PARADIGM OUTCOMES

The Anatomy of Chronic Pain and Opioid Misuse

Clarifying Diagnosis and Understanding Terminology

Chronic pain is a chronic problem. According to a 2010 study, about 25% of adults suffer from chronic pain, and about 10% are so disabled by the condition that it limits their work and family activities[1]. Of course, this is not without a cost. Lost productive time from common pain conditions among active workers costs an estimated $61.2 billion per year in the United States[2]. When looking specifically at workers' compensation, opioids account for an estimated 40% of workers' compensation pharmaceutical costs, adding up to $4 billion in spending.[3]

However, chronic pain statistics teach us that though a treatment is common, it is not necessarily effective or safe. Many treatments approved by the FDA may help carefully selected patients, yet in community practice, candidates may not be selected carefully. Similarly, many treatments are used off label—that is, for purposes not approved by the FDA. Some clinicians are excellent at medical management, while others are less experienced. Yet there is no way to track or measure skill with medical management because, unlike hospital-based care, outpatient pain management is unregulated, without any requirement for reporting outcomes or complications.

While some debate whether over-prescription of opioids poses a problem, the statistics bear down on us: there are 15,000 prescription opioids deaths and billions of dollars in ineffective treatment, fueled by opioid marketing, the desire of clinicians to provide a quick fix, and the surprising lack of understanding of the subtlety and complexity of opioid use disorders[4].

The scope of this problem clearly merits a methodical and effective management approach. This is especially necessary as the professionals working with these cases often find the terminology to describe prescription opioid use confusing. This uncertainty too easily results in inaccurate application of terms related to addiction and abuse and can lead to both stigmatization and unsuccessful intervention.

The term "addiction," for example, is often misapplied to patients with chronic pain who are on chronic opioid therapy. There are many reasons chronic opioid therapy may be problematic and harmful, particularly in high doses. Addiction is only one of several explanations. To successfully manage chronic pain cases, a fundamental understanding of pain and addiction terminology is needed. Only then can clinicians accurately diagnose a patient before selecting an appropriate path toward treatment.

The Challenge of an Accurate Diagnosis

Judicious initiation or avoidance of opioids ultimately depends on a correct pain diagnosis, as there are very few pain diagnoses for which chronic high-dose opioid therapy is proven to be effective. A 40-67% incidence of inaccurate or incomplete diagnosis has been estimated in patients presenting to pain treatment centers with back pain[5]. This reflects the unclear criteria frequently used to diagnose chronic pain and/or the imprecise use of clear criteria. For example, time and again we see the diagnosis of radiculopathy (which has clear diagnostic criteria) used vaguely to refer to any leg or arm pain. Similarly, diagnoses such

as discogenic pain, fibromyalgia and chronic regional pain are used to describe unexplained pain without clear irrefutable clinical signs to implicate those specific conditions. A specific course of treatment aimed for those conditions often ensues.

To successfully manage chronic pain cases, a fundamental understanding of pain and addiction terminology is needed. Only then can clinicians accurately diagnose a patient.

When such a diagnosis is correct, it usually leads to an effective change in treatment from which the patient benefits. When applied inaccurately, these diagnoses can lead to any number of ineffective (and expensive) clinical interventions.

For example, an inaccurate diagnosis of radiculopathy may then lead to epidural steroid injections, laminectomies, neuropathic pain medications, spinal cord stimulators and other therapies indicated for that diagnosis. However, if the diagnosis itself is suspect, the care plan leading from it will also be imprecise and costly.

Once an accurate evidence-based pain diagnosis is made, the correct evidence-based treatment must then follow. In recent years, opioids have made it to the top of the treatment decision tree just as we have seen a decline in the appreciation of the psychosocial issues perpetuating pain. Though the ramifications of this problem are beyond the scope of this paper, suffice it to say that this pattern must reverse, especially as it relates to prescription opioid use.

Tolerance, Addiction and Substance Use Disorders

Many chronic prescription opioid users suffer from escalating side effects and psychosocial issues without showing measurable improvements. With these cases, the misuse of the term “addiction” leads to two opposing problems. On one hand, it may stigmatize some patients with incorrect assumptions about their motivations for opioid use. On the other hand, it may lead some to believe that addiction is the only real problem that can result from chronic opioid use. By confusing other opioid use problems for addiction, we may unintentionally misdiagnose the real problem. An example would be the injured worker with chronic pain whose medical record shows escalating usage of high-dose opioids. If a clinician takes a strict addiction management approach, he might send this patient to a detoxification program. However, the problem is one of physiological dependence combined with a belief (perpetuated by the physician) that the patient simply is tolerant and needs more medication.

