

Risk Factors Predictive of Prolonged Occupational Disability

Clinical Pathway for Work-Related Injury



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Introduction

The intent of this clinical pathway is to assist clinicians to identify and treat those patients who may have specific “risk factors” for prolonged occupational disability. It is intended as an instructional tool. It is our hope that the evidence-based therapeutic options presented in the pathway will help reduce unnecessary suffering and prolonged occupational disability within the American workforce.

It should be noted that this clinical pathway is not intended to constitute inflexible treatment recommendations, and is not a scientific treatise on the subject. Modifications to the pathway will undoubtedly be necessary as a result of new research and practice-based evidence. For this reason it must be broad enough to incorporate a wide range of diagnostic and treatment modalities. This allows for philosophical and practice differences between the various licensed health care practitioners. It is not intended either to replace a clinician's judgment or to establish a protocol for all patients at risk for development of a chronic pain condition. It is expected that a provider will establish a plan of care based on an individual patient's needs, taking into account the individual's medical condition, personal needs, and preferences, as well as the provider's experience. Treatment may differ from that outlined here.

Working Group

Project Leader

Carol Wells-Federman MS, MEd, APRN BC

Working Group Panel

Kenneth A. Larsen, DMin, PhD

Robert D. Kerns, PhD

Carol Hartigan, MD

Scott Tromanhauser MD, MBA

Michael J. Shor, MPH.

Intended Users

Physicians and allied health professionals

Goals

This pathway will focus on recommendations health care providers can begin to consider in an effort to assure:

1. the work-injured are receiving high quality, evidence based therapeutics,
2. a reduction in the number of work injured who develop prolonged occupational disability.
3. a reduction in unnecessary costs associated with delayed recovery and inefficient resource utilization

Patient Population

Adult injured workers 18 years or older with or at risk for developing prolonged occupational disability.

Objectives

- To improve the clinical and financial outcomes associated with the work-injured with or at risk for developing prolonged occupational disability.
- To serve as an instructional aid for clinicians when treating injured workers with or "at risk" for developing prolonged occupational disability.
- To provide nurse advocates and physicians with information necessary to make recommendations about the medical necessity and clinical appropriateness of treatment.

The authors are confident that each recommendation if implemented with clear qualitative and quantitative goals and objectives will improve the quality of care available to the New England workforce and help create an evolutionary constructive dialog between those who pay for chronic pain care and those who provide clinical services.

Background

While most injured workers return to work quickly, a considerable number do not and sadly account for the majority of related costs. The total cost of disability, of course, goes far beyond financial to include the untold price paid by the injured worker, his or her family, employers, and society. Early identification of injured workers at risk for prolonged disability would help to target early intervention to promote return to work and normal or improved functioning.¹

Research in the area of prolonged disability has identified that psychosocial and behavioral factors are often the best predictors of chronicity, and that many of the learned behaviors apparent in chronic pain have their origin in the first few days and weeks of the problem. A number of studies propose that an intervention to prevent extended disability should be made within the first few weeks or months after an injury. Interventions, however, are not necessary for the majority of injured workers, as most will recover quickly with no specific intervention. Therefore, identifying "at risk" injured workers for prolonged disability is critical to targeted early treatment and improved outcome.

The model of Red Flags as signs of serious disease has been extended to the easily understood idea of **Yellow Flags** designating psychosocial and behavioral obstacles or co-morbid risk factors known to contribute to prolonged recovery or disability.² In addition, there are "risk factors" described in the literature that are associated with occupation and the health care system and they are briefly described. To minimize long-term disability and work loss, these barriers need to be addressed. And, importantly, addressing psychosocial, behavioral, occupational or health care system risk factors are not mutually exclusive with providing for the bio-medical needs of the work-injured.³

Consideration

It is important to recognize that the majority of research on risk factors for prolonged disability has focused mainly on worker characteristics. Characteristics of the worker's employer, family, health care interactions, and compensation systems that promote or hinder return to work and other activities after an injury need to be better studied. Factors such as availability of modified job duties (e.g., light duty, reduced hours) can be critical to improved outcomes. There is a great need for predictive and preventive models based on the interactions of worker, family, workplace, health care, and administrative factors. Such models are necessary to increase understanding of the transition from acute to chronic disability and to serve as the basis for customized disability prevention programs.²

1. Turner, J et.al. BMC Musculoskelet Disord. 2004; 5: 14. Published online 2004 May 24. doi: 10.1186/1471-2474-5-143.

2. Kendall NA, 1999.

The Challenges of Managing Chronic Pain and Disability in a Primary Care or Occupational Health Practice

Given the rather small number of pain specialists available combined with the high prevalence of chronic pain patients requires primary care and occupational health professionals to manage the majority of chronic pain conditions in the work-injured.

One of the more challenging issues facing primary care and occupational health professionals is when to refer to a pain specialist or pain clinic. The management of chronic pain can be particularly challenging due to several factors. First, there are significant time constraints in contemporary medical practice limiting the clinician's ability to adequately manage a chronic condition. Second, primary care professionals report that patients with chronic pain frequently have unrealistic expectations regarding outcome.⁴ Third is the understanding that even when referrals are made to pain specialists, patients continue to have pain when they return to primary care and the clinician may not have a full understanding of pain treatments that have been provided or recommended due to inadequacies in training on the subject.

Fortunately, there is a growing literature that can help to explain the complex pathology and basic physiology of chronic pain. Applying this basic understanding to the treatment of pain and addressing the psychosocial management of pain can bring an improved quality of life to those suffering from pain and disability.

In addition, primary care and occupational health professionals will benefit by forming collaborative relationships with pain and other specialists including physical and occupational therapists, mental health professionals and vocational or rehabilitation specialists. Also, clinicians can find educational resources related to pain management through several national organizations:

American Academy of Hospice and Palliative Medicine
<http://www.aahpm.org/>

American Academy of Neurology
<http://www.aan.com/professionals/>

American Academy of Pain Management
<http://aapainmanage.org/>

American Academy of Pain Medicine
<http://www.painmed.org>

American Academy of Physical Medicine and Rehabilitation
<http://www.aapmr.org/>

American Headache Society
<http://www.ahsnet.org/>

American Osteopathic Association
<http://www.do-online.osteotech.org>

3. Kendall NA, 1999.

4. American Pain Society.

Definitions

Addiction. A primary, chronic, neurobiological disease with genetic, psychosocial, and environmental factors influencing its development and manifestations.⁵ Addiction involves a compulsive desire to use a drug despite continued harm. Addiction should be differentiated from physical dependence, which is the state of adaptation manifested by a drug class-specific withdrawal syndrome that can be produced by abrupt cessation, rapid dose reduction, decreasing blood level of the drug, or administration of an antagonist. Tolerance is a state of adaptation in which exposure to a drug induces changes that result in a reduction of the drug's effects over time.

Anergia. A lack of energy.

Anhedonia. A psychological state that is distinguished by an inability to derive pleasure from normally pleasurable activities.

Catastrophizing. A style of extremely negative thinking about one's situation and the interpretation of even minor problems as catastrophes.⁶ This style of thinking appears to greatly influence pain and disability.

Cognitive-behavioral Therapy. A treatment that combines cognitive therapy techniques with behavioral techniques. It is used to help patients change their thinking and behaviors related to pain in order to increase coping and function and improve mood. Research on prevention of chronic disability in patients with acute low back and neck pain found that adding cognitive-behavioral intervention produced a significant preventive effect with regard to disability.⁷ In addition, cognitive-behavioral intervention and preventive physical therapy was found to enhance the prevention of long-term disability in those with acute low back pain.^{8,9}

Malingering. Is rare and implies a conscious, and deliberate fabrication of an illness or disability.¹⁰ Malingerers are often difficult to treat because of the incentives or secondary gain (e.g., monetary gain, work avoidance, or attempts to obtain drugs by prescription rather than illicitly). There is often underlying psychopathology and the primary treatment is psychiatric.

However, it is important to note that a differentiation must be made between malingering and magnification or exaggeration of symptoms.¹¹ Chronic pain patients may magnify or exaggerate symptoms for a variety of reasons. Some exaggerate symptoms in an effort to gain recognition of their pain, which often is not related to objective findings. The observation that a patient is magnifying symptoms should not invalidate the complaints. Instead, magnification of symptoms can provide the clinician with valuable information about the patient's awareness of his or her condition and psychological state.

Pseudoaddiction. Is an iatrogenic syndrome that appears to mimic behaviors that are commonly believed to be associated with addiction.¹² Addictive behaviors are said to be distinguished from pseudoaddiction when the behaviors resolve after treatment of pain.

