

Chronic Pain in Primary Care Identification and Management of Psychosocial Factors

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Chronic pain is a problem of great public health importance that is frequently seen in the primary care setting. Pain chronicity shows a strong association with psychosocial factors. Assessment of these factors should be composed of two parts: (1) psychological factors and (2) psychiatric illness. Psychological factors include all those pain-associated alterations in the patient's environment that reinforce illness behavior. Psychiatric illness includes those syndromes that retard recovery

from illness or injury, such as depression, anxiety, substance abuse, and dementia. Psychiatric and psychological interventions can be successfully introduced in the context of a comprehensive rehabilitation effort. Usually these interventions can be accomplished by the family physician in concert with a consultant psychiatrist or psychologist. In severely disabled or resistant patients, referral to a multidisciplinary pain clinic will be necessary. *J Fam Pract* 1991; 32:193-199.

Significant advances have been made in the assessment and treatment of chronic pain during the past two decades. A large number of multidisciplinary pain clinics have been established in this country.¹ Many of them have been modeled after the Multidisciplinary Pain Clinic at the University of Washington, which was started by John Bonica in 1960.² The clinical methods used in these settings, however, have had relatively little dissemination into primary care, where most patients with chronic pain are seen. Since chronic pain produces tremendous disability and cost for society,³ earlier and more efficient treatment could have great public health benefits.

The progression of acute pain into chronic pain generally occurs while patients are receiving treatment in the primary care setting, and it is in that setting that the progression can possibly be prevented.⁴ Prospective studies have demonstrated that psychosocial factors are among the best predictors of whether an acute pain problem will become chronic.⁵ Better recognition and management of these factors in primary care might reduce the number of acute pain problems that become

chronic. This review will discuss the identification and management of these factors.

Pain Epidemiology: An Epidemic of Disability

Pain is the most common chief complaint presented to primary care physicians.⁶ In 1980-1981, new pain accounted for 6% of all physician visits in the United States, 70 million visits total. In the Nuprin Pain Report⁷ an estimated 1.3 billion person-days of work lost each year were due to back pain alone, with an additional 1 billion lost because of joint pain, and 0.6 billion lost because of headache. No other class of health problems causes this level of disability. Furthermore, these rates of disability and health care utilization are increasing.⁸

How often does acute pain turn into chronic pain? The Quebec Task Force⁹ reviewed a random sample of workers who reported "disorders of the vertebral column" in 1981. Of the 3000 workers sampled, 74% were back at work with no further need for medical care within 1 month. Only 7.4% were still disabled at 6 months. This group, however, accounted for 70% of the lost work days, 73% of the medical care costs, and 76% of the compensation payments made to workers with back pain. Chronic back pain and disability is therefore a relatively rare but costly outcome of a back injury at work.

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Differences Between Acute and Chronic Pain

Distinguishing acute from chronic pain is essential to the proper management of chronic pain. The International Association for the Study of Pain¹⁰ has defined chronic pain as "... that which persists beyond the normal time of healing." Three months is taken as "... the most convenient point of division between acute and chronic pain." Three months is an approximate but generous length of time during which the automatic process of tissue repair from the original injury is completed. Healing times differ for different tissues, but are relatively constant for each type of tissue.¹¹ Healing time may also vary with the body site injured and the extent of tissue destruction. Healing from an acute injury does not go on indefinitely, however. At some point, acute pain has become chronic, and the original tissue injury should no longer be the focus of medical treatment.

This distinction between acute and chronic pain is often confusing for patients and clinicians because it does not refer to the quality or severity of the pain experienced. Pain can shift from acute to chronic without any change in quality or severity. Nevertheless, when pain becomes chronic, it must be conceptualized and treated very differently. Treatment should no longer be directed toward repairing damage caused by the injury, but toward reactivation and rehabilitation.

Because chronic pain problems have a multifactorial cause, effective treatment must address the wide range of biological, psychological, and social factors that are involved. In acute pain (eg, resulting from a fractured femur or ruptured appendix), medical attention is properly focused on identifying and treating the injury or infection. The provision of pain relief is important but is subordinated to the promotion of tissue healing. Cure is an appropriate goal for treatment. In chronic pain, however, repeated attempts at curative, injury-centered treatment such as back surgery can inflict significant iatrogenic injury on patients while providing small chance for significant pain relief.¹²

The extent of tissue injury is only one of many factors that determines how much pain one experiences. In 1965 Melzack and Wall¹³ proposed the "gate control theory of pain" to account for the various factors influencing pain. Though modified in detail over the past 25 years,¹⁴ the model is now accepted as the best available account of the full range of clinical and experimental pain phenomena. In essence, the gate control theory proposes that pain is not determined by tissue injury alone but by a balance of influences competing at various levels of the nervous system. Two types of afferent or ascending influences are balanced at the level of the spinal cord.

