intervene early. I'm going to look at secondary prevention.



Slide 2.

Here's who I am. I'm not going to talk about drugs, so that's what I do here.



Slide 3.

This is going to be about intervention for acute injury. I saw a patient yesterday on referral. She came in with 7 years of back pain and she said, "I want this *Vicodin*, I want that Oxy stuff, I want something for sleep and I'm really anxious so I need something for anxiety, and I need this jury excuse signed, I want a handicapped sticker, but I want it permanent now, and can you fill out these Social Security forms for me?" That's in a 7-minute visit, she wants that.

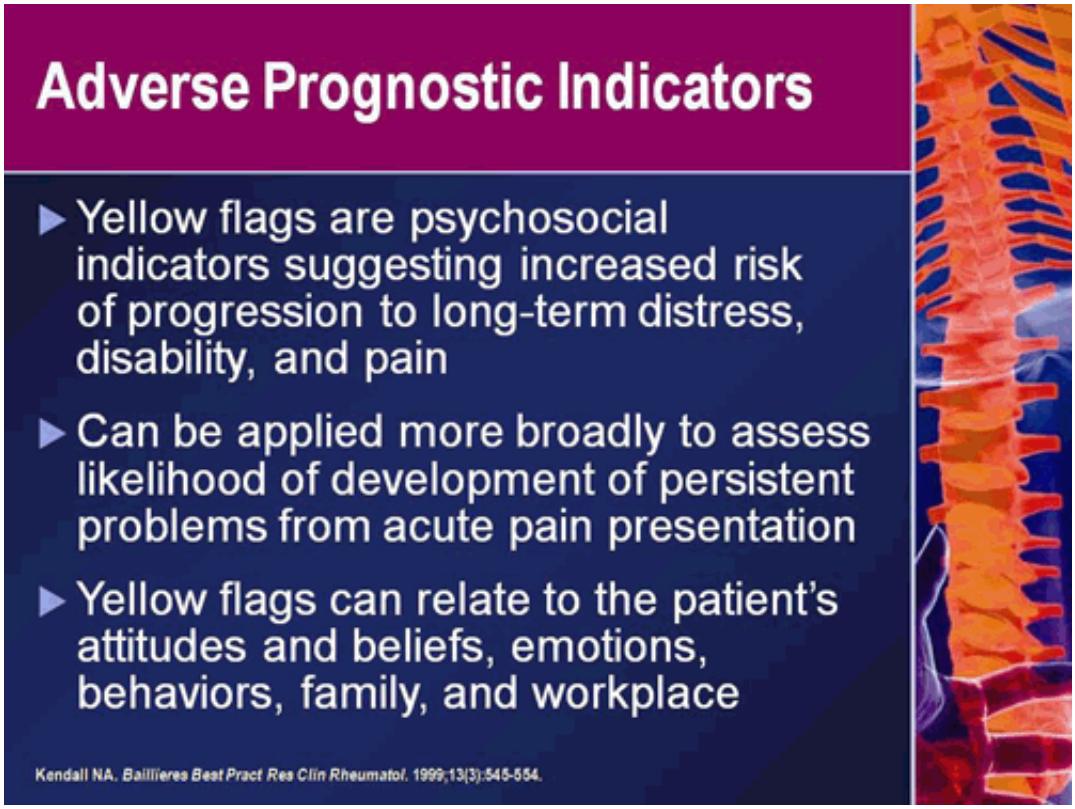
That's the problem—when you get to that point, an hour visit is not going to help much. We're trying to prevent

that. Is there anything that we can do that can predict it? And, if we can predict it, can you do something to prevent the person who could become that way because you predicted them somehow? So, that's what I'm going to be talking about here, and since you're going to be seeing some of these subacute patients early on, or teaching the primary care docs about it, what is it that you could tell those doctors about predicting it?

Disability From Back Pain

Slide 4.

So, a minority of cases progress. If we can prevent it, it would be nice. I think the number that is curious to me—we've all talked about numbers—but < 5% of patients who present with acute pain today are going to have pain a year from now. No matter what you do with them, they are going to get better in the majority of the cases. But, if they have back pain in a year, 90% of the Social Security disability claims are for that very, very small amount. So, if we could do something to keep them from coming to a year out, we're in much better shape with that for a whole variety of reasons.



Slide 5.

We talked about yellow flags already—Roger talked about these, Barry talked about yellow flags—and believe it or not, the yellow flags are looking at long-term distress. They are looking at disability and pain, and that's kind of where we look at if there is something that's predictive in these yellow flags. This has not only been studied—and I'm going to show you some of the studies—but my colleague Roger just published last month, April 7, 2010, in *JAMA,* an update of the yellow flags looking at what we know about them. He's even going to contradict some of the evidence I have here about age and heavy lifting and weight and all—some of the things that we think are fairly predictive—he found in a very, very extensive review of the literature, the way only Roger can do them. These extensive reviews found some more information that may be valuable, but there are some areas that we can say with some certainly that if you see a patient with this kind of characteristic, you should do something different with that patient.

Risk Factors for LBP

Slide 6.

Here are some of the classic yellow flags. Certainly a belief system about what happens, the fear about what happens, so just asking, "Gee, what do you think is going to happen to you with this back pain?" makes a big difference. "Oh, my mom had this pain and, oh my God, she was out of work for a year, and she got, you know, she went to the chiropractor, nothing worked, I just know I'm going to get surgery." Oh my God, you'd better be sweating when you hear that, or you want to think, "Now that I know that, and I know that's their belief about that, can I intervene some way with that?" That discussion that you have and that thought about really isn't catastrophic thinking, but it leads to catastrophic thinking, "I won't get better, it's just going to get worse, there's nothing I can do." So, that thought—here the back pain is something that structurally happened, they fell of a ladder, they have this back pain—but now the thought about that actually predicts a large way of what is going to happen to them.