5. APS Opiate Policy, 2004.

6. Turk DC & Okifuji A, 1998

7. Linton SJ, Ryberg M. 2001

8. Linton SJ, et al. 2005

9. Linton SJ, Andersson T. 2000

10. Pain assessment development project.

11. Rucker KS, West MD, 1998

12. Weissman DE, Haddox JD, 1998

Return-to-Work Rehabilitation. The physical restoration of a sick or disabled person by therapeutic measures and reeducation to participation in the activities of a normal life within the limitations of the person's physical disability.¹³

Secondary Gain. Interpersonal or social advantages gained indirectly from organic illness, such as an increase in attention from others.¹⁴

Somatization Disorder. A polysymptomatic disorder with generally early onset in life (before the age of 30).¹⁵ The disorder is characterized by a pattern of physical complaints (e.g., pain symptoms, gastrointestinal symptoms, sexual problems) that cause considerable social and occupational impairment.¹⁶

Somatoform Disorders. A disorder whose physical symptoms suggest a physical disorder for which there is evidence of underlying psychological mechanisms. "The symptoms must cause clinically significant distress or impairment in social, occupational, or other areas of functioning".¹⁷ The category includes somatization disorder, undifferentiated somatoform disorder, conversion disorder, pain disorder, hypochondriasis, body dysmorphic disorder and somatoform disorder not otherwise specified. In each of these symptom production is believed to be unintentional.¹⁸

Vocational Counseling. The process of obtaining information from and providing occupational information to an individual and assisting that person to understand vocational assets and liabilities in choosing a suitable occupation. Providing training in a specific trade with the aim of gaining employment.

13. Merriam-Webster's Medical Dictionary, © 2002 Merriam-Webster, Inc

14. The American Heritage® Stedman's Medical Dictionary, 2004

15. APA 1994

16. Aronoff GM 1998;17. DSM-IV 1994

18. Sullivan MD & Turk DC 2001

Overview of Yellow Flag Risk Factors

I. Major Yellow Flag Risk Factors

A. Fear-avoidance behavior (avoiding activity due to misplaced anticipation of pain) and reduced activity levels.

An exceptionally robust risk factor is "fear-avoidance behavior". This behavior results from the fear generated avoidance of certain activities or movements. The fear in turn is related to beliefs that physical activity may exacerbate the pain or cause (re)injury. Fear-avoidance beliefs and catastrophizing have been shown to be powerful cognitions in the process of developing chronic pain problems.¹⁹ Research suggests they play an active part in the transition from acute to chronic pain and clinical implications include screening and early intervention.^{20,21}

Research on low back pain found that fear-avoidance beliefs about work were significant predictors of 4-week disability and work status even after controlling for initial levels of pain intensity, physical impairment, and disability, and the type of therapy received.²²

B. Emotional stress (distress)

There is an extensive body of literature documenting that any stressor whether physical, psychological, social or spiritual can produce physiological effects.²³ It is now well recognized that pain, as a multidimensional experience, is both a physical and emotional (psychological) stressor. Like other stressors pain stimulates a pattern of neural and endocrine activation and behavioral changes that are mediated by the central nervous system. This is commonly referred to as the stress-regulation system. This activation initiates a cascade of physiologic changes including increased heart rate, respiratory rate, blood pressure, and muscle tension; psychological changes that include fear, depression, and anxiety and behavioral changes such as sleep disturbance, excessive use of alcohol or tobacco and activity intolerance to name just a few. Conversely, if other stressors such as job loss, financial concerns, or marital problems are present, the experience of pain is modulated by their influence on the stress-regulation system.

Pain is modulated by both sensory inputs and cognitive events. This highlights the importance of a comprehensive multidimensional assessment and a treatment plan that addresses physical, behavioral, spiritual, and emotional needs. For example, in the context of a work-related injury and pain, it is important to know that the stress effects of the injury can vary in severity and pattern as a function of other stresses such as loss of employment, self-esteem, finances and other markers of personal security. A study of workers with musculoskeletal injuries found that greater psychological distress, as measured by a widely used standardized questionnaire, predicted significantly later return to work.²⁴ Also the relationship of anxiety, fear, depression, and psychological stress is supported by a number of well-conducted studies on pain demonstrating that this is indeed a complex, multidimensional problem.²⁵

19. Vlaeyen JW, Linton SJ. 2000

20. Buer N, Linton SJ 2002

21. Fritz JN et al. 2001

22. Buer N, Linton SJ 2002

23. Wells-Federman, CL & Mandel, C.L. 2002

24. Crook J et al. 1998

25. Linton SJ 1999

In addition, it has been shown that prolonged activation of the stress-regulation systems (the musculoskeletal system (MSS), the autonomic nervous system (ANS) and the psychoneuroendocrine system (PNE)) may damage muscle, bone and nerve tissue. This, in turn, may set the stage for chronic pain conditions such as osteoporosis, fibromyalgia, and complex regional pain syndrome to name a few.²⁶

C. Older age

Most, but not all studies have found older age predictive of prolonged disability.²⁷ Inconsistent outcomes may be a result of such factors as injury severity, physical functioning, and degree of employer support in providing flexibility in work demands as well as poor study design and small sample size.

Issues that may contribute to older workers' poorer outcomes include difficulty recovering from injuries and the fact that older workers may be less likely to find different jobs if they are unable to return to the job they held. Also, it is possible that workers close to retirement age may lack incentives for returning to work.

D. Greater baseline pain and functional disability

Among studies of both back injuries and mixed injuries, greater self-reported pain and functional disability at baseline consistently predicted prolonged disability.²⁸ Also, the greater number of pain sites, observed pain behaviors and functional disability predicted longer disability.

II. Moderate Yellow Flag Risk Factors

A. Behavioral Risk Factors

1. Obesity

Weight is associated with co-morbid disability, depression, reduced quality of life, and physical function in those patients with chronic pain.^{29,30} For patients with low back pain studies have identified the probability that the abnormal mechanical loads placed on the spine of obese individuals increase the risk of back disorders, obese patients become more disabled overall, have more severe back pain symptoms and will have more co-morbidities complicating their recovery. In addition, without treatment of the obesity, an increased Body Mass Index (BMI) will impair functioning even after successful spine intervention.³¹

2. Smoking

Research has identified trends between increased smoking level and long-term disability for persons with knee injuries, rotator cuff injuries, and intervertebral disc displacement. In proportional hazards models, disability was significantly associated with heavy smoking among all subjects. Both heavy smokers and light to moderate smokers were at greater risk for disability following meniscal injuries.³² Cigarette smoking is associated with overall health risk, delayed wound healing, and nonunion of fractures as well as decreased rates of spinal fusion.³³

26. Melzack R 1999

27. Turner J et al. 2004;28. Turner J et al. 2004

29. Fanuele J, 2002

30. Fayad F, 2004

31. Fanuele J 2002

32. Lincoln AE 2003

33. Vogt M 2002

3. Alcohol and/or drug abuse

Alcohol is commonly overlooked as a risk factor and a cause of problems in the management of pain. Therefore, consumption should be a routine part of the assessment of patients in pain.³⁴ Some patients may attempt to use alcohol to self-medicate to treat pain, sleep disturbance, depression, anxiety or panic disorders.

4. Drug abuse is often a confusing assessment for clinicians treating patients with pain. When assessing drug use, clinicians must be familiar with the terminology. One of the most confusing distinctions is between physical dependence, which is a pharmacological feature of many drugs, and addiction, which is a biobehavioral syndrome evidenced by an person's interaction with a drug.^{35, 36} Fear and desperation in the patient seeking relief and poor understanding of drug actions can often lead to improper drug use or drug misuse in the pain patient. Cultural factors also figure in this and it is imperative to do a thoughtful history and evaluation.

B. Psychosocial Risk Factors

Pain and injury often affect many psychological and social aspects in a patient's life. Research consistently demonstrates an association between psychological disorders and occurrence of pain and disability behavior, but there is limited support for a causal relationship. If there is an underlying relationship, the literature suggests that individual differences play a part and therefore thorough assessment of physical and emotional functioning should be included in a comprehensive pain evaluation.³⁷

Patients are often angry about their situation (e.g., the diagnosis of a work-related injury), or angry with the clinicians who are unable to "cure" the problem. They may be angry with an employer, and/or angry with themselves for not getting better or being able to return to work or for not being able to "handle" pain. Patients may feel depressed or anxious about continued pain and disability. Some may have grief reactions when they are informed that their pain and disability is not curable.

1. Depression & Anxiety

Patients frequently express depressive mood, including feelings of worthlessness, bad temper, and self-criticism. Suicidal ideation is quite common in patients with chronic pain conditions.^{38,39} Every patient should be assessed for suicidal ideation and it should be addressed immediately.