Small-diameter (or pain-sensitive) nerve fiber input must pass through a "gate" at the spinal cord level before it reaches the brain. This gate can be closed through an increase in large-fiber (or touch-sensitive) nerve fiber input. Descending or efferent influences also modify the transmission of nociceptive input at the spinal cord and brain stem levels. Cognitive and affective factors can thus alter the pain experienced as well as one's response to it. Stress-induced analgesia, hypnosis, and emotional and cultural factors are some of the influences on pain thought to operate through this pathway.

Physicians tend to think of symptom production in dualistic terms. When extensive diagnostic testing fails to identify a lesion adequate to account for the patient's reported pain and disability, physicians begin to think that the pain must be of psychological origin. This dichotomization of pain into somatogenic and psychogenic types is not only incompatible with the gate control model outlined above, it is also clinically counterproductive. When diagnostic tests are negative in the face of persistent pain, a patient is all too often given the explicit or implicit message that the pain is "all in your head." Physicians often do not know what to do for these patients, so they send them home or to another specialist. The patients feel as though they are being labeled as malingerers or hypochondriacs and "shop" from physician to physician in search of not simply cure but legitimacy.

A conceptual shift in thinking about pain must be made if this clinical misstep is to be avoided. When a thorough diagnostic evaluation fails to reveal a specific cause for a chronic pain problem, clinicians should not switch from a somatogenic to a psychogenic model of pain but should switch from a curative to a rehabilitation model of pain therapy. The goals of treatment thus change from the identification and repair of the cause of the pain to improving function and decreasing suffering. Negotiating this switch is not easy. Both physician and patient must be thoroughly convinced that no further curative intervention is likely to be effective. The patient's pain must be acknowledged as real and treatable. Even if cure is abandoned, clear distinctions should be drawn between treatments that promote rehabilitation and those that retard it.

Indicators of Psychosocial Influences on Pain

Although most pain problems presented to primary care physicians respond to the usual biomedical treatment or resolve on their own, it is important to know when special attention to psychosocial factors affecting pain is

indicated. Below are presented some indicators that psychological factors may be important in a pain problem.

Pain persisting beyond healing time. Once the appropriate healing time for an injury has passed, one must consider persistent pain to be chronic. In the absence of an ongoing disease process, such as malignancy or infection, one should then begin to look at factors other than tissue damage.

Chronicity of pain is the first indication that psychosocial factors are operative.¹⁵ As pain becomes chronic, it must be somehow integrated into the social and psychological world of the patient. The longer pain persists, the more opportunity there is for such factors as environmental reinforcement, depression, and stress to influence pain and pain behaviors.

Great disparity between objective findings and functional disability. Some individuals are able to function well despite the persistence of pain, while others become dysfunctional. If pain continues to produce significant dysfunction in self-care, home, work, or social responsibilities, then examination of the psychosocial context within which the pain occurs is indicated. Although the inability of diagnostic testing to find a lesion does not prove psychogenesis, it should prompt one to look for psychosocial causes of "excess" disability. Discrepancies of severity are as important as the discrepancies of time discussed above.

Excessive use of the health care system. Certain patients with chronic pain will not accept physicians' reassurances that there is no progressive or dangerous disease process underlying their pain. Patients with low back pain, for example, may not accept that it is safe for them to return to their former activities despite the absence of findings on thorough diagnostic testing. Such patients often seek additional consultations and tests. When this intransigence occurs, it is important to explore patients' beliefs and fears about their pain.

Signs or symptoms of psychiatric disorder. Anxiety, irritability, or sadness may be reasonable responses to persistent pain, but this reasonableness does not preclude the possibility that these symptoms are part of a concomitant, treatable psychiatric disorder. Generally clinicians should be actively seeking evidence for significant, persistent anxiety or depression. Specific psychiatric diagnoses will be discussed below.

Prolonged or excessive use of opiates, benzodiazepines, or alcohol. Injury frequently produces not only pain but sleeplessness. Opiate or sedative-hypnotic medications that relieve these symptoms and thereby promote rest and healing are appropriate in acute pain. Once pain has become chronic, rest no longer promotes healing, and these medications become counterproductive. Persistent sleep disturbance, even in the presence of pain, should

raise suspicion of a concomitant treatable psychiatric disorder such as major depression. Preexisting substance abuse (eg, alcohol, cocaine) places the patient at very high risk for complicated recovery from a pain problem and should prompt early psychiatric or psychological consultation.

