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REVIEW & COMMENTARY

Chronic Pain: Second, Do No Harm

ABSTRACT

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Pain may be undertreated—contributing to anguish, as reported by the World Health Organization. Pain may be overtreated—inadvertently contributing to drug addiction, drug diversion, and even death. Pain may be misunderstood—contributing to illness propagation, as reported in somatization literature. Pain words may even be presented as a tool of manipulation, where report of pain is verbiage in pursuit of utilitarian social consequence. Thus, *primum non nocere—first, do no harm*—is not easily achieved in the pharmacological treatment of pain, particularly in pain reported chronically. Herein, we examine the pharmacological treatment of chronic pain, and we suggest strategies for improved management that are based on solid principles derived from extensive experience which may protect against the problems derived from the vague and subjective nature of pain symptoms. Optimal treatment of chronic pain may be assisted by three paradigms: (1) an adequate model of appraisal, (2) treatment focused on pathophysiology (whether physical, psychosocial, or some combination of these), and (3) frequent reassessment of total social function. By these approaches, contribution to drug abuse, diversion, and life deterioration can be largely avoided. Whereas the emphasis here is pharmacological management, the principles may be more widely applied to other therapies of chronic pain.

Key Words: Pain, Evaluation, Biopsychosocial, Pathophysiology, Function, Abuse

Pain, a subjective experience, is often inaccurately treated. The World Health Organization and others have advocated that pain is often undertreated.[1–4] Indeed, in some contexts, this is clearly supportable. Alternatively, an expanding body of literature focuses on drug addiction, prescription drug–related death, and drug diversion as problems resulting from misguided response to verbal pain complaint.[5–8] This misguided response may be founded on an unrealistic expectation that all pain, no matter what level, should be chemically treated, or that all pain words are used with equal veracity. Also as an alternative, a well-established body of literature recognizes pain complaint as a manifestation of somatization, wherein excessive focus on the verbiage of pain complaint may miss the real focus of the problem.[9,10] Pain in this context may present under the word *pain*, but the real issue is anguish (emotional suffering). Still further, pain treatment—viewed objectively—may be seen to correlate over time with an overall reduction in patient function, rather than improvement. This is particularly notable in some chronic pain patients where the overall syndrome is viewed from a broad temporal perspec-

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tive. Yet, good treatment should lead to improvement in function (adjusted appropriately for the evolution of the objective pathology). So, in total, there are several situations wherein pain treatment does not serve the goal of illness reduction.

Primum non nocere—first, do no harm—is variably attributed to Hippocrates or Galen.[11] The admonition recognizes the power of health care to produce adverse outcome—exacerbation or iatrogenic disease. In chronic pain, it is quite easy to contribute to illness and reinforce illness behavior.

We acknowledge that in the broadest perspective, healthcare providers are largely attempting to do what is reasonable. The exceptional situations are the focus here. However, the exceptions are not rare. Thus, we advocate a variation, *second, do no harm*. Treatment of pain itself from the "first" perspective generally does not produce harm. The problems seem to develop from a "second" perspective: management of difficult situations where reported chronic pain is misunderstood.

The majority of mismanagement occurs in the treatment of chronic pain (or chronic pain *complaint*) where pain is not well explained by structural findings. Where a patient has a solidly defined and solidly adequate explanation for the reported pain, the issues before the physician are comparatively simple, and management is more likely to be accurate and appropriate. This is the notion that underlies the sanctification of "cancer pain." However, we will eschew the dichotomy of cancer pain *vs.* noncancer pain. Cancer patients are not somehow automatically exempt from complex psychosocial issues. Further, it is not entirely appropriate to sanctify cancer over all other pathophysiologies. Other mechanisms may produce equally objective and valid foundations for chronic pain. Conversely, somatization, drug addiction, drug diversion, and malingering are all issues of psychosocial mechanism. Although psychological testing is available to help identify some of these issues (Rey 15-item test for cognitive dysfunction, other malingering tests, etc.), psychosocial problems do not show up on biological tests. Therefore, it is useful to set apart the patient whose objective tests (x-ray, magnetic resonance imaging, electrodiagnostics, etc.) inadequately explain the pain, because these are situations where mismanagement is more likely.