The relationship of anxiety with chronic pain is well recognized both as a contributor to symptoms and a result of acute pain, persistent pain, and related disability.⁴⁰

34. Haddox JD 1998

35. Haddox JD 1998

36. Savage S et al. 2001

37. Kulich RJ & Baker WK 1998

38. Haddox JD 1998

39. Menefee LA, Katz NP 2003

40. Kulich RJ & Baker WK 1998

2. Psychiatric disorders and pain

Patients with psychiatric disorders are also affected by work-injury and pain. Furthermore, selected psychiatric disorders are found in greater prevalence in persons with chronic illnesses.⁴¹ There are psychiatric disorders that have abnormal illness behavior as a primary trait and are therefore more likely to present in medical settings. For example, somatization disorder is characterized by a pattern of physical complaints (e.g., pain symptoms, gastrointestinal symptoms, sexual problems) that cause considerable social and occupational impairment.⁴² Although the presence of unexplained somatic symptoms is common, somatization disorder is rare.⁴³

Somatoform disorders are those disorders where physical symptoms suggest a physical disorder for which there is confirmation of underlying psychopathology but no evidence of demonstrable organic disease.⁴⁴ "The symptoms must cause clinically significant distress or impairment in social, occupational, or other areas of functioning."⁴⁵

In each of these symptom production is believed to be unintentional. Most importantly, care should be taken before labeling patients with somatoform disorder or as "somatizers" because of current limitations of diagnostic testing and disease criteria.⁴⁶ However, if significant impairment is suspected a referral for psychiatric consultation may be warranted in order to provide for more appropriate and comprehensive care.

3. History of physical trauma &/or emotional abuse or sexual assault.

There is increasing consideration for the assessment of sexual assault and physical or emotional trauma with regard to chronic pain and disability.⁴⁷ Data suggest a higher proportion of sexual abuse is found in chronic pain populations than in the general population, although a causal link has not been demonstrated.⁴⁸ Case reports suggest that the effects of a history of abuse or trauma may predict a difficult treatment course and poor outcome. There appears to be support for adequate evaluation and appropriate psychotherapeutic treatment of individuals with this history in order to reduce suffering and differentiate past trauma from present work related trauma or procedure, and improve outcome.

4. Spouse, Family and Cultural Factors

Pain and behavioral experts have documented the role of the "significant other" in the assessment of chronic pain.^{49,50,51} Investigators have found that the presence of an overprotective, over solicitous spouse will increase a patient's overt pain behavior.⁵²

One recently conducted study looked at the possible differences in the role of the oversolicitous spouse between men and women with chronic pain.⁵³ The research team examined pain reports, medication use, psychosocial factors, functional measures, and pain tolerance in patients with chronic pain. Subjects included 114 female and 213 male chronic pain patients, who described their spouses as either high or low in solicitousness on the Multidimensional Pain Inventory (MPI). Measures of pain severity, affective distress, physical function, medication use, and pain tolerance were examined in women and men with high versus low scores on spousal solicitousness. The investigators found that among males only, high spousal

41. Sullivan & Turk, 2001

42. Kulich RJ & Baker WK 1998

43. Sullivan & Turk 2001

44. Aronoff G 1998

45. APA 1994

46. Sullivan & Turk 2001

47. Kulich RJ & Baker WK 1998

48. Linton SJ 1997

49. Von Korff M et al. 1990

50. Block AR et al. 1980

51. Saarijarvi S et al 1990

52. Block AR et al. 1980

53. Filigim B et al. 2003

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solicitousness was associated with greater numerical ratings of pain and greater self-reported disability compared with patients with low solicitous spouses. Interestingly, when the researchers looked at actual functioning, the men did not differ from those men who did not describe their wives as solicitous. In other words while the men reported they were doing worse, they were not. For women, the situation was entirely different. Those with solicitous husbands did not report significantly more pain or disability – but their actual physical functioning was poorer. It took them longer to walk and they were able to lift and carry less weight. Also, their actual pain tolerance was lower than the other women's. A husband's support was evident in another important way: One-half of women who described their husbands as highly solicitous were on medication, but only 25% of those who described their husbands as less solicitous were on pain medications. In both women and men, spousal solicitousness was associated with higher scores on the MPI pain severity scale. Individuals may need assistance in learning the most effective ways to help a significant other with chronic pain and disability.

The entire family system is affected when one member is incapable of functioning in his or her usual role. Kerns and colleagues illustrate ways in which family members or friends may react to exacerbations of pain.⁵⁴ Family members or friends may respond in a solicitous manner, reacting with attention and encouraging relief from typical demands and responsibilities. The family member may respond in a punishing manner, implying that the individual with pain could or should be accomplishing more. Or family members may respond by encouraging the individual to use distraction from the painful exacerbation.

Persons with pain may not be able to perform in the roles they identify as essential to their definition of themselves as mothers, fathers, or members of a family. For example, a mother may not be able to spend long periods of time preparing meals for her family or participating in activities with her children. These activities may be an important part of how she defines her role as a mother. Families may need support in looking at ways to change roles and learn to interact with a chronically ill person on a long-term basis.

A number of researchers have illustrated examples of ethno-cultural differences in pain coping styles that may influence report of pain and subsequent disability. For example, it has been observed that coping strategies such as social support and religious belief are particularly significant for African-Americans and it is possible that these coping styles may have an impact on the pain experience.^{55,56} In a study of pain coping among patients with rheumatoid arthritis, it was noted that there were ethnic differences in the use of pain coping strategies although there were no ethnic differences in pain reported.⁵⁷ Caucasians with rheumatoid arthritis reported a higher use of ignoring pain and coping statements and a greater perceived ability to control pain while African-Americans reported significantly greater use of distraction and praying/hoping.

54. Kerns R et al. 1985

55. McNeilly et al. 1995

56. Clark et al. 1999

57. Jordan et al 1998

58. Bates, 1996

Ethnic factors may have a significant influence on how pain is assessed and responded to emotionally and behaviorally. The meaning of pain (e.g. pain as retribution vs. pain as something to be mastered) can be influenced by sociocultural factors related to ethnic background.⁵⁸ These appraisals, in turn, can influence pain-related emotional responses (e.g. depression, guilt, anger) and behavioral responses (e.g. the decision to seek treatment, fear-avoidance behavior, adherence to treatment regimens).

A clinician's cultural, gender, and experience bias may make it difficult to empathize with the individual who continually complains of pain and may, therefore, influence the treatment plan. For example, there is evidence that some of the barriers to appropriate prescribing even in acute and cancer pain are associated with gender and cultural bias. In a study of patient-controlled analgesia orders, it was demonstrated that orders were written with a hierarchy in the amount of medication prescribed.⁵⁹ Women received less medication in their orders than men, whites were ordered more than Hispanics, and blacks more than Asian or Hispanic patients. This was in spite of the fact that when the actual amount of medication taken was calculated, there was no difference in use among the cultures or genders represented. It is important to remember that there is no objective measure of a person's pain or suffering and biases should be considered when there is a failure to take the pain at the patient's word.

C. Occupational Risk Factors

1. Occupation

Occupation has been found to be a significant predictor associated with work disability.⁶⁰ For example, construction workers have been shown to have longer duration of disability. Studies related to the physical demands of jobs as a risk factor are mixed. In one study of workers with low back injuries, there was a positive relationship between the length of disability and bending, lifting heavy objects and pushing or pulling heavy objects, after controlling for demographic, injury-related, and other job-related characteristics.⁶¹ One of the highest risk factors for repeat back injury is a history of prior back injury.⁶²

2. Workers Compensation

Work-related injuries are difficult for individuals who have considered themselves valued employees and now find themselves consigned to disability status. The consequent loss of work, sense of purpose, and financial compensation creates stress for both the work-injured and the family.⁶³

Often when Workers Compensation is involved, individuals are repeatedly asked to confirm they are disabled (i.e., that the pain is "real") and to undergo Independent Medical Exams (IMEs) to review and validate whether they are receiving appropriate treatment. When the injured worker does not feel believed by his/her employer or coworkers this puts an additional stressor on an already difficult situation and can increase the risk of prolonged disability. The individual may be accused of faking an injury or illness for the purpose of personal gain such as for time off or for financial gain (malingering).

59. Ng B et al. 1996

60. Turner, J et al. 2000

61. Dasinger L et al. 2000

62. Aronoff GM & Dupuy DN 1998

63. Menefee LA, Katz NP 2003

Despite the complexities and sometimes-adversarial course of Workers Compensation, the existence of Workers Compensation or litigation does not mean the patient does not want to recover and return to work. It is most important for clinicians to work to form a therapeutic bond. The therapeutic effects of listening, respecting and validating the difficulty of living with pain should not be underestimated.

