

Is Fear of Activity a Risk Factor for Chronic Pain? What Can Be Done About It?

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When patients are in pain, they typically worry that activity will cause more harm than good. However, overly rigid activity restrictions are responsible for promoting chronic pain behaviors and interfering with the recovery process. Frequently, advice such as, "Let pain be your guide," is given, which only reinforces attitudes and beliefs that foster pain-avoidance behavior and deconditioning.

In contrast, the idea that "hurt doesn't necessarily equal harm," and that rest is bad for tissues, has not received as much attention. A stepped-care approach involving incrementally more structured and comprehensive patient education is required to influence patient belief systems and concerns about activity. The goal is to modify patient health behavior in the direct of reactivation.

Fear-Avoidance Beliefs and Chronic, Disabling Pain

Patients at the greatest risk of developing chronic pain often have poorly developed coping skills.¹ They may tend to catastrophize their illness and feel there is nothing they can do. When patients fear pain or fear the worst possible outcome, they are less likely to resume activity or perform exercise.² It is easy for them to become dependent on manipulation, massage, medication, and various physical therapy modalities. A key to getting patients to become active in their own rehabilitation programs is to shift them from being pain avoiders to pain managers.³⁻⁵

The goal with fearful patients is to increase their confidence in normal activities and/or exercises.⁶⁻⁷ In cases of severely painful or unstable acute injury, it may be appropriate to equate hurt and harm, but in less severe cases, or certainly in the subacute or recovery phase, this should not be the case. In fact, the target of treatment may be the stiffness caused by a patient overprotecting himself or herself during the acute phase. Muscles and joints, which lose their mobility while the patient restricts activities during acute pain, should be expected to cause discomfort, and remobilizing them may hurt, but certainly won't harm. It is useful to explain to patients that their pain is due to dysfunction, not tissue damage or pathology (e.g., a herniated disc or arthritis).⁸⁻⁹

Step One: Brief educational approaches, including advice to gradually increase activity from a cognitive-behavioral (CB) perspective, for patients in the acute phase of a painful episode.

Offer reassurance that the condition is not precarious or fragile, and that prevention of deconditioning is good therapy, even if uncomfortable. Provide specific reactivation advice dealing with biomechanically appropriate modifications of activities of daily living, along with exercise instruction that focuses on training appropriate levels of fitness.

It has been shown how valuable appropriate patient advice can be,¹⁰ in particular, when it is given in a biopsychosocial context, which reduces pain-related anxiety and encourages patients to gradually resume normal activities.¹¹⁻¹⁵ Such advice focuses on the consequences of pain, such as

activity limitations, rather than the pain itself.

Techniques for motivating patients to resume activity include:

- collaboratively established functional goals;
- reassurance that the spine is not damaged;
- education that gradual reactivation will enhance recovery, whereas excessive rest will interfere with recovery;
- consistent verbal and written messages;
- making exercises simple enough to be done at home without significant equipment needs; and
- establishing realistic expectations, such as those that "flare-ups" are not unexpected nor do they suggest failure.

There are five fundamental things patients need reassurance about that should be addressed in the initial report of findings:

1. Reassure the patient that his or her pain is not due to a serious disease. This involves dispelling a very powerful myth in modern back pain culture that structural pathology is responsible for pain.
2. Explain that the most common cause for persistent pain is external load exceeding physical capacity or tolerance. This is typically due to deconditioning or lack of fitness, not injury or structural pathology.
3. Offer specific reactivation advice on how to modify activities so they are safer, along with exercise instruction, to prevent deconditioning and improve the back's fitness.
4. Give advice about pain relief options. While the key to reducing pain is to nourish the tissues through movement, sometimes, additional pain relief is necessary. Time-limited physical therapy, manipulation, and medications are all options.
5. Recognize patient worries and concerns, especially about how long pain may persist and its impact on his or her activities. It will be difficult to help the patient handle a back problem until his or her beliefs and emotions concerning this problem are identified and discussed. In fact, excessive fear-avoidance beliefs suggest the patient is at risk of a poor recovery and may require a more structured cognitive-behavioral approach.

Specific activity modification and reactivation advice is one of the most important aspects of patient education. The key is to reassure and reactivate the patient so that tissues are nourished and deconditioning is prevented. Topics to be discussed include:

- benefits and risks of rest vs. activity;
- how to perform microbreaks;
- typical morning tasks, such as washing, dressing, getting out of bed, etc.;
- household chores, such as laundering, cooking, ironing, carrying groceries, changing a baby, lifting;
- ergonomic workstation advice concerning chairs, keyboard height, monitors, document holders, headsets; and
- safety and benefits of general light activity, such as walking or swimming.