A swelling body of literature from regulatory agencies and the lay media advocates that adverse outcomes derive from excessive use of prescription pain medications.[12–16] The U.S. Department of Health and Human Services Report, *Prescription Drug Abuse*, from June 16, 2004, states that

> Prescription drug abuse is a major public health concern. The 2002 National Survey on Drug Use and Health (formerly known as the National Household Survey on Drug Abuse) reports that 6.2 million Americans age 12 and older are current users of prescription drugs for nonmedical purposes. An estimated 4.4 million used pain relievers, 1.8 million used tranquilizers, 1.2 million used stimulants, and 0.4 million used sedatives.[17]

The literature on abuse via resale of prescriptions reveals that claims of pain (or anxiety) may be used to obtain prescriptions that have a much higher street resale value than the cost to obtain them—possibly 10–100 times greater street value than cost.[18,19] Physically well patients may present with feigned pain while in pursuit of drugs for another family member, or for resale.[19–21] So, from multiple perspectives, there is a strong argument that prescription drugs are often mishandled.

We must recognize that the "faces" of biological pain, psychological pain, and pretend pain (acting) may seem very similar. A patient suffering from chronic nociceptive pain (biological pain) might present looking very similar to a patient suffering from anguish-induced somatoform pain (psychological anguish pain presented as physical pain). Likewise, a patient who is addicted to medications may present with words and a convincing visage suggesting pain, whereas the real agenda is the satisfaction of addiction (and the life issues that underlie it). Physicians wish to believe patients and presume they are telling the truth. Thus, they may be fooled. Certainly, Hollywood movies make it clear that pretending to be in pain may be done convincingly—even by people of no particular medical insight. So, patients experienced in structural pain from past illness may be even more adept at "talking the talk" while currently in pursuit of drugs for other purposes. Therefore, we recognize that a patient's words and visage are not sufficient criteria to manage chronic pain situations. We are partly obligated to proceed *initially* under presumptions about the validity of a patient's pain complaint. However, this does not exonerate the physician from other considerations where the course and data of the claims do not support initial presumptions.

Prescriptions given for legitimate reasons may be greater in number or duration than are needed. And, the remainder may be consumed inappropriately by a family member or a visitor who finds the pills in the medicine cabinet. Patients may share prescriptions with other family members for whom the medications are not appropriate, resulting in side-effects, overdose, or other complications. Or, in the effort to provide sufficient pain relief, physicians may offer medications of excessive strength or multiple, different medications, leading to unplanned adverse drug interactions. Thus, even

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where the patient has a warranting condition, prescribing physicians must consider the expanding literature on diversion.

Because the difficult chronic pain patient can present without major, objective, and active pathology to account for the reported pain, how is the physician to decipher the correct routes of treatment? Herein, we discuss three tools that may assist in the accurate appraisal of pain: (1) the biopsychosocial model of illness analysis, (2) a focus on pathophysiology rather than pain words, and 3) an appraisal of total social function during the course of treatment.

For completeness, we do acknowledge that pain treatment may also cause harm secondary to complications of invasive treatments or recognized adverse medication effects. However, these issues are more easily identified, more easily addressed, and more simply understood than those noted above; therefore, these will not be our focus here.

Understanding Chronic Pain, Using an Adequate Model of Appraisal

Largely, American medical care of the last century has proceeded under a Cartesian duality—a presumption that illness stems either from a disorder of the body or one of the mind. For simpler illness, this approach largely worked for past needs, but it falls short with chronic pain. (It is, of course, also being eroded as an approach for the broad context.) The persistence and severity of a chronic pain syndrome may, in part, be attributed to the attempt to apply this insufficient model to the problem.

In 1977, George Engel[22] proposed an adequate framework: the biopsychosocial model of illness analysis. This model conceives illness not just within the limited frame of biology *vs.* psychology, but from the larger perspective that illness exists within a complex matrix of biological, psychological, and social issues. There is now a large body of literature examining and advocating the model.*

It is easier for a physician to approach pain under the presumption that it has biological foundations. Patients routinely do not want to consider psychological and/or social issues as reasons for their pain, or report of pain. Both convenience and the time constraints of modern medical practice would, therefore, be served by placing psychological and social issues of pain to the side. Furthermore, legal programs, including worker's compensation disability and social security disability, tend to isolate either physical or mental impairments in assessing disability, without wholly considering the complex interaction between physical, psychological, and social factors on ultimate disability. However, this acquiescence serves convenience rather than accuracy, and it may lead to worsening of the patient's condition (or, for example, inaccurate disability determinations). In regard to chronic pain, the third edition of the American Medical Association's *Guides to the Evaluation of Permanent Impairment* (now in its fifth edition, with a sixth edition in process) was particularly candid when it stated that chronic pain is a "complex bio-psychosocial phenomenon" and "tissue damage, often trivial at its inception, generally has healed and no longer serves as an underlying generator of pain."[23] Whereas the focus of the impairment guides understandably is centered on injury issues and, thus, references tissue damage from this perspective, sections of the guides nonetheless capture the notion of multicentric issues and the perspective of shifting balance in mechanisms over time. On the other hand, the AMA guides fail to adequately address the complex overall impairment that occurs when considering the physical, psychological, and social factors impacting an individual's life function (disability).