3. Firm size

Some studies, but not all, found that workers in larger firms had better outcomes than did those in smaller companies.⁶⁴ Smaller companies may have fewer resources for employing specialists in disability management, be less able to offer injured workers different jobs or job modifications to promote return to work, and have less incentive to shorten claims than larger firms.

4. Employer Support

The availability of a modified job or workplace accommodation may be an important factor in facilitating return to work.^{65, 66} There is also evidence that suggests that job modifications may be particularly critical for those workers whose pain is not improving. Conversely, when an employer ignores or is antagonistic toward the injured worker there is a greater likelihood of a negative outcome.

5. Litigation and Financial Gain

The association linking litigation and distress remains difficult to assess.⁶⁷ Interpretations about conscious embellishment of illness cannot be drawn from studies to date. Actually, the sometimes-adversarial process of sustaining an injury at work is itself a precipitant of distress, with distress in turn contributing to pain and disability.

A diagnosis of malingering, the conscious feigning of symptoms, usually for financial gain is rare and remains difficult to support.⁶⁸ Clinicians often rely on observational data as a primary source of support for conclusions. Consistency of self-report can be a function of anxiety, somatic concern, or operant factors that affect behavior making it difficult to use this information to support such a diagnosis. Clinicians should use other sources of data such as reports of significant other and family members, the patient's history, and history of inconsistencies or lack of reliable information from the patient's reports. Most importantly clinicians should work to form a therapeutic bond through careful listening, respect, and validation of the patient's experience.

6. Compensation System

Certainly those with legitimate painful injuries should be compensated appropriately for pain and suffering. But there needs to be an alternative to the current system that rewards individuals for remaining off the job rather than on the job (modified).⁶⁹ Prevention, early intervention and prevention of chronicity with incentives toward rehabilitation and early return to work must be addressed by the compensation, disability and health care systems working together.

64. Cheadle et al., 1994

65. Crook et al., 1998

66. Hogg-Johnson and Cole, 1998; Kulich RJ & Baker WK 1998

68. Ruck, Aronoff GM & Dupuy DN 1998

69. Aronoff GM & Dupuy DN 1998

D. Health Care System Risk Factors

1. Learned helplessness

Learned helplessness is a laboratory model of depression in which exposure to a series of unforeseen adverse situations gives rise to a sense of helplessness or an inability to cope with or devise ways to escape such situations, even when escape is possible.⁷⁰ In terms of pain and disability most patients will either live up to the clinician's expectations that they can get on with their lives in spite of the pain and injury or they can become unnecessarily disabled through a process of learned helplessness.

As patient advocates, clinicians must be careful to address learned helplessness by doing everything they can to encourage rehabilitation, not disability.⁷¹ It has been shown that patients with a work injury are more likely to return to work, remain at work, and use fewer health care resources when they are told at the beginning of a rehabilitation treatment program that they are expected to return to work after program completion (despite residual pain).⁷² The belief system of the clinician may be an important determining factor in whether patients are disabled or successfully rehabilitated.

Recognition of maladaptive behaviors such as learned helplessness and cognitive distortions such as catastrophizing followed by referral to a cognitive-behavioral return-to-work rehabilitation based program with an expectation that the patient can be helped to live a quality of life in spite of the pain and injury will help reduce long-term disability.

Assessing and Treating Yellow Flag Risk Factors

How to Judge if a Person is at Risk

A person may be at risk if:

- there are a few very significant factors (Major Yellow Flag Risk Factors)
- there is a cumulative set of several less important factors (Moderate Yellow Flag Risk Factors)

It is important to remember that risk factors are often interrelated. This requires clinicians to use caution in treating them as if they were separate entities.⁷³ For example, certain risk factors may appear on the surface to be modifiable while complicating factors may in fact make them more difficult to address.⁷⁴ Take, for instance, functional disability. On the surface this appears to be a risk factor that could be improved by physical therapy. However, if there are other risk factors such as older age, emotional distress, and high job dissatisfaction that are contributing to the disability, then treatment will be inadequate if it does not attend to these underlying issues.

Because of the high co-morbidity associated with chronic pain and disability, it is beneficial for clinicians to develop a collaborative approach to treatment. Early referral to multidisciplinary treatments such as vocational counseling, return-to-work rehabilitation, and/or cognitive-behavioral and preventive physical therapy intervention can be the key to addressing multiple risk factors and reducing long-term disability.

70. Seligman ME et al. 1980

71. Aronoff GM & Dupuy DN 1998

72. Catchlove & Cohen 1982

73. Boersma K & Linton SJ 2005

Prolonged Occupational Disability

Major Recommendations

Initial Evaluation should include pain as well as behavioral and psychosocial risk factors. Suggested tools are:

a. Pain Assessment

Detailed Pain History	Psychosocial Assessment	Physical Examination and Diagnostic Tests	Ongoing Reassessments
<ul style="list-style-type: none"> Onset and temporal pattern Description Location Intensity/severity Aggravating and relieving factors Previous and current treatments and effectiveness (Pharmacologic and nonpharmacologic) Effects of pain on function 	<ul style="list-style-type: none"> Effects of the pain problem and/or the chronic illness on the patient and the family caregiver Meaning of the pain to the patient and the family caregiver Significant past experiences with pain Changes in mood Typical coping responses to stress or pain Expectations regarding pain management Concerns about using opioid analgesics Economic impact of pain and its treatment Evaluation of support systems 	<ul style="list-style-type: none"> Examine the site of the pain and evaluate common referral patterns Perform pertinent portions of the neurological examination depending on the pain complaint Perform appropriate diagnostic tests to facilitate the diagnosis of the cause of the pain (may need to give analgesics to facilitate the diagnostic workup) 	<ul style="list-style-type: none"> Use valid and reliable tools Perform the reassessments at appropriate intervals Document reassessment (pain intensity, extent to which pain interferes with function, pain relief is a distinct parameter from pain assessment, level of adherence with the pain management plan)

Modified from Miaskowski C, Cleart J, Burney R, Coyne P, Grossman S, Janjan N, Finley R, Foster R, Ray J, Syrjala K, Weisman S, and Zahbock C (2005). Guideline for the Management of Center Pain in Adults and Children, APS Clinical Guidelines Series, No.3 Glenview, IL: American Pain Society, with permission from American Pain Society.

b. Psychosocial and Behavioral Risk Assessment

Orebro Musculoskeletal Pain Screening Questionnaire (OMPQ) (Modified)

(Linton & Hallden, 1996)

1. What year were you born? _____

2. Are you: male female

3. Where do you have pain? Place a check for all appropriate sites.

arm shoulder face neck leg
upper back lower back head chest abdomen

4. How many days of work have you missed because of pain during the past 18 months? *Tick one*

0 days [1] 1-2 days [2] 3-7 days [3] 8-14 days [4] 15-30 days [5]
1 month [6] 2 months [7] 3-6 months [8] 6-12 months [9] over 1 year [10]

5. How long have you had your current pain problem? *Tick one*

0-1 weeks [1] 1-2 weeks [2] 3-4 weeks [3] 4-5 weeks [4] 6-8 weeks [5]
9-11 weeks [6] 3-6 months [7] 6-9 months [8] 9-12 months [9] over 1 year [10]

Prolonged Occupational Disability

Here is a list of 5 activities. Please circle the one number that best describes your current ability to participate in each of these activities.

19. I can do light work for an hour.

0 1 2 3 4 5 6 7 8 9 10

Can't do it because

Can do it without pain of pain problem being a problem

20. I can walk for an hour.

0 1 2 3 4 5 6 7 8 9 10

Can't do it because

Can do it without pain of pain problem being a problem

21. I can do ordinary household chores.

0 1 2 3 4 5 6 7 8 9 10

Can't do it because

Can do it without pain of pain problem being a problem

22. I can go shopping.

0 1 2 3 4 5 6 7 8 9 10

Can't do it because

Can do it without pain of pain problem being a problem

23. I can sleep at night.

0 1 2 3 4 5 6 7 8 9 10

Can't do it because

Can do it without pain of pain problem being a problem

Thank you for your cooperation!

