Psychiatric and Psychosomatic Aspects of Chronic Pain: Clinical Implications, Solutions

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The assessment, diagnosis, and treatment of conditions in which persistent pain is a feature despite lack of evidence of a pathological cause are reviewed in this article.

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This activity offers CE credits for:
1. Physicians (CME)
2. Other

ACTIVITY GOAL
To understand the psychiatric and psychosomatic aspects of chronic pain.

LEARNING OBJECTIVES
At the end of this CE activity, participants should be able to:
• Discuss the factors that lead to pain in the absence of a medical diagnosis
• Assess the underlying psychiatric and psychosomatic factors that lead to pain
• Describe treatment options for pain

TARGET AUDIENCE
This continuing medical education activity is intended for psychiatrists, psychologists, primary care physicians, physician assistants, nurse practitioners, and other health care professionals who seek to improve their care for patients with mental health disorders.

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Many people have chronic pain without evidence of sufficient pathology to explain this symptom. It has been known for centuries that emotional and psychological factors can be associated with pain. “I held my tongue, and spake nothing: but it was pain and grief to me.” These words from the Book of Common Prayer illustrate how emotions and pain have been linked for centuries.¹ The assessment, diagnosis, and treatment of conditions in which persistent pain is a feature despite lack of evidence of a pathological cause are reviewed in this article. Conditions that include emotional factors thought to be associated with pain are covered, as well as deliberate feigning of pain symptoms and unrecognized medical conditions.

**Pain in the absence of a medical diagnosis**

In most chronic pain conditions, the exact pathology is uncertain. Although an apparent etiological event may have occurred at the time the painful symptom first developed, the maintenance of a chronic painful state is often not explained by clear physical pathology. In a Working Group of the International Association for the Study of Pain in 2015 a new category—chronic primary pain—was recommended to code for common chronic pain syndromes that cause distress and/or disability but cannot be better classified with any other diagnoses.

It is important not to ascribe persistent pain without apparent organic illness as arising from emotional causes without recognizing that a number of chronic pain syndromes result from sensitization of afferent nerves through the process of central sensitization and wind-up.² Such pathophysiological mechanisms are more likely to occur in conditions in which there is sensory nerve damage.

The conditions and diagnoses that are associated with the symptom of pain when the pathology is uncertain are described below. The frequency of each disorder is summarized in the Table. These categories are rarely mutually exclusive, and combinations of these conditions are frequently found.

**Somatiform pain**

There may be a pathological explanation for a known physical complaint—for example, a ruptured intervertebral disk—but the intensity and duration of pain following such a clear pathological event may be well in excess of what is expected. Somatiform pain is not a discrete entity. One or more of the following characterize patients: high health anxiety, long-standing or more severe pain, or reduced capacity to cope with stress. Often, these individuals have a lower pain threshold. This may be because of a more sensitive autonomic nervous system with greater sympathetic activation and reduced parasympathetic activity, but convincing evidence of this is lacking.

DSM-5 classifies these conditions as somatic symptom disorders, with pain or other somatic symptoms significantly distressing or disruptive to daily life and accompanied by excessive thoughts, feelings, or behaviors regarding the symptoms. In contrast to DSM-IV, these symptoms need not be medically unexplained; it is quite possible to have a somatic symptom disorder and a medical condition.

Catastrophic thinking and abnormal health beliefs and expectations about recovery affect outcome more than the nature or severity of an injury.³ One of my patients, who had always been very focused on her body and paid close attention to any new symptom, developed neck pain following a relatively trivial whiplash injury. The pain continued for many years after the accident. Her previous hypochondriacal personality rendered her more vulnerable to the development of chronic pain.

**Depression and other psychiatric illnesses**

Chronic pain frequently leads to depression and anxiety. In some instances, the mood changes that result are a reaction to the alteration in function and life choices that can occur because of difficulties in coping with the disability. In other cases, the development of chronic pain is associated with reduced activity, which reinforces pain and introduces health hazards such as obesity. On the other hand, a psychiatric disorder in itself renders a person more prone to chronic pain.

In an epidemiological study in Saskatchewan, Canada, depression was a surprisingly strong predictor of an episode of disabling neck or low back pain.⁴ Depression can be associated with inactivity, which can contribute to pain in someone who is predisposed. Moreover, depressed people display negative cognitive attitudes that can lead them to magnify unpleasant events. People with depression typically have a lower pain threshold (although in those with psychotic depression, the opposite may be the case—they may have a reduced appreciation of pain).

Other psychiatric diagnoses are frequent in patients with chronic pain. In a European study, PTSD was strongly associated with the development of chronic pain.⁵ A correlation between anxiety...
disorders and chronic pain has also been found. In particular, people who are fearful of anxiety-related sensations, who interpret somatic symptoms as harmful, and who avoid situations in which these feelings are likely to arise have greater disability.

