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## What to Do about "Yellow Flags"

By Craig Liebenson, DC

On May 1-3, 2003, the World Federation of Chiropractic's 7th Biennial Congress will host a preeminent European leader in musculoskeletal medicine, Professor Stephen Linton. He is an expert in psychosocial aspects of back and neck pain patients, and has pioneered the identification of risk factors of chronicity and preemptive reactivation treatments with a cognitive-behavioral emphasis. This article will summarize the impact of psychosocial factors on prediction of patient prognosis, and how patients with such factors can be appropriately managed.

### **Epidemiologic Data Shows LBP Is More Chronic than Previously Believed**

- Did you know that 12 months after initial consultation for LBP the majority of patients have **not** recovered?
- Even though patients have stopped seeking care, this does not mean they are asymptomatic or fully functional.
- It is better to advise patients that LBP tends to recur, rather than build up expectations that it can be "fixed" or cured. Reassurance about the safety of reactivation and warnings about the dangers of deconditioning are recommended.

Source: Croft PR, Macfarlane GJ, Papageorgiou AC, Thomas E, Silman AJ. Outcome of low back pain in general practice: a prospective study. *BMJ* 1998;316:1356-1359.

### **What Are "Yellow Flags?"**

"Yellow flags" are risk factors associated with chronic pain or disability.<sup>1-6,9,20,21</sup> They are subjective and have a significant psychosocial predominance. Examples include negative coping strategies, poor self-efficacy beliefs, fear-avoidance behavior, and distress. Whereas "red flags" require urgent attention, further testing and possibly specialist referral, "yellow flags" only require a shift in the focus of care. Psychological screening via history taking has low sensitivity and predictive value for identifying distressed patients, thus formal screening of some sort, such as with a questionnaire, is recommended.<sup>7</sup>

According to Pinchus, et al.,<sup>8</sup> the risk of developing long-term LBP, related activity limitations (disability), and work loss arises from four main sources that interact with each other: the individual; treatment provider; compensation or health care system; and workplace or home environment.

Nonpsychological patient factors predictive of a slow recovery include duration of disability, heavy job demands, past history of frequent recurrences, and sciatica.<sup>1,2,6,8,12,13</sup> What treatment provider factors suggest a slower recovery? Thorough physical and functional examination **not** performed; report of findings **not** given; emphasis on **medication and passive care**; emphasis on pathology, disease, injury and the importance of "high-tech" testing; promotion that hurt equals harm; and the recommendation of bed rest, instead of promotion of activity modification and gradual exercise.<sup>14</sup>

Reis, et al., evaluated both the patients' and clinicians' perceptions of worry; coping; limitations; expectations of pain relief; and pain interference.<sup>15</sup> When evaluated individually, both patients' and clinicians' perceptions were found to predict outcome at two, four, eight and 12 months.

### **What to Do about "Yellow Flags"**

A patient with a high "yellow flags" score is either experiencing abnormal illness behavior or is at risk for it. Diagnosis should be oriented toward avoiding "labeling" the patient with an injured back (i.e., ruptured disc) or degenerative condition, since coincidental structural pathology is so common.<sup>16</sup> Treatment should reduce dependency on medication and other passive forms of treatment (including manipulation) and encourage the development of self-treatment skills. Surgical success rates in otherwise properly selected individuals are much lower in the presence of "yellow flags." In certain cases, specialist referral for behavioral medicine counseling regarding affective and cognitive issues is required. It is important to realize that "yellow flags" are not patients' fault, but they suggest that management strategies need to be altered to maximize the likelihood of recovery.

Ciccione and Just<sup>10</sup> showed that in susceptible individuals, there is discordance between pain expectancies and pain intensity with activity. However, these are unknown to the patients. To decrease fear-avoidance behavior, patients should be gradually and incrementally exposed to perceived painful activities. The clinician should guide and teach patients that their expectations are **not** accurate. In particular, reducing anxiety and pain expectations associated with the specific movements that the patient is most afraid of should become the goal of care.<sup>11</sup> As part of this process, operant-conditioning therapy involves "graded exposures" to a progressively greater duration, intensity and frequency of exercise. This is often referred to

as "exercise administered and progressed by quota." 17-19

**The "Yellow Flags" Scoring Questionnaire**

Name: \_\_\_\_\_

Primary complaint: \_\_\_\_\_

1. Please indicate your usual level of pain during the past week.  
No pain 0 1 2 3 4 5 6 7 8 9 10 Worst possible pain

2. Does pain, numbness, tingling or weakness extend into your leg (from the low back) and/or arm (from the neck)?  
None of the time 0 1 2 3 4 5 6 7 8 9 10 All of the time