The biopsychosocial model is particularly relevant in the analysis of chronic pain, because it specifically invites appraisal of multiple, *simultaneous* mechanisms. Recognition of these factors by using such a model can be the first step in attempting to sort out and apportion the relative impact of each factor (the injury as a cause of impairment *vs.* the complex social factors). A patient may have had a true structural injury that acted as the nidus of the chronic pain syndrome, but psychological issues such as anxiety and/or depression may then have been added. Further, social issues, such as fear of disability, may have added yet a third layer of mechanisms. The resulting pain syndrome may fail to respond to standard medical treatment because all of the mechanisms are important, because they may feed one another, or because they cannot be approached adequately via an overly simplified strategy such as narcotic therapy.

As a chronic pain syndrome evolves, the relative roles of biological, psychological, and social factors shift balance. Management must attend to the relative contributions present at each phase of treatment. For example, after injury has healed and no longer serves as an underlying generator of pain, continued focus on a presumed injury mechanism by the patient, provider, or legal system will not improve, and may diminish, the patient's condition. When secondary (or independent) psychological and social issues may have become the predominant factors, management must shift its focus to these. The biopsychosocial model invites

*Because this literature is rapidly expanding, the reader is advised to reference Medline under *biopsychosocial*. During the drafting of this manuscript, such a search returned approximately 1750 citations.

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such appraisal of all of these issues and further recognizes that management must be tailored to predominant factors at a given time of treatment. Poorly explained pain that does not respond to treatment or that correlates poorly with test findings may indicate a major contribution from a background psychosocial factor. As such, chronic pain is best treated by those experienced at recognizing the biological, psychological, and social issues, such as those who have access to a multidisciplinary team for adjusting treatment. In the setting of hospice care, this broad management responsibility is not only recognized but has been codified: "Palliative care . . . relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual."[24]

Treatment Centered on Pathophysiology

Because pain complaint is inherently subjective, and current medical literature supports aggressive treatment, physicians may be lulled into treatment that centers on a response to the patient's words and visage rather than focus on the pathophysiology presumed to cause the pain. This opens the door to excessive or misdirected treatment, especially with regard to narcotic medications.

A report of physical pain does not always mean the primary process is physical. Depression is a well-recognized progenitor for pain complaint.[25,26] Additionally, somatization is classically construed as psychological issues leading to reporting of physical symptoms (pain being arguably the most common of these).[27] An entire section of the American Psychiatric Association's *Diagnostic and Statistical Manual, Fourth Edition* is devoted to the somatoform disorders. Although we may prefer an often-referenced notion that depression follows pain, which it can, the phenomenon of somatization reveals that the reverse is also commonly true.[28,29]

For many reasons, it is much better to frame complaints of chronic pain *under* the pathology that accounts for it. For example, it is not particularly helpful to diagnose that *the patient has chronic back pain*. This is an invitation to focus on the symptom rather than its cause. It is an invitation to believe that the central goal of treatment is symptom relief, rather than correction/control of the underlying process. It is also commonly a false belief that the pain is actually generated by specific pathology in the back. Often, treatment is unfortunately focused on an abnormal imaging finding that may be incidental. By contrast, it is more helpful to diagnose that *the patient has [insert pathology here], resulting in chronic back pain*. This is an invitation to focus on the pathology and primary mechanism while recognizing the pain as secondary. And, if at some point the low back is no longer felt to be the pain generator, then the source of the pain (psychological, social, or a combination) should be cited, rather than perpetuating in the record that the low-back "pathology" is the source of the pain. Progress notes specifically and accurately referencing the biological mechanism of pain further invite appropriate reevaluation of the pathology over the course of the chronic syndrome.

Treatment centered on pathophysiology is more likely to detect drug misuse. Where drugs are being misused, the words of claimed pain will be recognized as recurrently standing disproportionately to the evidence for pain-producing pathology. Certainly, in the prodromal state of an illness, painful symptoms may precede delineation of the generating pathology; however, the prodromal state is temporary. When time and testing have not revealed an adequate explanation, then a change in perspective and approach may be warranted.