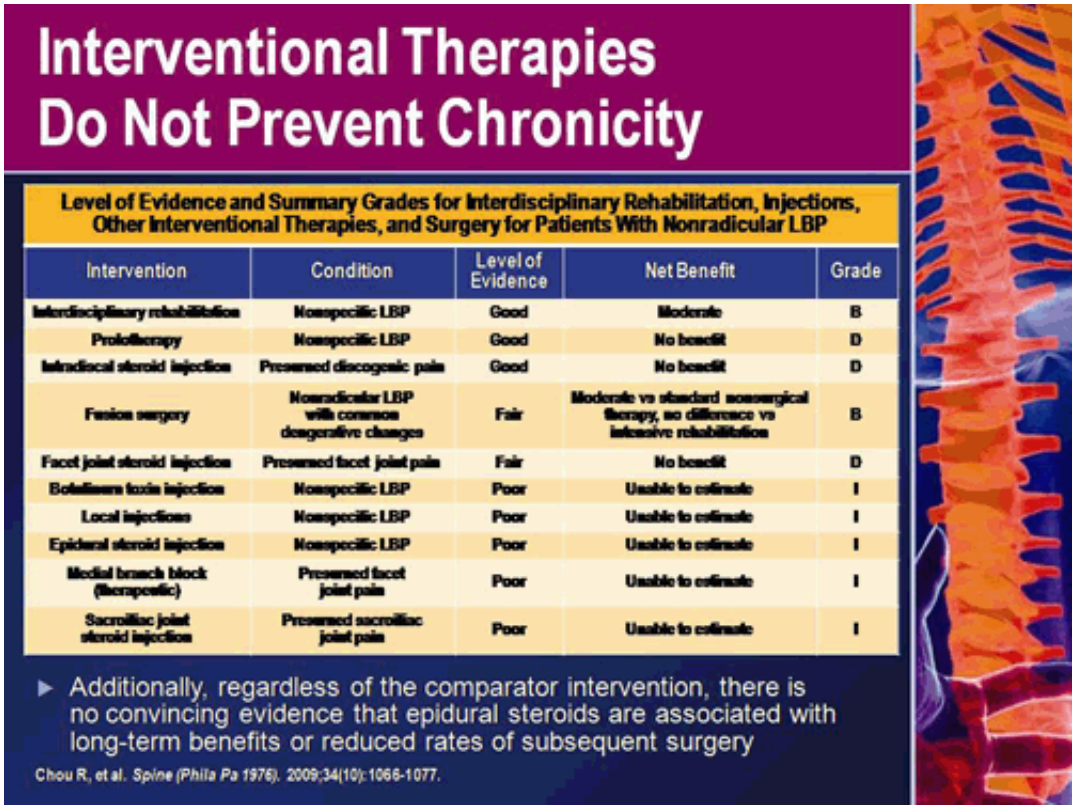
So, the fear avoidance, the staying down, the not getting up and exercising play a big part. Roger already talked about how important it is to get people active. If you can get people active, you can make a difference. This is such an important concept about acute back pain, to get people moving around. Australia, the whole country of Australia, decided to bypass us, the medical profession. They decided we weren't good enough, so they hired actors in Australia to do public service announcements about back pain. Probably they had 20 of these actors, and they did these 30-second slots where they were mimicking back pain and telling people to ignore the pain and kind of get on with life, get back to work. "Ah, it hurts, doesn't matter, get back to work, you'll be fine."

It was interesting because they had these provinces in Australia where they did the public service announcement and in other ones where they didn't do it. There was this tremendous return-to-work rate related to back pain in 1 province over another by just educating the people about, "You know what? It does hurt, but you're not going to kill yourself. Get moving, get active, get out of bed." Again, that belief system, "Oh, it hurts so bad, I'd better stay in bed," the disuse happens.

So, there are a whole variety of things that are pointed out here related to their belief system, illness behavior, body preoccupation, and all sorts of things related to that.

Slide 7.

And, you can see here some other risk factors. Interestingly, these were our older beliefs—this is older, I think this is 2008, these yellow flags—and Roger in his most recent one found that obesity, smoking, nerve root involvement, age, I think even past history of LBP were not very predictive—even though it states here—that those are not very predictive. Whereas, poor physical health—not ongoing, but your belief about what is going to happen—had a much higher predictive value. If you have an older person and they're going to get a hip surgery for osteoarthritis of the hip, the best predictor of how they do when they come out is how they did when they went in. What was their physical activity level prior to their hip surgery? Same kind of thing here, when they come into this with a belief system or poor activity level, it makes a big difference. So, if you can identify that and then intervene—I'm going to give you some things you can do to intervene—you can stop the chronicity. You have a better chance of doing it.