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Research on the Orebro Musculoskeletal Pain Screening Questionnaire suggests that the instrument is of value in isolating patients in need of early interventions and can help promote the use of appropriate treatment for patients with psychological risk factors. Investigators found that the total score was a relatively good predictor of future absenteeism due to sickness as well as function, but not of pain.⁷⁵ Further investigation utilizing the questionnaire revealed that **fear-avoidance and distress** are important factors in the development of pain-related disability and may serve as a key for early identification. Providing interventions specific to the factors isolated in the profiles should enhance the prevention of persistent pain and disability.⁷⁶

Please refer to Addendum A Page 25 for scoring instructions and explanatory notes on the Orebro Musculoskeletal Pain Questionnaire.

Additional screening tools for specific risk factors are included below.

Treating Major Yellow Flag Risk Factors

- Fear-avoidance behavior (avoiding activity due to misplaced anticipation of pain) and reduced activity levels.
- Emotional stress (distress)
- Older age
- Greater baseline pain and functional disability

Early referral to vocational counseling, return-to-work focused rehabilitation, and/or cognitive-behavioral and preventive physical therapy intervention can be the key to reducing long-term disability for patients with these major risk factors.^{77, 78}

75. Boersma K & Linton SJ 2005

76. Turner J et al. 2000

77. Marhold C, Linton SJ, Melin L 2001

78. Linton SJ 2005

Treating Moderate Yellow Flag Risk Factors:

1. Overweight individuals (BMI 25.0-29.9)⁷⁹:

Additional Assessment for overweight individuals:

Diet: Preferably dietary assessment should be carried out by referral to a registered dietitian. If not practical, there are several brief tools, such as the MEDFACTS Dietary Assessment Questionnaire (see resources), which can give some quick insight into the patient's dietary patterns.

Physical activity: Physical activity can be quickly assessed by a number of questionnaires including the Self-Administered 7-day Physical Activity Recall Questionnaire. (See resources).

Emotional status: Epidemiologic data suggest an association between obesity and depression.^{80,81} Therefore, screening for depressive symptoms may be important in overweight individuals. Consider a screening tool such as the Beck Depression Inventory for Primary Care (BDI-PC). This is a self-administered questionnaire that helps to identify depressive symptoms (see resources). Another useful screening tool is the Battery for Health Improvement (BHI) that includes both psychological and functional scales (see resources).

A positive screen for depression should prompt referral for further evaluation and diagnostic interview with a psychologist, psychiatrist or other qualified mental health practitioner. (see Assessing and Treating Psychological Risk Factors below).

Assess Readiness to change:

The Transtheoretical Model is an integrative model of behavior change. The model describes how health professionals can assist people modify a problem behavior or acquire a positive behavior.^{82,83,84} The central organizing construct of the model is the Stages of Change where change is a process involving progress through a series of stages. Below is an example of the Stages of Change applied to assessment for weight loss and suggested intervention based upon the stage:

79. Marcus DA. 2004

80. Simon GE et al. 2006

81. Wyatt SB, Winters KP, Dubbert PM 2006

82. Prochaska & DiClemente, 1983

83. Prochaska, DiClemente, & Norcross, 1992

84. Prochaska & Velicer, 1997. See complete weight loss counseling suggestions in Foreyt JP Weight Loss: Counseling and Long-Term Management <http://www.medscape.com/viewarticle/493028> 11/8/2004

Prolonged Occupational Disability

Stage	Assessment	Intervention
Precontemplation	Patient is not ready to change	Personalize risk factors; Discuss risk related to pain; Offer help; Provide written material; Arrange follow-up
Contemplation	Patient is concerned about weight	Assess diet, physical activity, emotional status; Discuss risk; Educate re: simple steps; Offer help; Provide written material; Arrange follow-up
Preparation	Patient has decided to do something	Assess diet, physical activity, emotional status; about it but has not yet begun; Discuss risk: Educate re: simple steps; Provide counseling (see weight loss below); Arrange follow-up

Discuss risk relationship of overweight and chronic pain (See also Motivational Interviewing section below):

- Weight is associated with co-morbid:
 - Disability,
 - Depression and
 - Reduced quality of life for physical function in chronic pain patients.

Recommend Dietary changes:

One of the most efficacious diets for weight loss is a balanced, reduced calorie plan based on the United States Department of Agriculture (USDA) guidelines. See www.mypyramid.gov. A deficit of 500 to 1000 calories a day from ones typical caloric intake will result in a safe 1- to 2-pound weight loss a week.

Recent research comparing popular diets such as Atkins, Ornish, Weight Watchers and Zone revealed that weight loss was associated with self-reported dietary adherence but not with diet type.⁸⁵ For each diet, reduction in cholesterol, CRP and insulin were related to weight loss, with no significant difference among the diets.

The best approach may be to find 2 or 3 commercially available diets to recommend. What is important in terms of outcome is that the patient be able find a diet he or she can adhere to.

Provide brief counseling^{86,87}

- Review food/physical activity records
- Review goals from last visit
- Review problems and solutions
- Set realistic goals
- Sign behavioral contract
- Give positive feedback and encouragement

Weight Loss Counseling Strategies

Set realistic goals

- Help patients to set moderate realistic short-term goals such as making small increases in daily walking and decreases in portion sizes. Re-evaluate and revise at regular increments.

Self-monitoring

- Ask patient to write down what they eat and look up the calories. This is critical to raising awareness. Ask the patient to write down the minutes they exercise or the number of steps a day if using a pedometer.

86. Poston WSC, Haddock CK, Pinkston MM, et al.2004.

87. Foreyt JP Weight Loss: Counseling and Long-Term Management

Consider meal replacements

- Research documents that substituting 2 meals with a meal replacement for weight loss has been shown excellent efficacy with no significant safety concerns.

Stimulus control

- Ask patients to identify the problems contributing to dietary and exercise lapses. Discuss ways to modify this behavior.

Managing stress

- Recommending relaxation techniques and increasing physical activity can be helpful for patients with stressful lifestyles.

Cognitive restructuring

- Recommend a cognitive-behavioral weight-loss program. This can help patients adopt self-enhancing, self-affirming rather than self-defeating thoughts and behaviors.

Relapse prevention

- Relapses are a normal part of a weight-loss process. Counseling patients about how to deal with relapses includes helping them to understand that they can be expected and how to prepare for them.

Social support

- Support is valuable for both weight loss and maintenance. Referral to a support group may be beneficial.

Contracts

- Ask patients to verbalize at least 1 behavior change they agree to make over the next 2-3 weeks. Examples may be increase walking from 15 to 30 minutes, increase the number of days from 3 to 5 or limit desserts from 4 days a week to 2 days a week. Ask the patient to write the behavior change down and sign the contract.⁸⁸

Pharmacological interventions:⁸⁹

Clinicians unfamiliar with prescribing these medications should refer patients to clinicians specializing in the treatment of obesity.

- Of those medications used to treat obesity, sibutramine and orlistat appear to have modest effects (weight loss of 3-5 kg 6-11 lbs) with frequent but not serious side effects. Phentermine and mazindol have similar efficacy but only up to six months. Metformin, diethylpropion, and fluoxetine have questionable efficacy and are more likely to have adverse effects.
- Studies of dietary supplements and herbal products were limited but suggest that pyruvate and conjugated linoleic acid may prove to be safe and effective.

2. Smoking

Assess tobacco use in all injured workers.

For patients currently smoking > 10 cigarettes/day⁹⁰ (See also Motivational Interviewing section below):

- **Advise** to quit smoking. "I strongly advise you to quit smoking and I can help you."
- **Ask** every tobacco user if s/he is willing to make a quit attempt at this time.
 - If willing to quit, provide assistance (see below)
 - If unwilling to quit, provide motivational intervention

89. Jain A 2004

90. Adapted from Rigotti A 2004.

Prolonged Occupational Disability

QuitWorks a free stop-smoking service offered to any Massachusetts patient (see resources) provides a take-home pamphlet "Think About It"

Assess readiness to quit.

Stage	Assessment	Intervention
Precontemplation	Patient is not ready to change	Personalize risk factors; Discuss risk related to pain; Offer help; Provide written material (see QuitWorks below); Arrange follow-up
Contemplation	Patient is concerned about smoking.	Assess current tobacco use; Discuss risk; Educate re: simple steps; Offer help; Provide written material (see QuitWorks below); Arrange follow-up
Preparation	Patient has decided to do something about it but has not yet begun	Assess current tobacco use; Discuss risk; Educate re: simple steps; Provide counseling (see smoking intervention below); Arrange follow-up

Assist smokers in stopping.

- Provide brief counseling.
- Recommend use of pharmacotherapy (patch, gum, nasal spray, inhaler, bupropion-SR) unless contraindicated.
- **QuitWorks** provides clinicians with FDA recommendations for pharmacotherapy dosing.
- Enroll patient for **QuitWorks** services through the Try-To-STOP TOBACCO resource Center (see resources).