3. How would you rate your general health?  
Poor 0 1 2 3 4 5 6 7 8 9 10 Excellent

4. If you had to spend the rest of your life with your condition as it is right now, how would you feel about it?  
Delighted 0 1 2 3 4 5 6 7 8 9 10 Terrible

5. How anxious (e.g., nervous, uptight, irritable, fearful, difficulty in concentrating or relaxing) have you been feeling during the past week?  
Not at all 0 1 2 3 4 5 6 7 8 9 10 Extremely anxious

6. How much you have been able to control (i.e., reduce/help) your pain/complaint on your own during the past week?  
I can reduce it 0 1 2 3 4 5 6 7 8 9 10 I can't reduce it at all

7. Please indicate how depressed (e.g., down-in-the-dumps, sad, disheartened, in low spirits, pessimistic, feelings of helplessness) you have been feeling in the past week.  
Not depressed at all 0 1 2 3 4 5 6 7 8 9 10 Extremely depressed

8. On a scale of zero to 10, how certain are you that you will be doing normal activities or working in six months?  
Very certain 0 1 2 3 4 5 6 7 8 9 10 Not certain at all

9. I can do light work for an hour:  
Completely agree 0 1 2 3 4 5 6 7 8 9 10 Completely disagree

10. I can sleep at night:  
Completely agree 0 1 2 3 4 5 6 7 8 9 10 Completely disagree

11. An increase in pain is an indication that I should stop what I am doing until the pain diminishes:  
Completely disagree 0 1 2 3 4 5 6 7 8 9 10 Completely agree

12. Physical activity makes my pain worse:  
Completely disagree 0 1 2 3 4 5 6 7 8 9 10 Completely agree

13. I should not do my normal activities, including work, with my present pain:  
Completely disagree 0 1 2 3 4 5 6 7 8 9 10 Completely agree

To score the form add up the numbers that are circled. Risk of chronicity is judged as follows: mild FHB (44 to 51); moderate FHB (52 to 71); and severe FHB (72).

The results of the "yellow flags" scoring instrument should be used for three purposes: to make an informed estimate on prognosis; to steer care toward the most appropriate sites, services, and to document patient progress with reliable outcomes (re-assess every 4-6 weeks).

Patient education should focus on the fact that normal activities can be resumed (such as walking, swimming, biking) safely while informing the patient about simple activity modifications to reduce biomechanical strain (i.e., hip hinge, cats, abdominal bracing). Patients should be advised to stay as active as possible; to gradually increase their physical activities; that it is safe to do so as long as the pain is not peripheralizing; and that hurt does not necessarily equal harm, but is just a sign they are mobilizing stiff areas.

### **Indahl's Long-Term Follow-Up Work Shows that Reassurance and Reactivation Are Key to Recovery!**

- Being too careful was emphasized as the worst form of self-treatment.
- Patients were instructed to take regular, brisk walks.
- Remaining in one rest position, lying, sitting or standing, was discouraged.
- Light stretching was recommended for acute "flare-ups" rather than rest.
- Patients were informed that anticipation of pain can increase muscle tension and perpetuate the pain.

*Source:* Indahl A, Haldorsen EH, Holm S, Reikeras O, Hursin H. Five-year follow-up study of a controlled clinical trial using light mobilization and an informative approach to low back pain. *Spine* 1998;23:2625-2630.

Such behavioral approaches utilize an educational discussion about recovery goals and the means to reach them. This can encompass McKenzie's centralization principles, stabilization's "neutral" postural awareness concepts, and an appreciation that hurt does not necessarily equal harm. A problem-solving approach can be utilized by teaching patients how to take an active role, reduce modifiable risk factors, and avoid impulsively seeking mainly symptomatic relief (Shaw, et al., 2001).