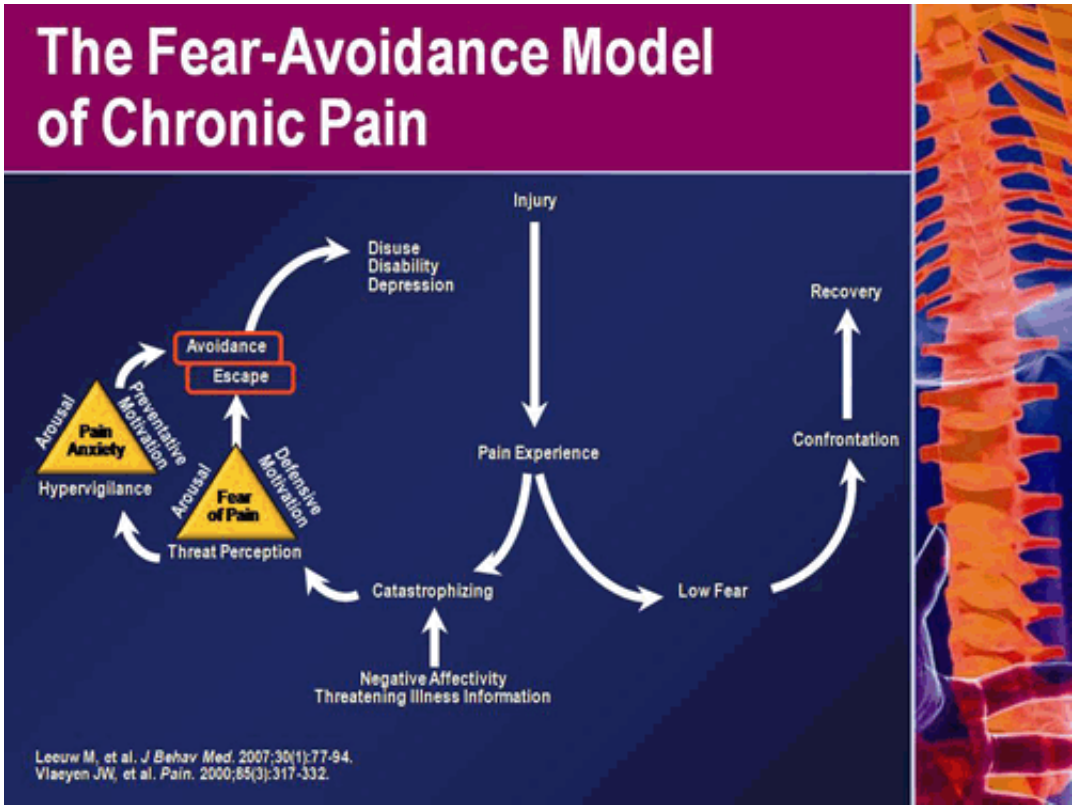


Slide 8.

I just want to point out here, here is interdisciplinary rehab, the Roger model. The Level of Evidence over here is good, and it has a moderate effect. Here's fusion surgery, and it has a moderate effect with pretty good fair evidence, pretty good compared to nothing or standard care. But everything else, even what we would consider tried and true epidural steroid injection, it doesn't do very much. Or, either that or we don't have any evidence because the trials either aren't there or they're poor quality of evidence. So, interdisciplinary care, something that many of you hear about in these meetings or are doing right now, is probably the best evidence we have.

And, the problem is that's expensive, it's not available, and you can't do it on everybody. If you just put everybody that came in with back pain, put them in interdisciplinary care, you'd have better outcomes, but you'd spend tons of money on that. You've got to be able to predict who it is so that you can do the appropriate intervention on the right person.

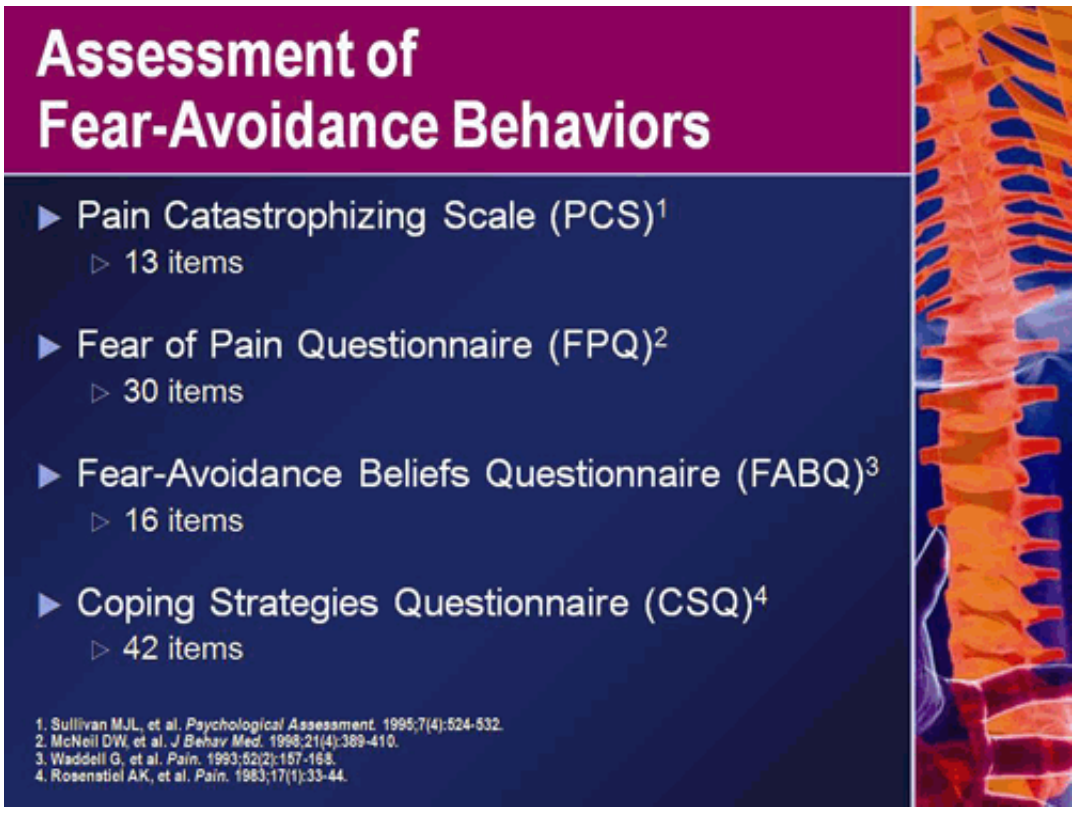
Fear Avoidance



Slide 9.