Providers insightful to the dilemmas of chronic pain patients will probably be thinking, *the problem with centering on the pathophysiology of the patient's pain is that in many patients, the critical pathophysiology isn't clearly known*. Indeed, this is a central problem in chronic pain patients, and it is a major reason why somatization, drug abuse, drug diversion, and malingering often proceed, sometimes indefinitely, under the claim of chronic pain. However, even if the mechanism is unclear, treatment should proceed under delineation of the presumed pathophysiology. At the very least, by stating the presumption, it becomes available for reevaluation over time. What might be a reasonable hypothesis at one point in an illness might become unreasonable with the passage of time. So, by stating the presumed pathophysiology and rendering treatment based on it, the medical care proceeds under a foundation that may be reevaluated.

For example, after a minor automobile accident, it is common for patients with subjective pain complaints to be given a diagnosis of *sprain* or *strain*. These might be reasonable hypotheses at the beginning. However, the biological behaviors of true sprain or strain are recognized. Months and months of unrelenting chronic pain complaint are not consistent with a hypothesis of sprain or strain. Thus, if a diagnosis of sprain or strain is applied at the beginning of an accident-related illness, when the diagnosis might be reasonable, eventually it will become evident that chronic prescriptions of narcotics under this hypothesis are unreasonable.

Therefore, even though the precise mechanisms of chronic pain are often debatable in many chronic pain patients, the effort to orchestrate treatment under the presumed pathophysiologic mechanism is constructive. And, it is much preferable to proceeding under the vague labeling of

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the claimed symptom or anatomic site (e.g., *back pain*).

Frequent Reappraisal of Total Social Function

Function is one of the most useful overall assessments of disease state and treatment course. *Do no harm* in pain treatment means the patient should—as the result of treatment—function better than if the treatment had not been given. For example, the patient should be more productive at work and at home.

A practical assessment of *total social function* does not necessitate inquiry into all aspects of social function. Rather, it simply invites recognition that an assessment of pain cannot adequately proceed on the mere basis of vague reports of *feeling better*. The patient's function at work, in home responsibilities, in social relationships (with spouse, children, and friends), in recreation, and in other lifestyle supports should be considered.

Particularly where psychosocial issues are major, a chronic pain patient's total social function may stand in stark contrast to the patient's claims regarding treatment effectiveness. The patient may say that the chronic narcotics help, whereas one observes that over time, the patient's function has either shown poor improvement or even deterioration (inadequately explained by objective pathology). Where psychosocial mechanisms lead to advantage from social withdrawal from work, home responsibilities, or other social demands, the patient may be seemingly satisfied with chronic pain treatment that does not improve function. This goes beyond just the psychological and physical dependence on narcotic medication and the desire to continue dosing; it crosses over to the reinforcement and reward that can occur by withdrawal from responsibilities (attention from loved ones, financial reimbursement, and disability). The reason for the satisfaction is obvious: withdrawal from social demands or function is actually a goal. Conversely, if a patient is not benefiting from dysfunction, he or she will typically be anxious to have treatment produce objectively improved function. Because narcotics temporarily relieve anguish, and because life anguish may be a strong underlying issue in psychosocially mediated chronic pain syndromes, chronic use of narcotics is common in patients who are inappropriately satisfied with poor overall function. (It should be noted that such patients will typically use illusory verbiage, which suggests that they are anxious to return to work or function, even though their behaviors do not correlate.)

A simple technique that is useful in the assessment of total social function begins with the question, *What are you now able to do in your life that you were not able to do on our last visit?* A patient who is truly benefiting from treatment will be able to define improvements in function and capacity (or, at least, that his or her function is being maintained at a high level). Further, in an effective treatment course, this objective functional improvement (presuming claims are confirmed) will be progressive over time (unless the disease itself is chronically progressive).

SUMMARY

To do no harm in the management of chronic pain, we must attend to both the issues of undertreatment and overtreatment. Issues of pharmacological undertreatment and overtreatment have been particularly well recognized. Where a patient's pain syndrome is poorly correlated to sufficient, explanatory, and objective pathology, appropriate consideration must be given to potential psychosocial mechanisms leading to chronic pain complaint. Three tools may assist in optimal management: (1) the biopsychosocial model of assessment, (2) treatment centered on pathophysiology rather than pain verbiage, and (3) an ongoing evaluation of total social function as a solid measure of treatment effectiveness.

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CME Self-Assessment Exam

Answers

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1. D
2. B
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5. D

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