Detoxification alone is likely only a temporizing measure with no long-term benefit. Though the physiologically dependent patient may share some of the behaviors of an addicted person, she requires intense education, detoxification and training in pain management techniques. Therefore, as with other pain-related diagnoses, it is vital to arrive at a validated opioid use diagnosis. Keep in mind that addiction may actually be the problem. Studies have varied regarding the incidence of addiction in patients on chronic opioid therapy for chronic pain, with a classic review showing statistics on the order of 3.2% addiction, 20% aberrant drug related behavior and 14.5 % incidence illicit drug use. However, the endemic variation in the use of addiction terminology, even in research, may affect the validity of such statistics.

The terminology used in the addiction field has not always been congruent with how it is used in American Psychiatric Association DSM IV terminology or among the lay public. The phrase “substance use disorder” offers a general term that may prevent an immediate jump to an addiction diagnosis. In fact, within this category the concepts of opioid tolerance, withdrawal, dependence (physical) and aberrant use are operative.

The terms may be defined as follows:

- **Tolerance:** a need for markedly increased amounts of a drug to achieve the desired effect, or a markedly diminished effect with continued use

of the same amount of drug. The implication here is that the body has become tolerant to some of the drug's effects, but it is usually not tolerant to all of the effects.

- **Withdrawal:** a state of unpleasant symptoms that appear when a person stops taking a drug on which he or she has become physically dependent. Negative physical symptoms of withdrawal result from abrupt discontinuation, dosage reduction and sometimes between doses. These symptoms may include but are not limited to sweating, shaking, diarrhea and anxiety.

- **Physical dependence:** A state resulting from chronic use of a drug that has produced tolerance. In a sense the body has become so adapted to having the opioid on board that it requires continued opioids to prevent symptoms of withdrawal. Escalating doses of opioid may be necessary to prevent withdrawal symptoms.

- **Addiction:** a primary, chronic disease of brain reward, motivation, memory and related circuitry reflected in an individual pathologically pursuing reward and/or relief by substance abuse and other behaviors[7]. These behaviors often include craving, drug use despite harm and compulsive drug seeking.

- **Opioid induced hyperalgesia**: a state where, due to sensitization of the nervous system, opioids lead to increased pain sensitivity.

A Path Forward

Addiction is a real entity and a problem in the population using chronic prescription opioids. However, terms denoting addiction are often misapplied to injured workers whose physicians have simply maintained them on opioids. This misapplication also can occur when a patient shows signs of physiological dependence. However, the term addiction is not always correct in denoting other problems with opioid use, nor is the term necessary to justify that there is problem with opioid use. Addiction aside, many opioid-induced side effects have a negative impact on patients, as do opioid tolerance, withdrawal symptoms and physiological dependence. Tolerance to analgesic effect is not sufficient reason for escalating opioid treatment. Rather, one must look at objective response to treatment, effects on health and wellness, and pain behaviors. Treatments must be closely monitored to ensure that patients receive appropriate care each step of the way.

For these cases, accurate definitions and a systematic approach based on clear objective assessments will lead to a treatment plan that offers the most benefit to the injured person. An effective management plan will include objective assessment and criteria, careful selection of pharmaceuticals and other forms of therapy, and a commitment to reassessing and measuring effectiveness through meaningful functional measures throughout the recovery.

Each of these components relies on a single first step—beginning the case with an accurate diagnosis and an understanding of both pain and addiction.

---

1. Croft P, Blyth FM, van der Windt D. The global occurrence of chronic pain: an introduction. In: Croft P, Blyth FM, van der Windt D, eds. Chronic Pain Epidemiology: From Aetiology to Public Health. Oxford: Oxford Univ Pr; 2010:9-18
2. Stewart et al. Lost productive time and cost due to common pain conditions in the US workforce. Journal of the American Medical Association, 2003.
3. Journal of Workers Compensation, Vol. 18, No. 1, Fall 2008.
4. Centers for Disease Control study, 2008.
5. CIGNA Healthcare report, 2006.
6. Fishbain, D et al. Comorbidity between psychiatric disorders and chronic pain. Current Review of Pain. 1998.
7. American Society of Addiction Medicine.