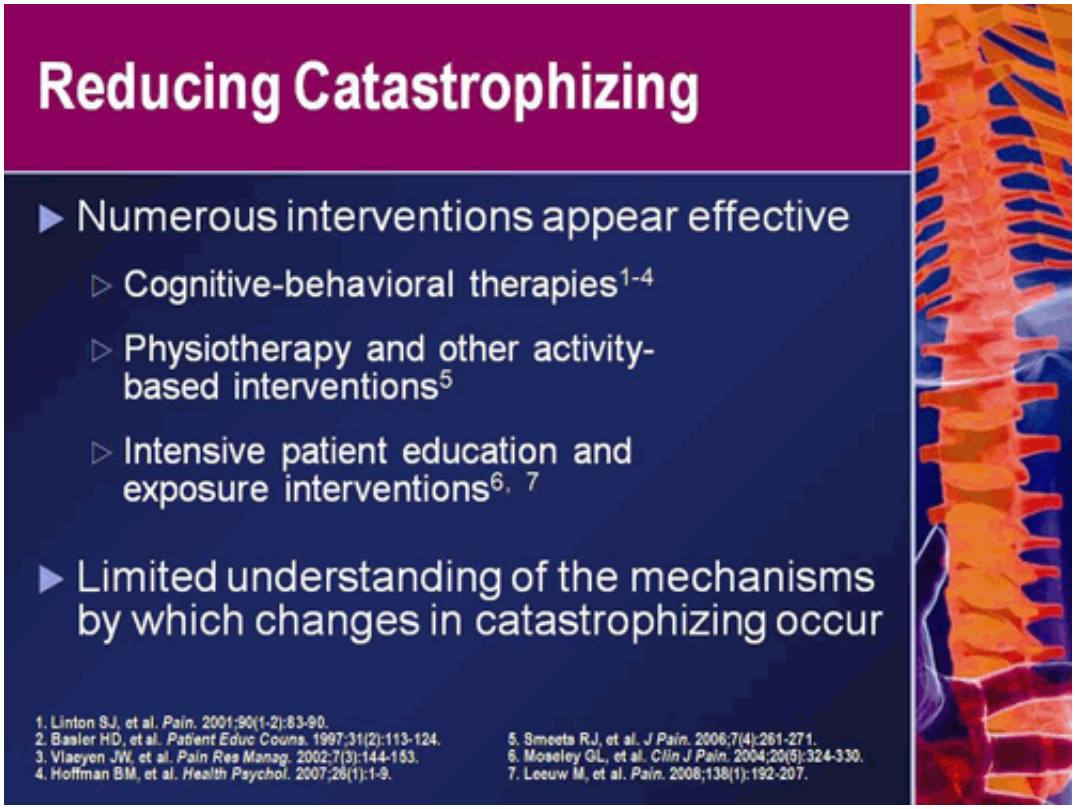
This is just that fear avoidance that I talked about before, here's the injury, there's the pain experience. You want them down here where they don't fear getting up, moving around, and resuming their activity. What happens is if they start catastrophizing—"Oh my God, I'll never get back to work, bless you, this is going to injure me for life, I can never do my job again"—they start avoiding the activity, the pain increases, they become more disuse, atrophy of the muscles, and they get worse and worse.

So, as people get here, if we predict the people that catastrophize, if we do a simple screening test on them and realize they are high catastrophizers, can we intervene to do something to stop that catastrophe? This is the circle that we are trying to break.



Slide 10.