### *References*

1. Hazard RG, Haugh LD, Reid S, Preble JB, MacDonald L. Early prediction of chronic disability after occupational low back injury. *Spine* 1996;21:945-951.
2. Cherkin DC, Deyo RA, Street JH, Barlow W. Predicting poor outcomes for back pain seen in primary care using patients' own criteria. *Spine* 1996;21:2900-2907.
3. Linton SJ, Hallden BH. Can we screen for problematic back pain? A screening questionnaire for predicting outcome in acute and subacute back pain. *Clin J Pain* 1998;14;1-7.
4. Linton SJ, Hallden K. Risk factors and the natural course of acute and recurrent musculoskeletal pain: Developing a screening instrument. *Proceedings of the 8th World Congress on Pain, Progress in Pain Research and Management*, Vol 8, ed. Jensen TS, Turner JA, Wiesenfeld-Hallin Z, IASP Press, Seattle, 1997.
5. Kendall NAS, Linton SJ, Main CJ. Guide to assessing psychosocial yellow flags in acute low back pain: Risk factors for long-term disability and work loss. Accident Rehabilitation & Compensation Insurance Corporation of New Zealand and the National Health Committee 1997. Wellington, NZ. Available from [www.nhc.govt.nz](http://www.nhc.govt.nz).
6. Burton AK, Tillotson K, Main C, Hollis M. Psychosocial predictors of outcome in acute and sub-acute low back trouble. *Spine* 1995;20:722-8.
7. Grevitt M, Pande K, O'dowd J, Webb J. Do first impressions count? A comparison of subjective and psychologic assessment of spinal patients. *Eur Spine J* 1998;7:218-223.
8. Pincus T, Burton A, Vogel S, Field AP. A systematic review of psychological factors as predictors of chronicity/disability in prospective cohorts of low back pain. *Spine* 2002;27:E109-120.

9. Fransen M, Woodward M, Norton R, Coggan C, Dawe M, Sheridan N. Risk factors associated with the transition from acute to chronic occupational back pain. *Spine* 2002;27:92-98.
10. Ciccione DS, Just N. Pain expectancy and work disability in patients with acute and chronic pain: A test of the fear avoidance hypothesis. *Journal of Pain* 2001;2:181-194.
11. Van den Hout JHC, Vlaeyen JWS, Houben RMA, Soeters APM, Peters ML. The effects of failure feedback and pain-related fear on pain report, pain tolerance, and pain avoidance in chronic low back pain patients. *Pain* 2001;92:247-257.
12. Linton SJ. A review of psychological risk factors in back and neck pain. *Spine* 2000;25:1148-1156.
13. Liebenson CS, Yeomans SG. Yellow flags: Early identification of risk factors of chronicity in acute patients. *J Rehabil Outcomes Meas* 2000;4(2):31-40.
14. Linton SJ. The socioeconomic impact of chronic back pain: is anyone benefiting? Editorial. *Pain* 1998;75:163-168.
15. Reis S, Hermoni D, Borkan J, et al. The RAMBAM-Israeli Sentinel Practice Network. The LBP Patient Perception Scale. A new predictor of chronicity and other episode outcomes among primary care patients. (In preparation).
16. Bogduk N. What's in a name? The labeling of back pain. *Medical Journal of Australia* 2000;173:400-1.
17. Fordyce WE, Lansky D, Calshyn DA, Shelton JL, Stolov WC, Rock DL. Pain measurement and pain behavior. *Pain* 1984;18:53-69.
18. Frost H, Klaber Moffett JA, Moser JS, Faribank JCT. Randomized controlled trial for evaluation of fitness programme for patients with chronic low back pain. *British Medical Journal* 1995;310:151-154.
19. Lindstrom A, Ohlund C, Eek C, et al. Activation of subacute low back patients. *Physical Therapy* 1992;4:279-293.
20. Linton SJ, Buer N, Vlaeyen J, & Hellsing AL. Are fear-avoidance beliefs related to a new episode of back pain? A prospective study. *Psychology and Health* 2000;14:1051-1059.
21. Thomas E, Silman AJ, Croft PR, Papageorgiou AC, Jayson MIV, Macfarlane GJ. Predicting who develops chronic low back pain in primary care: a prospective study. *BMJ* 1999;318:1662-7.

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