**Psychosocial factors**

Recent adverse life events, lower socio-economic status, poor education, limited ability to explain symptoms, and other indices of psychosocial disadvantage have also been associated with chronic pain. While stress increases the perception of pain and people from psychosocially disadvantaged backgrounds are more prone to exhibit increased pain, this is not the only explanation for this finding. Psychiatric diagnoses are influenced considerably by the knowledge and attitude of the observer. A diagnosis of non-organic pain is more likely to be made in patients who have no evidence of a medical disorder but who have experienced severe psychosocial stress.

**Abnormal illness behavior**

People who experience pain—from whatever cause—show illness behavior in different ways (eg, by verbally complaining of pain, limping, taking medication, visiting the doctor). Illness behavior in this context is quite normal and understandable. Abnormal illness behavior is a maladaptive manner of experiencing, evaluating, or acting in response to symptoms that is disproportionate to evident pathology.

Fear of pain is a common reason for abnormal illness behavior. Pain is frightening and when experienced can be either confronted or avoided. Confrontation leads to resolution, whereas avoidance maintains the experience of pain. Pain avoidance arises in persons exposed to unpleasant events at the time of developing pain and is amplified by depression and anxiety sensitivity. Excessive attention to stimuli associated with pain, increased guarding, and reduced physical activity result.

In a subjective condition such as pain, it is difficult to determine whether the degree of reported pain is out of proportion to what would be expected from the identified pathology. There is therefore a problem in deciding when the behavior is abnormal. At the lower end of the spectrum, patients may adopt painful strategies unconsciously and in so doing avoid unpleasant events or circumstances. The apprehensive employee who is fearful of his or her boss has headaches that occur when a performance review is scheduled. Such learned pain behavior may explain the absence from work due to illness. These patients see their doctors frequently and are keen to pursue any solution that promises pain relief.

**Symptom amplification**

Individuals who suffer from chronic pain may amplify their symptoms—often for very understandable reasons. Hypochondriacal preoccupations or somatosensory amplification (ie, increased sensitivity to unpleasant symptoms), fear of ageing and death, and a childhood history of illness in the family are associated with increased pain. There are other reasons for symptom amplification. Exaggeration of symptoms may occur as a result of environmental factors. If the expression of pain leads to increased sympathy and attention, avoidance of work, compensation, or other desirable consequences, complaints of pain will be continued or increased. Chronic pain in these cases is maintained by the secondary gains of the illness. These may, but need not, be recognized by the patient.

A sizeable proportion of patients whom I see in a pain management unit have consulted a variety of physicians who have told them that they are unable to treat their condition. By the time these patients are referred to a pain unit, they desperately wish to convey the severity of their pain and understandably amplify the intensity of their pain. This should be recognized by the clinician and not be taken as evidence of non-organic pain. These patients may have evidence of non-anatomic distribution of pain, but this in itself should not lead to a diagnosis of functional pain—symptoms of this nature are not indicative of lack of organicity.

Patients with pain that began following a traumatic event and who are seeking compensation may amplify their complaints, although in most cases amplification is not deliberate. These patients are not intentionally trying to deceive the physician and should not be termed malingerers.

**Factitious disorder**

Persons who deliberately feign illness and who have an active wish to be treated as if they are ill are said to have factitious disorder. Complaints of chest or abdominal pain are the most frequent symptoms in this group, but their nature depends on social and environmental factors. Those who are in health-related professions, particularly nurses, are more likely than others to develop this condition.

In these patients, it is essential to collect as much information as possible about past illnesses, their nature, and the treatment sought and given. Previous medical records and observations by others
are revealing. In these individuals, childhood illnesses and/or operations, sexual abuse, and Cluster B personality disorders are frequent, and there is an increased prevalence of substance abuse and mood and personality disorders.14
The management of factitious disorder involves discussion of the diagnosis with the patient in a non-threatening environment. It is common for physicians to seek help from psychiatrists in this process. Although there is no evidence-based protocol for successful treatment, most consider that a multidisciplinary approach involving both medical and psychological support has the best grounds for success.

Malingering

DSM-5 defines malingering as feigned symptoms, “motivated by external incentives, such as avoiding military duty, avoiding work, obtaining financial compensation, evading criminal prosecution, or obtaining drugs.” Both malingering and factitious disorders involve the person using conscious deceit to obtain a perceived benefit. However, the only clear dividing line between malingering and symptom exaggeration in situations in which there is an attractive goal is whether the exhibition of symptoms is conscious. Patients often try to deceive, and there is a continuum between exaggeration and malingering.