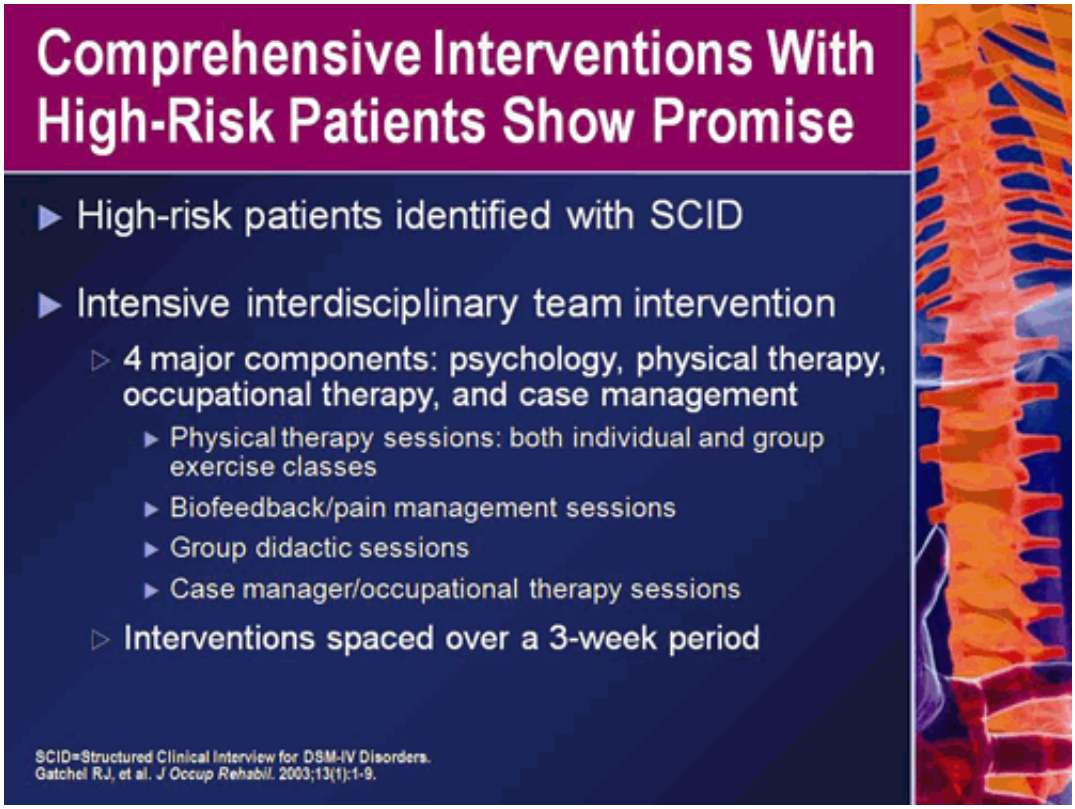
Here are some structured interviews that you can hand out to people, which will look at catastrophizing and give you some ideas that maybe this is a person that may get on the left side of that scale, showing more problems.



Slide 11.

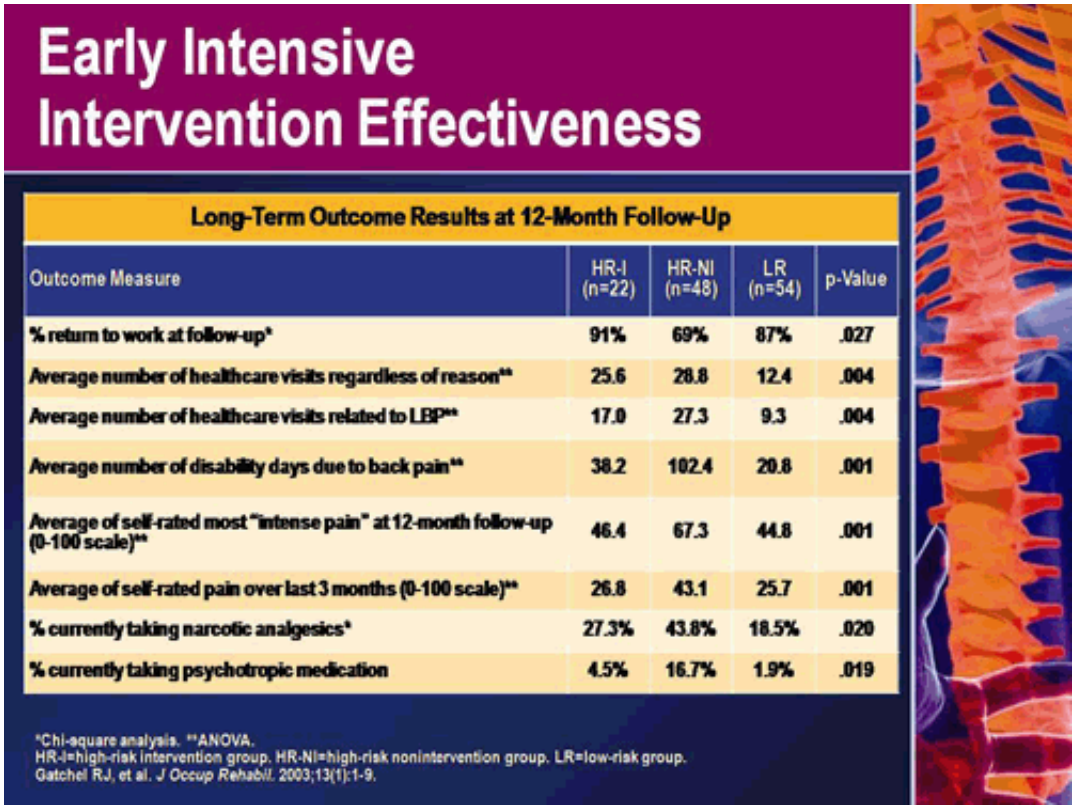
Are there interventions that you can do? There certainly are interventions, and they have been proven. What we do in our pain clinic is try to show people what catastrophizing is by asking them, "What do you think about this?" And they say, "Oh, I'll never get better, it's going to be horrible, oh my mother," so they go on and on. Then, since we know this, we say, "Well, is it the same for you? Is your body the same as your mother's? Oh, I know this happened to you last year, you were out of work for a year, and you had this new injury. Why do you think it'll happen to you?" They will reply, "Well, I had it, it was so bad."

You'll ask, "Is it the same injury? Is your body the same? Are you the same person now? Is it possible that medicine has improved since the last time?...you are here earlier..", So you just start talking to them about how their thoughts may not be accurate. They may be all-or-none thinking. Just the talking of that, especially in groups, that's the cognitive behavioral therapy changing the way people think about their problems, and you can actually change how they deal with it. Catastrophizing is a big issue here.