Or

- Provide self-help material (see Resources).
- Develop a tapering program and plan to stop
- Identify triggers and brainstorm strategies
- Advise physical activity where appropriate

Arrange follow-up within 1 - 2 weeks.

- At subsequent visit, review quit status.
- Congratulate success; encourage maintenance.
- QuitWorks provides status report and a six-month follow-up report for every patient referred.
- If tobacco use has occurred:

- Ask for recommitment to total abstinence.
- Review circumstances that caused lapse.
- Use lapse as a learning experience.
- Assess pharmacotherapy use and problems.
- If willing to try again, re-enroll patient for QuitWorks services.
- **Arrange** follow-up visit

Refer to Resources for additional quit smoking information

3. Assessing and Treating Alcohol or Drug abuse

Additional Assessment for alcohol or drug abuse:⁹¹

91. Adapted from Bierer MF, 2004.

Assess:

- Consequences and problems due to drinking
 - **ASK:** "Has your use of alcohol or drugs ever caused a problem for you or your loved ones?"
- Quantity/frequency of ETOH drinking related to established risk-levels
 - **ASK:** "How many glasses (ounces) of wine/beer/mixed drinks do you have a day?"

CAGE (AID) Screening Checklist for Possibility of Alcoholism

The CAGE (AID) Screen broadens the CAGE to include other drug use.

CAGE (AID) Screen

Have you ever:

C. felt you ought to cut down on your drinking?

A: had people annoy you by criticizing your drinking or drug use?

G: felt bad or guilty about your drinking or drug use?

E: had a drink or used drugs as an eye opener first thing in the morning to steady your nerves or get rid of a hangover or to get your day started?

If + CAGE (AID):

- Flesh out the responses asking "why" and "how" questions. For instance:
 - Why did you try to cut down?
 - How do people's comments about your drinking or drug use annoy you?
- These exploratory questions serve two purposes:
 - Diagnosis
 - Preparing for intervention

At risk drinking⁹²

- Men >14 drinks/week or >4 drinks/occasion
- Women of all ages and anyone >65 years of age: >7 drinks/week or >3 drinks/occasion

The Standard Drink (Standard Equivalent):

- ~12-14 grams of pure ethanol
- 5 oz wine
- 12 oz beer
- 1.5 oz distilled spirits (one shot)

Safe drinking

- Moderate drinking: recommended maximum limits given no contraindications (e.g. depression, sleep apnea, seizures or reflux).

92. National Institute on Alcohol Abuse and Alcoholism (NIAAA)

At risk drinking:

- Above recommended maximum: NOT necessarily a "problem" but warrants further exploration and at least recommendation to drink at healthy levels
- With negative consequences: "problematic drinking": patient should decrease or stop
- More severe: alcohol abuse
- Most severe: dependence

Diagnosis

- Alcohol dependence (Alcoholism)
 - Loss of control / inability to cut down
 - Use despite known negative consequences
 - Significant preoccupation and effort spent
 - Loss of major life role (s)
 - Optimally, patient needs to abstain; possibly taper or undergo medical detoxification

Consider Brief Intervention (See also Motivational Interviewing section below):

- Share your thoughts
- Be non-judgmental, supportive. This starts with the tenor of the questioning/history-gathering
- Ask what the patient wants to do about this (potential) problem
- Make clear recommendations and arrive at a clear next step (e.g. cutting down, quitting, trial of abstinence)
- Arrange clear follow-up
- Cardinal elements:
 - Raising awareness
 - Advising change
 - Arranging follow-up

Refer to Resources for additional information

For patients with history of substance abuse or alcohol dependence resistant to brief intervention refer to addiction specialist (See Resources).⁹³

Consideration for the use of opiates in patients with a history of alcohol or drug abuse. (Also see "*Special consideration for long-term opiate therapy in non-cancer related chronic pain*" below)

- For those individuals with current or remote alcohol or drug abuse who may benefit from the therapeutic use of abusable drugs including the use of opioids to treat acute or chronic pain, monitoring of drug taking is crucial.^{94, 95} Treatment requires a system for monitoring drug-taking behavior that is fitting for the apparent level of risk. If the abuse occurred in the distant past, the level of risk may be low. If the risk were high, a rigorous monitoring system would be essential.

93. See definitions

94. Lu HU et al. 1998

95. Passik SD 2001

Chronic Regional Pain Syndrome

For those patients at high risk:

- For the patient with chronic nonmalignant pain and substance abuse, there is neither a large and encouraging database of clinical experience nor empirical evidence that substantiate the safety and usefulness of opioid therapy.⁹⁶ Clinicians must exercise caution in recommending opioid treatment to such patients. Generally, the use of opiates for active substance abusers with chronic nonmalignant pain should not be initiated. Referral to an addiction specialist should be made (see resources) and collaboration with experienced clinicians who can provide skilled assessment and multidisciplinary treatment should provide treatment.
- For patients with a remote history of significant abuse or addiction, only experienced clinicians who can provide skilled assessment and monitoring should provide treatment.

A patient screening tool to assess risk potential for substance abuse can be found at:

- <http://www.painedu.com/tools.asp>⁹⁷

For those patients at low risk:

- An evidenced-based protocol can be found at: http://www.oqp.med.va.gov/cpg/cot/ot_base.htm. This website includes a doctor-patient contract that is recommended when opioids are considered.

It is important to remember that patients who are not showing a meaningful response in terms of pain reduction and improved function and who cannot maintain compliance with therapy need to be proactively weaned from opioids.

4. Assessing and treating psychological risk factors

An overall idea of the most salient emotional aspects of pain can be elicited by posing a general question about the patient's well-being, such as, "How has the pain affected your life?" or, "Can you tell me how you are coping with the pain problem and its effect on your life?"⁹⁸

Depression and anxiety

Warning signs for referral to a psychologist, psychiatrist or mental health professional are:

- suicidal ideation,
- anergia (i.e. lack of energy),
- persistent anhedonia (i.e., lack of pleasure),
- loss of appetite,
- sleep disturbance,
- anxiety or panic,
- prolonged difficulty accepting the condition,
- and angry outbursts toward self or others.

There are self-report screening tools available to assist the primary care or occupational health clinician in assessing the psychological aspects of pain. The most frequently used self-report measure of depression is the Beck Depression Inventory (BDI) (see resources below) and is often used in primary care settings as a brief screening instrument for affective disorders.

In addition, the Battery for Health Improvement (BHI) includes both psychological (anxiety and depression scales) and functional scales for use in a clinical setting (see resources).

96. Menefee LA, Katz NP 2003

97. See VA/DoD [Veterans Administration/Department of Defense] CLINICAL PRACTICE GUIDELINE FOR THE MANAGEMENT OF OPIOID THERAPY FOR CHRONIC PAIN at http://www.oqp.med.va.gov/cpg/cot/ot_base.htm for an evidence-based guide. A patient screening tool (Screener and Opioid Assessment for Pain patients - SOAPP) to assess risk potential for substance abuse among patients can be found at <http://www.painedu.com/tools.asp>. (Butler, SF et al. 2004)

98. Menefee LA, Katz NP 2003

Chronic Regional Pain Syndrome

A positive screen for depression should prompt referral for further evaluation and diagnostic interview with a psychologist, psychiatrist or other qualified mental health practitioner. Most importantly, suicidal thoughts should be taken seriously.⁹⁹ Clinicians are encouraged to learn the laws in their state that apply to this circumstance. Do not hesitate to consult a mental health professional for advice or to arrange hospital admission. Every patient must be handled differently, because suicidal ideation does not inevitably signify a wish to die.

Important intervention for patients with suicidal plan:

- Send immediately to nearest Emergency Room for evaluation or advise patient, family or caregiver to employ emergency response system.

Assessing and treating significant psychiatric disorders

It should first be noted that although the presence of unexplained somatic symptoms is common, somatization disorder is rare. When present the disorder is characterized by a pattern of physical complaints (e.g., pain symptoms, gastrointestinal symptoms, sexual problems) that cause considerable social and occupational impairment.¹⁰⁰ Symptoms must begin before the age of 30 and occur over several years.¹⁰¹ Individuals must have pervasive complaints, including pain related to at least four different sites, and a history of at least two gastrointestinal symptoms other than pain.

Somatoform disorders are also rare. They are disorders where physical symptoms suggest a physical disorder for which there is confirmation of underlying psychopathology but no evidence of demonstrable organic disease.¹⁰² "The symptoms must cause clinically significant distress or impairment in social, occupational, or other areas of functioning."¹⁰³ This category includes somatization disorder, undifferentiated somatoform disorder, conversion disorder, pain disorder, hypochondriasis, body dysmorphic disorder, and somatoform disorder not otherwise specified.