Components of Psychological Assessment

The first phase of psychological assessment should focus on changes occurring after injury that may be associated with disincentive (however unconscious) to recovery. Psychiatrists have traditionally referred to secondary gain from illness, while behavioral psychologists have referred to reinforcement of pain behavior. The following five areas should be addressed:

Activities increased or decreased. Chronic pain may be associated with an increase in pleasurable activities or a decrease in aversive activities for some individuals. The amount of time spent in sedentary hobbies such as reading or fishing may increase as the result of a chronic pain problem. Patients who otherwise feel powerless to affect their environment may unconsciously use pain to obtain time out from stressful or aversive situations. Pain may allow such individuals to say no to demands or to ask for help when they would not usually feel so entitled. Patients and spouses must be questioned closely to determine which activities are aversive, eg, pain can allow a patient to avoid aversive sexual activity. Especially important are questions about the impact of the pain on the patient's ability to work. The responses obtained must be considered within the context of his or her preinjury work satisfaction.

Activities and movements avoided. Patients with chronic pain often avoid painful activities for fear of damaging themselves further. After determining which activities are avoided, ask what would happen to the patient besides the pain if they engaged in these activities. What would increased pain mean to them?

Responses of others (especially family). Ask, "How can others tell when your pain is bad?" Then ask, "What do they do when they see this?" Look for responses that are likely to reinforce pain behavior positively: sympathy, suggestions to rest or take medication, greater or lesser intimacy.

Financial implications. Determine whether the patient is receiving any disability payments or has any pain-related litigation that would be jeopardized by recovery. Malingering is quite rare, but financial disincentive to return to work nevertheless can be powerful. This disincentive is particularly present when there was poor

work satisfaction, an unpleasant or stressful job, or uncertain future employment.¹⁶

Psychosocial stressors. Though patients may not associate pain exacerbations with stressful events, such a connection often can be revealed by close questioning. Ask about not only major life events (such as loss of spouse or job) but "daily hassles" as well (such as managing full-time work plus child care). Pain may be related to exacerbations or improvements in marital conflict. Resolution of chronic marital conflict may, for example, promote an uncomfortable level of intimacy between partners that can be readjusted by a chronic pain problem.

Psychiatric Diagnoses

The second phase of the psychological assessment should focus on psychiatric illnesses that can be important but treatable barriers to recovery. Inquire about not only present but also past personal and family histories of psychiatric disorder. This inquiry is indicated not because chronic pain is itself a psychiatric disorder, but because current or prior psychiatric illness appears to be a significant risk factor for a pain problem becoming chronic. More than 50% of the patients admitted to an inpatient chronic pain program had a history of major depression or previous chronic pain problem before the onset of their chronic pain.¹⁷ Sixty percent of admitted patients had at least one first-degree relative with chronic pain. Thirty percent had a family member with an affective disorder; 40% had a family member who abused alcohol.

Both acute and chronic psychiatric conditions are relevant to chronic pain. The chronic conditions encompass many somatoform and personality disorders described in the third revised edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R)*¹⁸ of the American Psychiatric Association. Patients with chronic pain often meet criteria for one or more of the somatoform diagnoses, especially somatoform pain disorder. These diagnoses, however, are not very helpful as guides to the treatment of chronic pain. The exception here is somatization disorder, defined as recurrent somatic symptoms in multiple organ systems that are not due to physical disorder but for which medical attention is sought. Somatization disorder is a chronic disorder beginning before the age of 30 years and is found much more often in female patients. Limiting iatrogenic injury is probably the foremost goal of treatment in these patients. The following strategies have been shown to be effective: regularly scheduled primary care visits, avoidance of opiates and benzodiazepines, diagnostic testing for objective signs rather than subjective symptoms, and

appropriate use of tricyclic antidepressants.¹⁹ Some patients will not respond to this strategy and can benefit from referral to a multidisciplinary pain clinic.