Slide 12.

Here's just an example of that. They did structured interviews on a variety of patients. They did 4 major components of the intervention once they felt people were at a high risk for doing this. They did biofeedback, they did some physical therapy, group didactic sessions, and then they said, "How did people do at the end of that?"

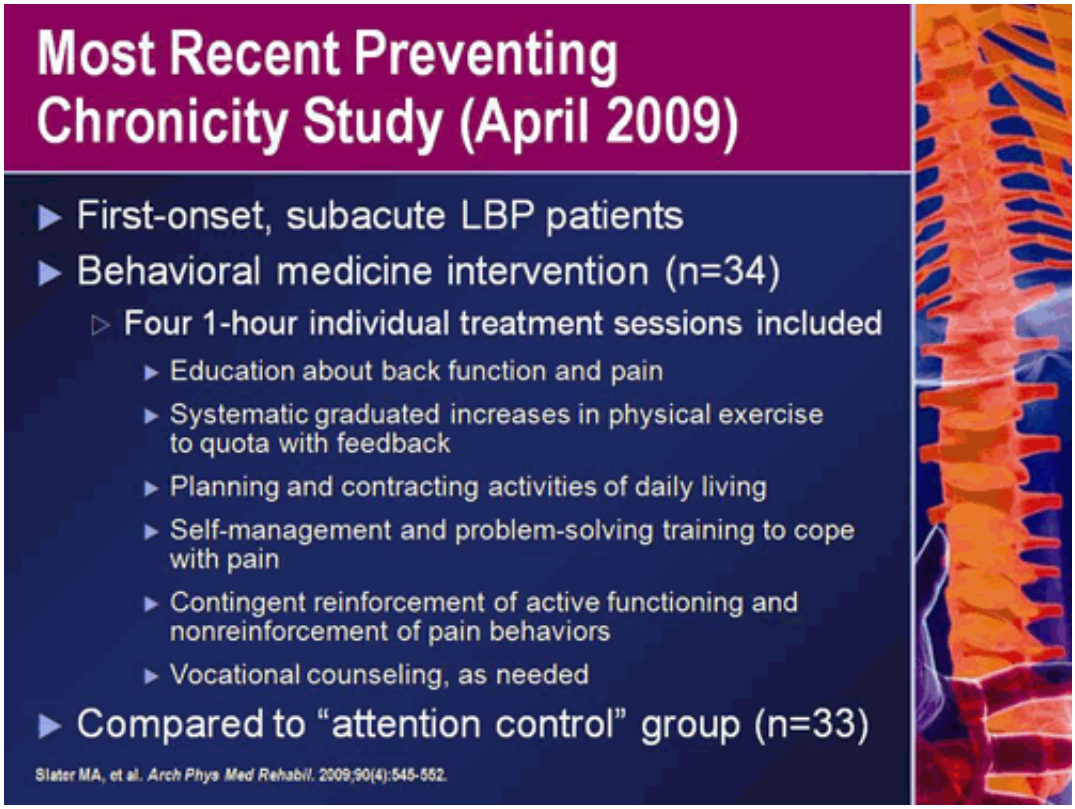


Slide 13.

And what you can see here is, here is the high-risk group, 22 patients that had the intervention, those 4 interventions I talked about. There's the high-risk-group that didn't get intervention, there's 48 there. Then, there's a low-risk group. So, they looked at how did they actually do? The percent return to work rate was much higher. Average number of disability days due to LBP, notice there are 102 days in the high-risk group that weren't

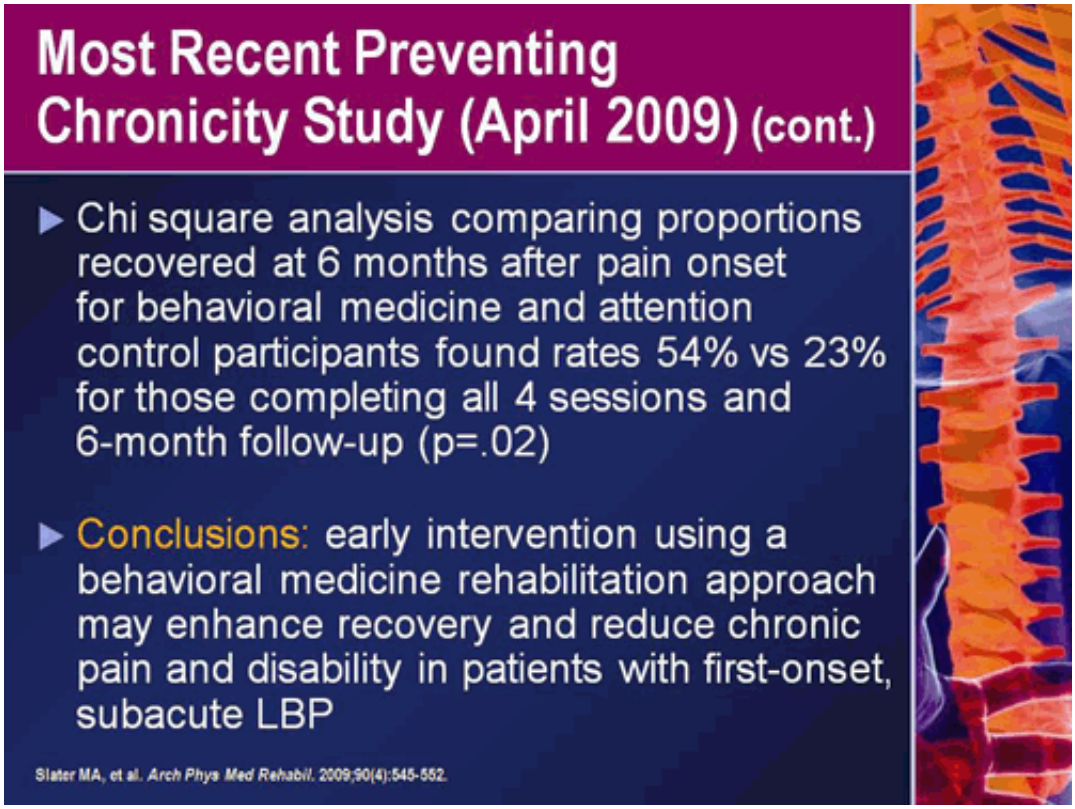
intervened, as opposed to 38 days. The pain levels, the amount of analgesias used, was much better by a recognition of what the pain level of the patients who were at a higher risk, and then doing some simple interventions.