In each of these symptom production is believed to be unintentional. Most importantly, care should be taken before labeling patients with somatoform disorder or as "somatizers" because of current limitations of diagnostic testing and disease criteria.¹⁰⁴

It is imperative that clinicians remember that, even in the absence of psychiatric illness, pain is always both a physical and emotional experience. When evaluating and treating individuals in pain, clinicians must avoid reductionism (i.e., the pain is either in the mind or the body) and utilize a comprehensive biopsychosocial approach. It is most important to work to form a therapeutic bond. Clinicians should not take lightly the therapeutic effects of having someone listen to and validate the difficulty of living with pain. If, however, significant psychiatric impairment is observed psychiatric consultation should be considered.

6. Assessing and treating physical trauma &/or emotional abuse or sexual assault

Screening for physical trauma &/or emotional abuse or sexual assault

ASK: "In your lifetime, have you been physically or sexually abused? Has anyone ever tried to pressure or force you to have unwanted sexual contact? (sexual contact: touching your sexual parts, you touching their sexual parts, or intercourse). Have you experienced physical trauma in your lifetime?"

- If significant physical or sexual abuse is reported, abuse counseling should be considered. (see resources)

99. Haddox JD 1998

100. Kulich RJ & Baker WK 1998

101. APA 1994

102. Aronoff G 1998

103. APA 1994

104. Sullivan & Turk 2001

7. Assessing and treating spouse, family and cultural factors

Whenever possible the spouse should be present for at least a part of the diagnostic interview in order to obtain a complete evaluation of the patient with pain. A spouse can often substantiate the truth of the details given by the patient and offer supplementary information. In addition, the significant other and/or family's view of the patient's disability can provide valuable information for evaluating the prognosis and the family's support or lack of support for the treatment plan.

- Clinicians may need to help families look at more effective ways to interact with a chronically ill or disabled member on a long-term basis. Forming collaborative relationships with specialists in rehabilitation, family therapy, pain management and mental health may be beneficial.
- Clinicians must be sensitive to possible gender, ethnic and/or cultural differences in response to pain, disability, or treatment recommendations. Whenever possible, a multidisciplinary team approach or consultation with professionals familiar with the patient's cultural background should be considered.

Additional Consideration

Special consideration for long-term opiate therapy in non-cancer related chronic pain

The use of long-term opioids in chronic non-cancer pain remains controversial.¹⁰⁵ Research on the use of opiate-based pain relievers, in what dose, for how long does not yet provide clear guidance for clinicians when prescribing for patients with non-cancer related chronic pain. A recent review of opiate therapy in chronic pain concluded that: "Whereas it was previously thought that unlimited dose escalation was at least safe, evidence now suggests that prolonged, high dose opioid therapy may be neither safe nor effective."¹⁰⁶

Tolerance, or loss of analgesic effect over time, occurs in a number of patients, but prevalence is unknown. Addiction, which is the compulsive and self-destructive use of opiates, also may occur, but again with unknown frequency. As with all medications, the prescribing of opioids should be intended toward helping patients increase function and reduce pain perception. Side effects include constipation, sedation, nausea, irritability, sweating, itching, and cognitive dysfunction. These should be aggressively managed, however, most will lessen in time in many patients.

Generally opiates are used in chronic pain conditions when other therapies have not been effective.¹⁰⁷ The pharmacologic treatment of chronic pain should proceed considering the goals of both pain reduction and restoration of function. Realistic goal-setting is an important part of initial communications with the patient in chronic pain. Unfortunately, patients with chronic pain rarely achieve complete relief; however, function and quality of life can often be enhanced through a combination of pharmacologic and non-pharmacologic therapies. Therefore, it is essential to help the patient set appropriate expectations: that pain relief will likely be partial but life can be greatly improved through pain management. Although primary care practitioners often manage opioids for patients with chronic pain, they should not hesitate to refer patients to psychiatry, psychology or pain management centers for consultation and/or evaluation and treatment.

It is imperative that clinicians become aware of the data related to opioid dosing trends and mortality rates, consider carefully before prescribing opiates for long-term use in patients with chronic non-cancer-related pain and use and attend to the principles outlined in the guidelines below when choosing to prescribe.¹⁰⁸

- A patient screening tool to assess risk potential for substance abuse can be found at: <http://www.painedu.com/tools.asp>¹⁰⁹
- For those patients at low risk:
 - An evidenced-based protocol can be found at: http://www.oqp.med.va.gov/cpg/cot/ot_base.htm. This website includes a doctor-patient contract that is recommended when opioids are considered.

It is important to remember that patients who are not showing a meaningful response in terms of pain reduction and improved function and who cannot maintain compliance with therapy need to be proactively weaned from opioids.

105. Franklin GM et al. 2005

106. Ballantyne & Mao 2003

107. Menefee LA, Katz NP 2003

108. Franklin GM et al. 2005

109. See VA/DoD [Veterans Administration/Department of Defense] CLINICAL PRACTICE GUIDELINE FOR THE MANAGEMENT OF OPIOID THERAPY FOR CHRONIC PAIN at http://www.oqp.med.va.gov/cpg/cot/ot_base.htm for an evidence-based guide. A patient screening tool (Screener and Opioid Assessment for Pain patients - SOAPP) to assess risk potential for substance abuse among patients can be found at <http://www.painedu.com/tools.asp>. (Butler, SF et al. 2004).

Motivational Interviewing Technique for Self-Management Support and Behavior Change^{110,111}

First developed in the addictions field, Motivational Interviewing (MI) has been adapted to a brief form that can be used in primary care. The underlying principle of MI is to help patients explore and eventually resolve ambivalence towards changing current health behaviors. Motivational interviewing highlights personal choice, self-directed learning, and responsibility for deciding future behavior.

Assess Importance of Change:

Assessing the importance of change to patients requires an understanding of their personal values and expectations of change. One method of evaluating importance is to weigh the pros and cons of changing a behavior. For example, the patient is asked to answer the questions, "How will I benefit from change? What will it cost to change? How much do I really want to change?"

In the MI model, readiness = importance x confidence.

Assess Confidence to Change:

Confidence to change answers the question, "Can I change?" In assessing confidence, the health care professional should focus on the patient's self-efficacy. Self-efficacy includes skills that can be used to change a behavior. A patient may have skills in one area that may be transferred to a behavior he/she wishes to change. For example, a person who is confident with work skills or a particular sport and is thinking about smoking cessation may be asked, "What is it that makes you successful with X job/sport? How can you use those same skills to stop smoking?" People can also build confidence through modeling themselves after others. They may profit from talking about friends who have succeeded in change.

A practical way to measure readiness, importance, and confidence is by using the readiness ruler, a scale that rates these qualities from 1 to 10.

The health care professional asks, "If 1 is 'not ready' and 10 is 'ready', how ready do you feel to change X behavior?" This method can be used to assess importance and confidence.

The permutations of how individuals will feel in relation to readiness, importance, and confidence are infinite. A patient may feel ready and have confidence, but may feel the change is unimportant. Or, a patient may be unsure about readiness but understands the importance of change and feels confident to change. When patients feel ready to change, know they can change, and feel it is important, they will be more motivated to succeed.

Intervene to Promote Change

Once readiness, confidence, and importance have been assessed, the next step is to clarify and summarize the patient's concerns. The patient may be unsure about change and low in confidence, yet feels change is very important? The

110. Lange N, Tigges BB. Influence Positive Change with Motivational Interviewing. *The Nurse Practitioner*. March 2005, Vol 30 (5); (44-53).

111. Bodenheimer, T et al. *Helping Patients Manage Their Chronic Conditions*. June 2005, California Healthcare Foundation. www.chcf.org

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patient may be ready to change but low in confidence about the ability to change? Summarizing this information with the patient helps focus attention on possibilities for problem solving.

Ask direct questions such as, "What would it take to increase your confidence level from a 4 to a 7?" or "What would it take to make change important to you?" to facilitate resolution of ambivalence about change. This allows the patient to set the agenda and may allow the patient to present the argument for change.

Intervening in behavior change begins with resolving ambivalence about change. To discuss the advantages and disadvantages of change, have patients write down the pros and cons of both changing and not changing. The role of the health care professional is to give structure, listen carefully, and summarize the issues elicited from the patient. This allows for a collaborative approach to self-management and behavior change. The goal is to increase the patient's confidence in the ability to change.

For more information on Self-Management Support and Motivational Interviewing see www.chcf.org.