The prevalence of symptom exaggeration in Social Security disability claimants in the US has been estimated to be between 46% and 60%.15 The American Board of Clinical Neuropsychology reports symptom exaggeration in 31% of patients who complain of chronic pain.16 Malingering is most likely to be detected when a full clinical interview and assessment of past medical records, including the relationship of accidents and illnesses, reveal inconsistencies.

Symptom validity tests that primarily measure degree of effort are often used to assess deception. These usually consist of simple memory or recognition tasks on which individuals with psychiatric illness but without deceit perform well. Validity tests often used in persons with chronic pain are the Test of Memory Malingering and the Word Memory Test.17,18 If a full clinical history is obtained and collateral information collected, malingering is usually readily identified. In compensation cases, video surveillance can show discrepancies between the claimed physical problems and actual performance.

Treatment interventions involve gentle exploration of why poor effort has been exhibited and negotiation about possible factors that may explain exaggeration.14 Prognosis is not usually good for these individuals, particularly for those with a long history of disability.

Unidentified, misdiagnosed, or new medical illness

Early in my medical career I treated a patient with syringomyelia, which presents with pain and stiffness in the neck and shoulders. An early sign is reduced, then absent, sensation in the hands and arms. Several years earlier, when her condition was less severe, the patient had seen a renowned psychiatrist who had confidently diagnosed hysterical anesthesia.

It is easy to make mistakes when illnesses are in the forme fruste stage, but it is also possible that pain arises from a pathological change in an existing disease or it may come from an entirely new pathological entity. In 2001 a new syndrome, calcineurin inhibitor–induced pain syndrome, was described.19 The syndrome is characterized by symmetrical pain located primarily in the lower limbs, while the hip and spine are typically spared. Immunosuppressive therapy is thought to be the cause.

There are also chronic pain syndromes in which the pathology appears to be insufficient to explain the symptoms. An example is complex regional pain syndrome, which is characterized by constant regional neuropathic pain. Diagnosis relies almost exclusively on clinical assessment, although in advanced cases trophic changes to the skin and loss of bone density occur. Most clinicians consider this syndrome to be caused by sensory nerve damage, in some cases arising from dysfunctional sympathetic nerve function; however, others believe that it results from inadequate assessment of psychosocial difficulties.20 This disagreement exemplifies the difficulty in making a confident diagnosis when there are only symptoms but no pathognomonic signs.

Psychogenic pain

Pain rarely results from a conversion disorder in which a psychological conflict is converted into a physical symptom. Unlike malingering, these pain complaints are neither conscious nor intentional. This is regarded by many as true psychogenic pain. Pain that is amplified by anxiety or depression is not usually termed psychogenic pain, although sometimes this term is used in this context inaccurately. In 28 years of work in a pain clinic, I have never encountered a single patient with true psychogenic pain. I am sure, nonetheless, that the condition exists.

A psychiatrist who works in the pain field told me of the case of a young woman who had disabling chronic maxillary pain over her left cheek for many years, although there were insufficient signs to diagnose temporomandibular joint dysfunction or any other facial pain syndrome. After a number of
sessions with the psychiatrist in which the reasons for her symptom were explored, she broke down in tears and told the therapist that when she was 17 years old she had gone out on a date and had come home late. Her father was very angry, and after a fiery discussion he slapped her on the face. She went to bed and the following morning learned that her father had died during the night of a heart attack. She had had facial pain ever since, which was relieved entirely after her revelation.

**Psychotic pain and minor illnesses**

Pain that arises as a result of psychotic beliefs has been recorded but is extremely rare. The classic example is of a patient who believed that he was Jesus Christ and was passing the 14 stations of the cross on the way to crucifixion. He complained of a headache that was situated over his scalp in a circular distribution, in the region where the crown of thorns would have been placed. Patients with auditory hallucinations very occasionally complain of ear pain. A number of patients with medically unexplained physical symptoms have minor pathological conditions, perceive illness differently, and sometimes have had distressing illnesses in the past.  

**Treatment**

The first step in the treatment of a somatic symptom disorder is to identify the lead clinician who will be in control of treatment. With the consent of the patient, current treatment providers are informed that the patient is now primarily under the care of the lead physician and that any advice and treatment should be given only if this physician is informed. Such collaboration among treatment providers leads to decreased costs and better health outcomes in somatization disorder, the most severe form of somatoform disorder.  

During the first interview, an extensive clinical history is taken and mental state examination is performed. There is a careful physical examination and any necessary blood tests and scans ordered after a review of past records. A physical examination by the treating psychiatrist or physician is essential to show to the patient that the nature of the problem is defined. At the end of these examinations and tests a summary of the findings is discussed with the patient and a plan of action indicated.