I'll tell you, I'm in managed care. They would love to see this. They love seeing just if you can identify the people and then have some ideas. They're good to identify, but if you can't do anything, how's that going to help you? Well, you actually can do something that is fairly simple to do. Get them in a group, teach them about some body mechanics, get them moving, get them out of bed, and you know kind of like they did in Australia.



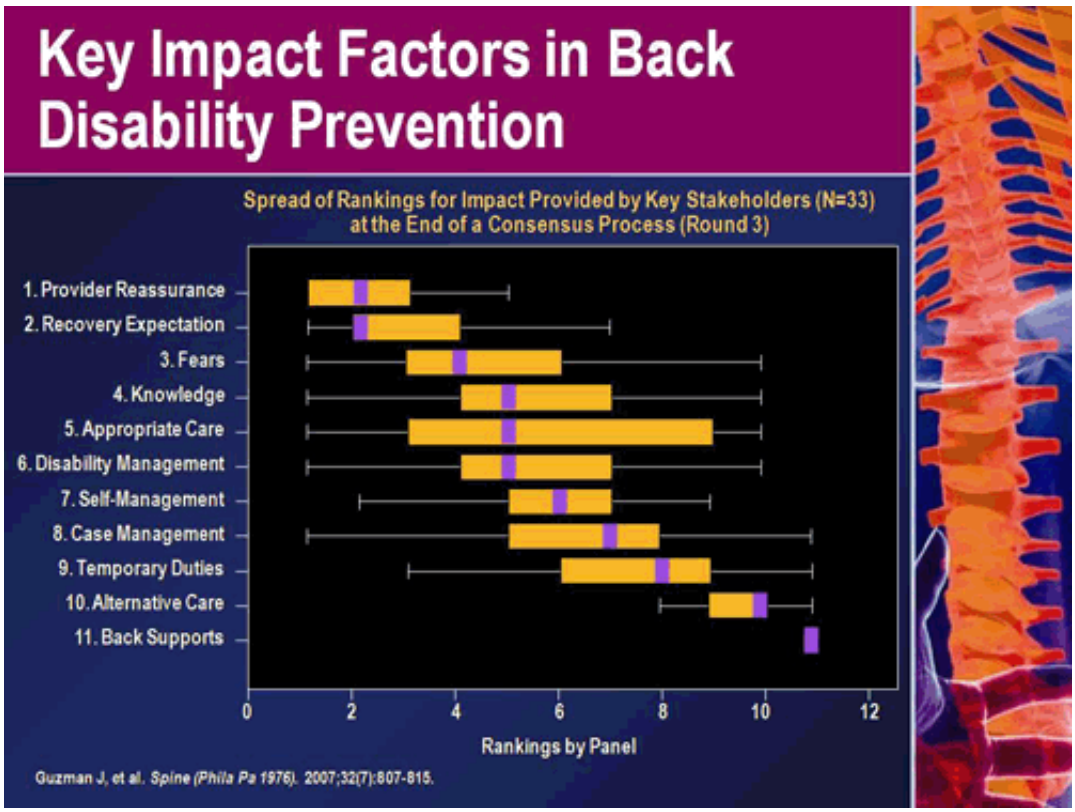
Slide 14.

This is another trial, the 2009 trial I am pointing out here. They saw them in an acute phase, did some behavioral intervention, four 1-hour sessions, fairly modest. Again, hard to do as an individual provider, but you certainly can do if you have a network around that you can refer people to. I just point out there what they did, and they compared them to an attention control group



Slide 15.