Major depression is the most important and prevalent psychiatric diagnosis found in association with chronic pain. It is defined as a psychobiological syndrome encompassing not only a sad mood or an inability to feel pleasure over a period of at least 2 weeks, but a variety of vegetative symptoms involving disturbances in sleep, appetite, energy, concentration, and libido, and thoughts of death or suicide. The prevalence of major depression is increased in medically ill patients, especially those in chronic pain. Prevalence of major depression in the general population is 3% to 5%, but among the chronic pain patients seen in the pain clinic setting, the prevalence is approximately 30%.²⁰ Furthermore, these depressions tend to be recurrent. Lifetime prevalence of depression in studies of chronic back pain, pelvic pain, and chest pain is 65%.²¹

Accurate diagnosis of depression in patients presenting with pain requires a high index of suspicion. These patients often will not volunteer that they are depressed and may deny dysphoria if asked. Patients can be resistant to the diagnosis of depression if they see it as labeling their pain as psychogenic or illegitimate (eg, for Worker's Compensation). It is clinically prudent to ask about symptoms of depression other than dysphoria. Though studies support a mutually reinforcing relationship between pain and depression, approaching depression as an effect rather than a cause of pain for diagnostic purposes can defuse the patient's struggle for legitimacy and need not compromise treatment. Ask how pain affects the patient's sleep, mood, energy, appetite, and libido.

Anxiety disorders are also found at a greater rate in patients with chronic pain than in the general population. Panic disorder and generalized anxiety disorder are the most common. Panic disorder is defined in DSM-III-R¹⁸ as episodic attacks of anxiety, generally unexpected and rapidly escalating, with such somatic symptoms as palpitations, shortness of breath, dizziness, nausea, and paresthesias. While panic disorder has a 1% prevalence in the general population, approximately 3% of patients with chronic pain have this disorder, often in conjunction with major depression.¹⁷ Though panic disorder can complicate any chronic pain problem, patients with panic disorder often present to their family physician with migraine headaches or chest pain.²² Attention to the diagnosis of panic disorder can prevent unnecessary invasive cardiologic testing in the latter patients.²³

Substance abuse may arise in conjunction with the pain problem (eg, opiates, benzodiazepines) or precede it (eg, alcohol, marijuana, cocaine). In either form, substance abuse impedes rehabilitation and needs to be

addressed aggressively. Abuse can manifest itself as signs of medication dependence, including escalating doses, maneuvering in the health care system to get drugs, and withdrawal symptoms.

Dementia can also complicate pain management, particularly in older patients. Patients with early dementia may use pain to justify their inability to perform activities requiring higher cognitive functions (eg, card playing, balancing checkbook). The Folstein Mini-Mental State Examination²⁴ is a useful screening tool. It is quite specific though not particularly sensitive for milder dementia.²⁵ True dementia, such as that resulting from Alzheimer's disease, must be distinguished from the pseudodementia seen in patients with depression and the cognitive compromise seen in patients with substance abuse. If there are indications of cognitive impairment, consultation with a psychologist for full neuropsychological testing may be necessary.

Primary Care Treatment Strategies

Dealing with Illness Conviction

Illness conviction is a valuable concept in the management of patients with chronic pain. The patient's beliefs concerning the cause, course, and appropriate treatment for his or her pain are powerful determinants of medical care seeking and satisfaction. Illness conviction refers to the patient's belief that there is something wrong in his or her body that needs to be fixed either by surgery or specific medical intervention. Because such treatments are generally unavailable or ineffective for chronic pain, addressing this belief is essential for the successful rehabilitation of the chronic pain patient.

Simply denying that there is anything to fix often alienates patients who have a strong illness conviction. These patients are then likely to consult another clinician in search of a more satisfying answer. Illness conviction is not simply the patients' hypothesis concerning the nature of effective treatment; it is also an attempt to legitimize their suffering by ascribing it to a cause that is (1) objective, ie, can be perceived in principle by a third party, and (2) not of the patients' own doing, ie, is something that they suffer (illness), not something that they do (behavior). Thus, effectively responding to patients' illness conviction requires that it be recognized as a desire for legitimacy as well as a desire for treatment. To provide effective treatment, one must preserve patients' sense of legitimacy by acknowledging their pain as real while challenging their concept of appropriate and effective treatment.

There are a number of strategies that are effective for

addressing illness conviction without alienating patients. First, the physician must end diagnostic ambiguity to whatever extent possible. Often a physician cannot offer the patient a definitive diagnosis. Nevertheless, it must be clear to both physician and patient that all reasonable diagnostic avenues have been pursued and that serious, progressive disease has not been missed. Only when the issue of diagnosis has been set aside will it be possible to shift the treatment focus from cure to rehabilitation.