Reactivation should be gradual. Pain is not a good guide, as appropriate activities may be uncomfortable. Allowing pain to be a guide leads to activity avoidance and deconditioning. "No

pain, no gain" is also an inappropriate philosophy to observe, as it can lead to overstrain. Many patients who have trouble recovering either avoid activity entirely, or jump back in too aggressively, leading to a "boom or bust" cycle.¹⁶ The preferred approach involves pacing.¹⁷ This involves a gradual increase in activity that uses quotas, involves alternating periods of activity and rest, and is more likely to build a patient's confidence.¹⁷

Back-related worries and fears are perhaps the most important thing to identify in acute patients. Most patients recover, but those with significant worries require a unique approach to prevent disabling disuse atrophy. According to Balderson and Von Korff,¹⁸ simple, brief educational approaches are needed to address fear-avoidance beliefs and assure resumption of normal activities:

- two-thirds of patients have concerns that a wrong movement might cause a serious problem;
- one-half of patients believe avoiding certain movements is the safest way to prevent back pain from getting worse;
- to solicit patient worries, ask open-ended questions about their pain or activity concerns;
- explore these so you have a better understanding of your patients' concerns and motivations for avoidance behavior;
- inquire about common concerns;
- offer relevant information, individualized to unique patient needs;
- encourage further discussion to promote understanding and integration into the patient's personal belief system; and
- give written information for the patient to take home and share with family members.

Step Two: Offer a more structured approach, involving CB classes or sessions, addressing patients' worries and fears, teaching them simple, safe, and effective methods to reduce these apprehensions. Apply this to subacute patients at heightened risk of developing chronic pain (i.e., a high "yellow flags" score), or those in the chronic phase.¹

Subacute patients at risk of chronicity typically reduce their activities, due to the belief that their vulnerable tissues need more rest or are in danger of being harmed. At two months, 23 percent to 45 percent of low back pain subjects report doing no or less housework, decreased sexual activity, and difficulty standing or walking for short periods.¹⁹

According to Balderson and Von Korff,¹⁸ care may need to be "stepped up" for those patients who continue to have residual activity intolerances or have substantial fears and worries, as evidenced by a high "yellow flags" score. Such patients need a more structured intervention that involves CB classes and supervised "graded exposure" to feared activities, such as exercise. "Graded exposures" should be specific to the feared activity. Vlaeyen²⁰ documented the value of this approach; Goubert²¹ confirmed this was necessary, because effects of exposures to one movement don't necessarily translate to other dissimilar movements.

Cognitive-Behavioral Therapy

This CB approach is introduced with an explanation of the fear-avoidance model using the patient's own symptoms, beliefs and behaviors to illustrate the vicious circle. Reassurance by itself is not sufficient to help patients overcome their fears.¹⁷ Self-reassurance is required, so individually tailored practice tasks are designed. Patients select the activity they want to work on; they are given education and reassurance regarding that activity, and together, clinician and patient explore what is feared about the activity. Healthy behaviors are reinforced while pain behaviors (i.e., sighing, grimacing) are not.⁶ Reinforcement includes such things as attention or praise.⁶ The

specific reactivation goals the patient has helped to select are reviewed weekly. When progress is noted, it is important that it is not attributed to the clinician's intervention, but to the patient's efforts.¹⁷ Anderson suggested that supporting self-care of chronic illness through patient-entered approaches was more successful than physician-centered directive ones.²²

Highly specialized programs, including rehabilitative exercises and psychologically oriented classes, have been developed. The classes involve education about the psychology and neurophysiology of pain, followed by quota-based "graded-exposures" to their own feared movements or activities. The desired outcome is that the patient develops a personalized coping program. The program includes six two-hour sessions with a clinical psychologist, accompanied by rehabilitation. The class size ranges from six to 10 people and covers the following summarized material:

Cognitive-behavioral class topics/skills:

1. causes of pain and prevention of chronic problems - problem-solving, applied relaxation, learning and pain;
2. managing your pain - activities, maintaining daily routines, scheduling activities, relaxation training;
3. promoting good health, controlling stress at home and at work - warning signals, cognitive appraisal, beliefs;
4. adapting for leisure and work - communication skills, assertiveness, risk situations, applying relaxation;
5. controlling flare-ups - plan for coping with flare-up, coping skills review, applied relaxation, own program;
6. maintaining and improving results - risk analysis, plan for adherence, and own program finalized.

Linton^{23,24} found that nonresponsive patients, at six months, respond to such programs, and the effects are still present at one-year follow-up.

The Problem-Solving Approach

According to Shaw, et al.,^{25,26} it is important to address a chronic patient's problem-solving style, which has been shown to be correlated with increased disability. This involves:

- problem avoidance;
- lack of positive problem-solving orientation; and
- impulsive decision-making.

Van den Haut and others describe the following strategies for improving a patient's problem-solving ability - a record of coping attempts; brainstorming - "the more solutions, the better"; and focusing on the consequences of pain, not pain itself.²⁷⁻²⁹

The Neurophysiologic Approach

It is essential to validate chronic patients' pain experience. Even if structural pathology or injury does not explain the patient's pain, the pain is still real. Modern neurophysiology helps us explain our patients' chronic pain. A simple metaphor for discomfort in deconditioned tissues is to compare persistent pain in underused tissues to gardening after the winter, or hiking for the first time in years. "Rusty" tissues are expected to be uncomfortable, but not hazardous, therefore, reactivation

is safe - even if uncomfortable.