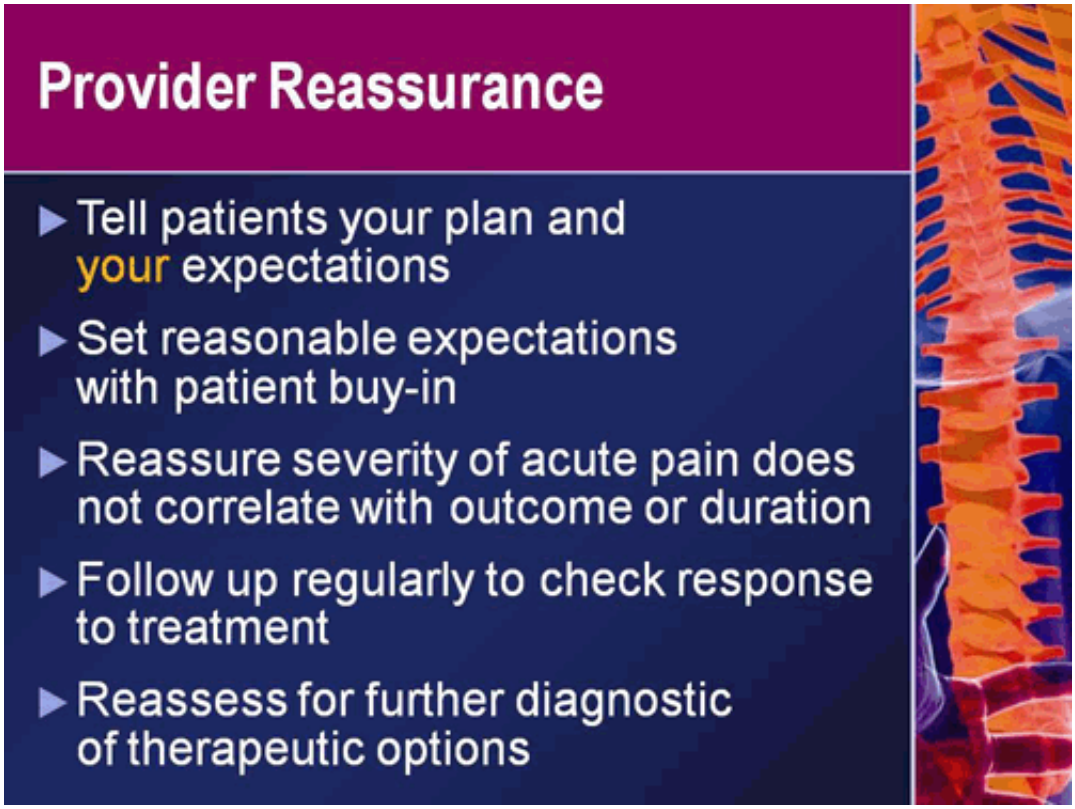
What they found is the disability rates were much less in the group that had some fairly simple interventions early on. So, it seems like early interventions, especially if you can predict in some way who the high-risk patients are, can make a difference, even at this first onset of the subacute. Remember that subacute was after 3 weeks to 3 months, and those would be the kind of patients you may see when primary care throws up their hands and says, "You know, *Vicodin* is not working, what are we going to do now?"



Slide 16.

This is an interesting study. They got a bunch of experts together and they asked them, "What do you think is most important?" Interestingly, provider reassurance, recovery expectation, identifying and dealing with fears and

fear avoidance were very, very high on the list of what you can do. And, I'll tell you, how many people can actually give some reassurance? I think we all can do that. Recovery expectation, telling patients, "This is going to take a while to get better. People can be 6 weeks before they get better with their pain, but almost everybody gets better. You need to stay active. I know it hurts when you get up. I don't care. Get up anyway. That's going to get you back to normal." Those are all things that you can do, especially by educating the appropriate providers, those first-line providers, because they see them first on. And, it was just seen here that back support was not particularly felt to be helpful here, whereas some easy things that we can do make a big difference.



Slide 17.

So, provider reassurance starts with understanding what the patient's needs are, what their catastrophizing category is, telling them what your expectation as a provider is. "I expect that you're going to be getting out of bed as soon as you can. I know it's going to hurt, but you need to stay active. Let me tell you why you need to stay active. Those little facet joints, when they become unloaded, they get weak, the muscles kind of break down, and if you do that, the body doesn't learn how to tolerate this new stress as it recovers. We need to have you up and around." So, you are just educating the patient on things that they can do and why you would want to do that.

I can point out here, follow up regularly. Certainly in my clinic, to see a person a week from today, I see them today, I need to see them a week from today, that's an add-on appointment. I don't want to add on anybody. That is just stress in my environment. So, what I say is, come back for my routine follow-up 6 weeks later. That is not good enough in this patient when they are right at the edge of becoming chronic because they are staying in bed too long. They have some inappropriate fears about what is happening and why their pain is worse. They are talking to their mother who tells them about her experience. If you don't get them and intervene early, you need to see them early so you can see what's happening to them. And then, when it's not progressing the way you want to, you can tell them, "No, no, I know it hurts. I want you up and moving around, let me tell you why." So, see them frequently, don't just give them a routine appointment because that's when they get into trouble.

Summary

Slide 18.

So, in summary, psychosocial aspects are vitally important in the premorbid before they come in. Depression, anxiety, and their own belief system play a big part, and if you can intervene, identify those and treat those appropriately. Look for those yellow flags when they're there. Know that if you get in and read Roger's article, it's a much more detailed report of this. Again, that was last month's *JAMA*, April 7 *JAMA* article, and it has a very extensive review of this. Multiple psychosocial and physical interventions are promising once you identify it. So, it's not just that you identify it and can't do anything about it. There are some things that you can do, nurturing that therapeutic interaction by seeing the patient frequently, because that's the only way you're going to make a difference so that you can make the person believe that you are on their side and you are going to get them back to work.

We hear all the time, "Oh people just want disability, you know they're trying to milk the system." I'll tell you almost every one of them would easily get back to the way they were before. They want to get back to work, they want to earn an income, and they want to have the social structure that they had before. And, they feel they can't do it because the pain, the depression, and the sleep disturbance gets involved in that. But, you can do something, especially if you catch them early, identify them when they come in and build up that bond, see them back, and get them on the right course to recovery by doing the right intervention. Thank you very much.

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

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