It is useful to go back to the beginning of the complaint and review how this affected the patient. Summarizing the interview and using the patient’s language to offer tangible explanations of what is causing the symptoms can be valuable to both patients and clinicians. (The Royal College of General Practitioners provides additional guidance on the treatment of somatization disorder.) Before treatment of the somatic symptoms is addressed, any associated psychiatric illnesses should first be treated—depression, anxiety, and stress disorders are managed along standard lines. Inappropriate drug use and opioid abuse also need to be tackled.

It is valuable for the patient to complete a pain diary that indicates the level of pain and activities carried out at intervals throughout the day. This assists both the patient and therapist to recognize what seems to worsen the pain, what helps to relieve it, and which interventions help in coping with the symptoms. Pain diaries are used for a limited duration, ideally over 1 week at the beginning and at the end of treatment, since focusing on symptoms can foster somatosensory amplification. The patient and the clinician agree on a treatment plan. In most cases a program of activities is initiated that is broken down into manageable steps. This is coupled with behavioral and cognitive strategies—with the emphasis on the latter if dysfunctional thoughts are present. Treatment review sessions should be scheduled once every 2 weeks at the start of treatment, and as treatment progresses, every month.

Cognitive-behavioral therapy (CBT) is often recommended and has been found to be the most effective treatment, particularly in patients with hypochondriacal preoccupations. This treatment is often employed when abnormal illness beliefs and behaviors encourage habits of avoidance and acceptance of disability. Mindfulness-based stress reduction programs and acceptance and commitment therapy are alternatives to CBT. Behavioral graded activity has been used in the treatment of patients with back pain but is likely not more effective than other forms of exercise for persistent low back pain.

Standard antidepressants to treat depression as a sequela of chronic pain may be effective. SSRIs have virtually no analgesic effect, although the older tricyclic antidepressants have been shown to be effective in neuropathic pain. SNRIs are more effective in reducing neuropathic pain and depression. The SNRIs are also of value in functional somatic syndromes such as fibromyalgia and chronic fatigue syndrome. The only FDA-approved SNRI with analgesic properties is duloxetine. In medically unexplained physical symptoms, the evidence for the benefits of pharmacotherapy is meager. A Cochrane-based review found low-quality evidence for the efficacy of atypical antidepressants and natural products (primarily St John’s wort) for treating somatoform symptoms.
In managing exaggerated and abnormal illness behavior, all the possible factors that are contributing to the maintenance of the behavior should be determined. The apparent advantages and disadvantages of the behavior should be discussed with the patient and his or her family. Often family members believe that activity will lead to serious damage and unwittingly support the patient’s passive attitudes. In other cases, family influences deter the patient from developing independence and so reduce autonomy. In compensation cases, it is vital to settle issues as soon as possible. The longer the person remains disabled, the less likely he or she is to return to previous levels of functioning.

**Prognosis**

Although the purported view is that the prognosis for these conditions is poor, many patients improve if a patient-centered treatment plan is developed, cognitive-behavioral interventions are used, and sufficient care and attention are paid to obstacles that arise during treatment. The shorter the period of pain, the better the prognosis. However, the outcome in factitious disorder and malingering is poor.

**Conclusion**

The separation of the different pain conditions is not easy but can be done more accurately with a complete history and physical examination as well as awareness of salient features that arise during this process. The physician should avoid preconceptions and prejudice. As the Table indicates, psychological and psychiatric factors are the most frequent reasons for persistent pain without adequate evidence of physical pathology. Moreover, there is often a combination of etiologies. Clinicians should be sensitive to the presence of psychiatric illnesses because these are often amenable to treatment. CBT and selective treatment with SNRIs have the best chance of successful outcomes.

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**Table**

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<thead>
<tr>
<th>Factor affecting pain</th>
<th>Approximate frequency in those with medically unexplained pain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary pain</td>
<td>5% - 10%</td>
</tr>
<tr>
<td>Somatoform pain</td>
<td>10% - 30%</td>
</tr>
<tr>
<td>Psychiatric factors</td>
<td>Difficult to estimate but between 10% and 30%</td>
</tr>
<tr>
<td>Abnormal illness behavior</td>
<td>5% - 10%</td>
</tr>
<tr>
<td>Narcolepsy</td>
<td>20% - 40%</td>
</tr>
<tr>
<td>Factitious disorder</td>
<td>0% - 2%</td>
</tr>
<tr>
<td>Malingering</td>
<td>Between 5% and 15% depending on structured</td>
</tr>
<tr>
<td>Medically unexplained pain</td>
<td>Extremely rare</td>
</tr>
<tr>
<td>Psychogenic pain</td>
<td>Extremely rare</td>
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<tr>
<td>Psychiatric pain</td>
<td>0% - 3%</td>
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</tbody>
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References:


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