Addendum A

Örebro Musculoskeletal Pain Questionnaire (ÖMPQ) Explanatory notes¹¹²

This screening questionnaire identifies how likely it is that workers with soft tissue injury will develop long term problems. The Örebro Musculoskeletal Pain Questionnaire (ÖMPQ) is valid and reliable in predicting long-term disability – the reliability of this tool in predicting failure to return to work outcomes has been demonstrated in an Australian population.

This yellow flag screening questionnaire, when completed four to 12 weeks after musculoskeletal injury, predicts long term disability and failure to return to work. A cut-off score of 105 has been found to predict, with 95 per cent accuracy, those who will recover and, with 81 per cent accuracy, those who will have no further sick leave, in the next six months. Prediction of long term sick leave (more than 30 days within the next six months) was found to be 67 per cent accurate.

The ÖMPQ predicted failure to return to work six months after compensable musculoskeletal injury in a NSW population of workers. The injuries in the study group were mixed and the ÖMPQ was found to be more specific and sensitive for back injuries. In workers with back injuries screened at four to 12 weeks, a cut-off score of 130 correctly predicted 86 per cent of those who failed to return to work.

Identification, through the ÖMPQ, of workers at risk of failing to return to work due to personal and environmental factors provides the opportunity for treating practitioners to apply appropriate interventions (including the use of activity programs based on cognitive behavioural strategies) to reduce the risk of long term disability in injured workers. Evidence indicates that these factors can be changed if they are addressed.

Scoring instructions

- For question 5, count the number of pain sites and multiply by two – this is the score (maximum score allowable is 10)
- For questions 6 and 7 the score is the number bracketed after the ticked box.
- For questions 8, 9, 10, 11, 13, 14, 15, 18, 19 and 20 the scores is the number that has been ticked or circled.
- For questions 12, 16, 17, 21, 22, 23, 24 and 25 the score is 10 minus the number that has been circled.
- Write the score in the shaded area beside each item.
- Add up the scores for questions 5 to 25 – this is the total ÖMPQ score.

Superscripted numerals refer to articles referenced in Section 9 of Soft Tissue Injuries – General Guide 2006.

Readers seeking further information on the administration of the ÖMPQ are referred to Steven Linton's text: Understanding pain for better clinical practice – a psychological perspective. Edinburgh: Elsevier, 2005.

Resources

Chronic Pain Management Resources

- Managing Pain Before It Manages You, Revised Edition
by Margaret Caudill, MD, 2002, The Guilford Press, New York, New York.
- The Chronic Pain Control Workbook: A Step-By-Step Guide for Coping With and Overcoming Pain by Ellen Mohr Catalano, Ph.D. Kimeron N. Hardin. 1987. New Harbinger Workbooks.
- Learning to Master Your Chronic Pain by Robert Jamison. 1996, Professional Resource Press, Sarasota, Florida.
- Mayo Clinic on Chronic Pain (Mayo Clinic on Health) by Jeffrey Rome. 2002, Mayo Clinic.
- The Chronic Pain Solution: Your Personal Path to Pain Relief by James N Dillard MD with Leigh Ann Hirschman. 2003, Bantam Dell, New York, New York.
- Freedom from Chronic Pain: The Breakthrough Method of Pain Relief Based on the New York Pain Treatment Program at Lenox Hill Hospital by Norman J. Marcus, Jean S. Arbeiter. 1995.
- The Truth About Chronic Pain: Patients and Professionals on How to Face It, Understand It, Overcome It by Arthur Rosenfeld. 2004.

Smoking Cessation Resources

QUITWORKS

A free, evidence-based stop-smoking service to which health care providers may refer any Massachusetts patient, regardless of health insurance status.

1-800-TRY-TO-STOP (1-800-879-8678)

1-800-8-DEJALO (1800-833-5256)

1-800-TDD-1477 (1-800-833-1477)

FAX: 1-866-560-9113

www.trytostop.org

Strategies & Skills for Quitting

U.S. Surgeon General's five keys to quitting: get ready, get support, learn new skills and behaviors, get and use medication, and be prepared for relapse.

http://aolsvc.health.webmd.aol.com/hw/smoking_cessation/aa151797.asp

National Cancer Institute

via the Internet web site at <http://cancer.gov>

or call 1-800-4-CANCER

Weight Control Resources

American Dietetic Association

216 West Jackson Boulevard
Chicago, IL 60606-6995
(800)366-1655
<http://www.eatright.org>

American Obesity Association

1250 24th Street, NW
Suite300
Washington, DC 20037
(800)98-OBESE(986-2373)
<http://www.obesity.org>

Food and Nutrition Information Center

<http://www.nal.usda.gov/fnic/>

Food Safety Information

<http://www.foodsafety.gov/>

Dietary Questionnaire

National Cholesterol Education Program. Short dietary questionnaire to assess adherence to a step I and step II diet. In: Second Report of Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults. 1993, National Institutes of Health. National Heart, Lung, and Blood Institute: Bethesda, Md.P.IIA-1.

Nutrition.gov

<http://www.nutrition.gov>

Physical Activity Questionnaire

Blair SN. How to assess exercise habits and physical fitness. In: Matarazzo JD, Miller NE, Weiss SM, Herd, JA eds. Behavioral Health. New York, NY:Wiley; 1984: 424-447.

Shape Up America

4500 Connecticut Avenue
Washington, DC 20008
(202)244-3560
<http://www.shapeup.org>

Weight-Control Information Network

1 Win Way
Bethesda, MD 20892-3665
Phone. (877) 946-4627

Screening for Psychological Risks

Beck Depression Inventory (BDI)

The BDI is a self-administered 21 item self-report scale measuring supposed manifestations of depression. The BDI takes approximately 10 minutes to complete, although clients require a fifth - sixth grade reading age to adequately understand the questions. A copy of the BDI or any further information on it can be obtained through The Psychological Corporation at <http://harcourtassessment.com/HAIWEB/Cultures/en-us/default>.

The Brief Symptom Inventory (BSI) or the short version of the Symptom Check List (SCL-90) can be used to evaluate psychological problems including anxiety in a variety of medical settings.

The BSI test is brief and requires only 8-10 minutes to complete, making it well-suited for repeated administrations over time to evaluate patient progress. The instrument provides an overview of a patient's symptoms and their intensity at a specific point in time. The Global Severity Index (GSI) is designed to help quantify a patient's severity-of-illness and provides a single composite score for measuring the outcome of a treatment program based on reducing symptom severity. The reliability, validity, and utility of the BSI instrument have been tested in more than 400 research studies. Further information can be found at: <http://www.pearsonassessments.com/tests/bsi.htm>

Brief Battery for Health Improvement (BHI)

The BBHI 2 test was developed specifically to help medical professionals assess the important mind/body connection for their patients. Derived from the well-researched, widely used BHI™ (Battery for Health Improvement) test, the shorter BBHI 2 instrument helps practitioners quickly evaluate for a number of psychomedical factors commonly seen in medical patients, such as pain, somatic, and functional complaints - as well as traditional psychological concerns such as depression, anxiety and patient defensiveness. Further information can be obtained at: <http://www.pearsonassessments.com/tests/bbhi2.htm>

Addiction Disorders Resource

The American Society of Addiction Medicine

4601 North Park Avenue
Arcade suite 101
Chevy Chase, MD 20815
301/6563920
email@asam.org
www.asam.org

National Institute on Alcohol Abuse and Alcoholism (NIAA): Helping patients with alcohol problems

<http://www.niaaa.nih.gov/publications/Practitioner/HelpingPatients.htm>

NIAA: How to cut down on your drinking

<http://www.niaaa.nih.gov/pulbications/handout.htm>

Physical Abuse or Sexual Assault

Grant me the serenity

Resource Directory for survivors of abuse

http://open-mind.org/Directory/index.php?ax=list&cat_id=6

National Clearinghouse on Child Abuse and Neglect Information

<http://nccanch.acf.hhs.gov/>

Abuse Resources available at the Center for Disability Resources Library

<http://uscm.med.sc.edu/CDR/abuse.html>

National Sexual Assault Hotline

1/800-656-HOPE

Rape, Abuse & Incest National Network (RAINN)

<http://www.rainn.org/>

4 Woman. Gov

The National Women's Health Information Center

<http://www.4woman.gov/faq/sexualassault.htm>

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Methods used to formulate Recommendations

Literature Review: Searches of Electronic Databases

Expert consensus: Development has taken place between members of the committee (nurse practitioner specializing in pain medicine, psychologist, orthopedic surgeon, physiatrist and pain specialists).

Modifications to the pathway will undoubtedly be necessary as a result of new research and practice-based evidence. The developers believe this pathway should always be considered a work in progress.