It is often difficult for chronic pain patients to understand that their spines are not damaged. One very simple explanation is that they have central sensitization. This is what causes phantom limb pain: It is the result of pain memory, not tissue damage. Basically, the nervous system has become habituated to pain - its threshold and tolerance has dropped, and now it responds to non-noxious stimuli as if it were injurious. The logical treatment is graded exposures to re-habituate those pathways. Janet Travell, White House physician to John F. Kennedy, said. "Tissues heal, but muscles learn. They readily develop habits of guarding that long outlast the source of the pain." When pain persists longer than it takes for an injury to heal (e.g., 8-12 weeks for a bone fracture), the pain threshold drops (allodynia) so that even non-noxious stimuli can elicit painful perceptions. Understanding this is essential to realizing that pain can be present that is not due to injured or damaged tissues, and thus, that hurt may not equal harm.

Step Three: a comprehensive, multidisciplinary biopsychosocial approach involving the above CB model, with strategies that address return-to-work obstacles (employer, compensation system, etc.) as well as comorbid psychological illness, to be used for chronic cases if the above strategies fail.

Multidisciplinary care (psychologist, pain management specialist, physical therapist) and workplace involvement are keys to success in these most complex cases. Patients with chronic problems of one year or more can respond to a more expensive and comprehensive multidisciplinary approach.³⁰⁻³¹

Marhold³² looked at the effects of CB therapy on the return to work (RTW) in those already on sick leave. This program involved six CB sessions plus six more on RTW issues. The one-year follow-up showed less days off work for those with short-term sick leave, but no improvement for those with long-term sick leave. Thus, it is better to prevent, rather than treat, chronic disability! Fortunately, only 10 percent of patients report ongoing work disability. Unfortunately, this group accounts for the majority of costs, and treatments are not as effective as for subacute or acute patients.

Summary

A report of findings that is patient-centered involves giving promising advice about how to return an individual to his or her chosen activities. Most patients prone to chronicity have significant fears and worries about their future capabilities. Such patients' concerns should be identified early on and addressed through reassuring reactivation advice. Ironically, treatments that create physician dependency and do not promote self-management skills undermine this goal.

References

1. Kendall NAS. Accident Rehabilitation and Compensation Insurance Corporation of New Zealand and the National Health Committee 1997. Wellington, NZ. Available from www.nhc.govt.nz.
2. Vlaeyen JWS. *Manual Therapy* 1999;4:187-195.
3. Liebenson CS. *Journal of Bodywork and Movement Therapies* 1999;3:143-146.
4. Troup JDG. *Physiotherapy* 1988;74: 435-439.
5. Roland M. *The Back Book*. The Stationary Office, London 1996.
6. Fordyce WE. *J Behav Med* 1986;9:127-40.
7. Klaber Moffett J. in Gifford L (ed). CNS Press, Cornwall, 2000.
8. Waddell G. *The Back Pain Revolution*. Churchill Livingstone, Edinburgh 1998.
9. Liebenson C. *Rehabilitation of the Spine: A Practitioner's Manual*. Liebenson C (ed). Williams and Wilkins, Baltimore 1996.

10. Burton K. *Spine* 1999;124:2484-2491.
11. Linton SL. *Pain* 1993;54:353-59.
12. Lindstrom A. *Physical Therapy* 1992;4:279-293.
13. Frost H. *Physiotherapy* 2000;86(6):285-293.
14. Klaber Moffet J. *British Medical Journal* 1999;319:279-283.
15. Malmivaara A. *N Engl J Med* 1995; 332:351-5.
16. Butler D, Moseley L. *Explain Pain*. Noigroup Publications, Adelaide, Australia, 2003.
17. Harding VR. Pain - Clinical updates. *International Association for the Study of Pain* 1998;6:1-4.
18. Balderson BHK. In Linton SL (ed). *New Avenues for the Prevention of Chronic Musculoskeletal Pain and Disability*. Elsevier, Amsterdam, 2002.
19. Moore JE. *Pain* 2000;88:145-53.
20. Vlaeyen JWS. *Behav Res Ther* 2001;39:151-166.
21. Goubert L. *Behav Res Thera* 2002;40:415-429.
22. Anderson RM. *Diabetes Care* 1995;18:412-415.
23. Linton SJ. *Spine* 2000;25:2825-31.
24. Linton SJ. *Pain* 2001; 90:83-90.
25. Shaw WS. *Disabil Rehabil* 2001;23:815-828.
26. Shaw WS, Feuerstein M, Huang GD. In Linton SL (ed). *New Avenues for the Prevention of Chronic Musculoskeletal Pain and Disability*. Elsevier, Amsterdam, 2002.
27. Aldrich S. *Behav Res Ther* 2000; 38:457-470.
28. Van den Hout JHC. *Physiotherapy* 1998; 84:167.
29. Van den Haut JHC In Linton SL (ed). *New Avenues for the Prevention of Chronic Musculoskeletal Pain and Disability*. Elsevier, Amsterdam, 2002.
30. Guzman J. *Br Med J* 2001;322:1511-1515.
31. Williams ACdeC. *Pain* 1999;83:57-65.
32. Marhold C. *Pain* 2001;91:155-163.

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OCTOBER 2003