An alternative explanatory model that is often medically accurate and acceptable to patients focuses on soft tissue problems. Abnormalities in soft tissues such as muscles, tendons, ligaments, and fascia are poorly seen with most imaging technologies and may not be apparent on electrodiagnostic testing. Nevertheless, these tissues are believed to be prominent causes of pain in conditions such as low back pain and headache. Disuse and abnormal use of muscles is a common reason for the perpetuation of pain beyond the time of healing. The pain experienced by a patient upon moving an arm just removed from a cast is a clinically useful example. Goldberg and colleagues²⁶ in Great Britain have described and tested a reattribution model designed specifically to assist primary care physicians in treating somatizing patients that follows the pattern outlined here.

Medication Management

Both pharmacological and cognitive-behavioral psychotherapeutic treatments have been demonstrated to be effective in the treatment of chronic pain, even when complicated by affective or anxiety disorders. Pharmacological treatment of both depressive and anxiety disorders in pain patients is probably best accomplished with antidepressants for two reasons: (1) the analgesic effect of these agents has been documented (efficacy has been repeatedly demonstrated both with and without concomitant depression),²¹ and (2) patients with chronic pain may be more prone to benzodiazepine abuse.²⁷ Using antidepressants for chronic pain is similar to using them for depression, except that neuropathic pain may respond more rapidly and at lower doses. All antidepressants appear equally effective; fluoxetine and nortriptyline offer some of the best side-effect profiles. Cognitive-behavioral therapy can address negative thoughts that increase suffering, depression, and anxiety.

Recommendations about medication should be made within the context of the difference between acute and chronic pain. Medications that produce tolerance and dependence (eg, opiates and benzodiazepines) are not appropriate for chronic nonmalignant pain even though they may be helpful for acute pain. When healing has been completed, rest is no longer appropriate ther-

apy, and neither are drugs that promote inactivity. Such medications can, in fact, promote depression and impair the body's own pain modulating system when used chronically.²⁸

Reactivation and Physical Therapy

Early reactivation and return to work have been shown in multiple studies to promote recovery from back injury.²⁹ Time spent reclining because of acute back pain, for example, should be matched by time spent walking to minimize pain and disability.³⁰ It can be difficult, however, to mobilize patients in pain. Try to refocus discussion from pain to activity. Ask your patient not "How do you feel?" but "What are you doing?" Once diagnostic ambiguity is resolved, do not use pain as a gauge of appropriate activity level. Reactivation that is contingent on pain reinforces illness conviction for both physician and patient. Clearly tell the patient that movement is safe, even if not pain-free, then reactivate the patient according to a schedule. A simple and safe strategy to use in primary care is an aerobic walking program using time and pulse rate targets. Begin the patient at a distance and speed below his or her initial capacity and then advance these slowly but consistently (not allowing skipped days until 20 minutes at target pulse rate is achieved). Operant pain programs use a quota-based physical therapy program using stretching, floor exercises, weight training, and speed laps.

When and How to Consult or Refer

Consulting a Psychiatrist or Psychologist

When the "red flags" discussed above occur and an inquiry or intervention into psychological factors has not been fruitful, it is time to consult or refer. Referral is most successful when made to a clinician who is accustomed to dealing with chronic pain patients. Become familiar with those clinicians and with the methods they use so that they can be explained (demystified) to the patient. Use the rehabilitation vs curative rather than psychogenic vs somatogenic model to explain referral.

Referral to a Multidisciplinary Pain Clinic

Some patients will not accept a psychiatric or psychologic referral, no matter how it is framed. These patients will often, however, accept referral to a specialized pain clinic, where such services may be available. Other complicated cases may be too difficult to be handled by a busy, single physician. Such patients may show some of the follow-

ing: severe deactivation (unable to work, bedridden), excessive opioid or sedative-hypnotic medication use, strong family reinforcement of illness, severe illness conviction, severe phobic avoidance of movement, or compensation or litigation issues. Continuing involvement by the primary care physician during pain clinic treatment improves continuity and long-term outcome of treatment.

Conclusions

Pain is one of the most common problems encountered in the primary care setting. Many techniques for addressing pain beyond the repair of injury that are derived from the tertiary care pain clinic setting can be effectively translated into primary care. The discussion above has stressed the role that psychosocial factors can play in chronic pain. Adequate assessment and management of these factors are essential to the successful rehabilitation of the chronic pain patient. Many of these patients can be treated effectively in the primary care setting. Patients with severe deactivation, medication dependence, or illness conviction, however, may require the multidisciplinary approach of a specialized pain clinic.

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