



Physicians under the Influence:

Have we been seduced by technology into ignoring behavioral treatments for chronic back pain?

by Stephen Colameco, MD, M.Ed.

INTRODUCTION

There was a time when family medicine “owned” the biopsychological approach to patient care. During its infancy as a specialty, the founders of family medicine recognized the need for a different type of medical training other than that which Internal Medicine and Pediatrics provided. Family medicine treated individuals as part of a larger system that included families living within communities. Family medicine was unique in mandating three-year continuity patient panels, community medicine training, and behavioral science teaching in the office setting. Since family medicine teachers were not involved in basic science or clinical trials, they turned their attention to areas most neglected within physician training- behavior science and physician education, especially interviewing and interpersonal skills training. Medical students disillusioned by internal medicine’s reductionist approach to diagnosis and treatment embraced family medicine for its “whole person” and systems approach. The young specialty attracted committed, bright graduates of U.S. medical schools, many of whom became teachers themselves. I was one of the first groups of residency graduates to a complete faculty development fellowship. Both my residency and fellowship emphasized the importance of recognizing and treating psychosocial components of medial illness. The faculty who trained me included liaison-consulting psychiatrists, an internist who had completed a psychosomatics fellowship, an addiction psychiatrist, psychologists and social workers. I was taught

that the majority of patients we treated had psychological issues, if not a psychiatric diagnosis. I was taught that a large percentage of patients presenting with depression had co-existing substance use disorders. I was taught that the Minnesota Multiphasic Personality Inventory was a better predictor of chronic pain after back surgery than was a myelogram (yes, MRI was not yet invented). I was taught that counseling and psychotherapies were just as important in treating disorders with an emotional component as was medication. I was taught that failure to address psychological issues often delayed proper treatment and was enabling.

Family medicine is once again searching for its identity. Residency training still mandates continuity, behavioral science, and community medicine training, but how seriously do we take this training? Under the pressures of declining revenue, increasing insurance company-generated paperwork, regulatory requirements, managed care behavioral medicine “carve outs,” to name a few... how many of us can afford to spend the time needed for counseling or active community involvement? Our leaders debate whether it is important for family physicians to practice obstetrics, while family physicians in New Jersey are having a difficult time finding professional liability insurance that excludes minor surgery let alone obstetrics. Our specialty emphasizes the importance of inpa-

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tient medicine, when many of us have decided it is impractical to admit to hospital, preferring to refer to specialists or “hospitalists.” We teach residents that cognitive-behavioral therapy is effective treatment for panic disorder and depression, but spend far more time debating the merits of one medication over another in the clinical setting. Our behavioral medicine faculty are well aware that most patients with chronic pain have psychiatric disorders and many are at-risk for addiction, but we devote little attention to these aspects of chronic pain treatment. Every year, the American Academy of Family Physicians offers seminars on pain management supported by pharmaceutical companies at its Annual Scientific Assembly, but it has

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not offered a single seminar on opiate abuse or dependence at this conference in 2002, 2003, or 2004. The explanation provided by the AAFP to the American Society of Addiction Medicine was that there was insufficient physician interest (in a time when we are prescribing most of the

abused opiate medications). Is the explanation for this contrast between our specialty’s avowed belief in the biopsychosocial model and our actual practice rooted in hypocrisy? I think not. Rather, I believe we have physicians who are

“under the influence” of biomedical technology such as diagnostic imaging and newly introduced pharmacologic agents. What has changed since my teachers emphasized the important role of psychological factors in managing chronic back pain? Certainly we have better technologies than myelograms! We have MRI, interventional pain management procedures, micro-invasive back surgery, and new medications! Has this new technology made a difference? Is psychological treatment less important? Or are we physicians “under the influence?”

Chronic Back Pain Treatment- What is the Evidence?

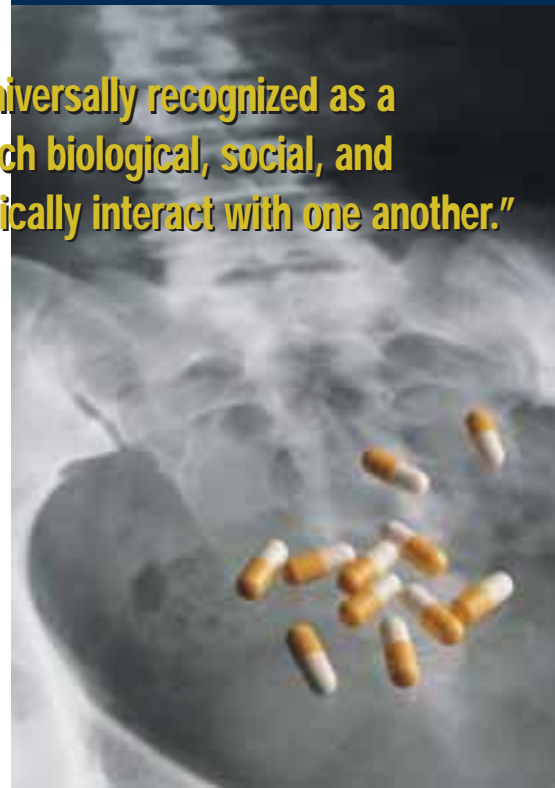
The experience of pain is universally recognized as a complex phenomenon in which biological, social, and psychological factors dynamically interact with one another.^{1,2,3} Despite this understanding, the typical medical approach to back pain is reductionistic – seeking to identify a single, usually anatomical, causative factor that can be treated rather than considering pain as caused by a complex constellation of factors. Typically, physician assessment of chronic back pain begins with a patient interview and physical examination. Based on the clinical assessment, physicians develop a differential diagnosis of potential pain causes, usually ordering radiological studies to determine whether there is an underlying structural problem causing pain. This approach is based upon the assumption that the principal cause of chronic back pain is likely a pathologic process such as arthritic joint inflammation or discogenic nerve compression. Proceeding from this premise, physicians order medical treatments such as anti-inflammatory medications, analgesics, injection of therapeutic agents into effected areas, physical therapy or surgery with the intent to relieving pain and improving function. Despite the growing clinical acceptance of MRI imaging, long-acting opiate medications, and interventional approaches, there is surprising little clinical evidence supporting the effectiveness of these new medical technologies. Furthermore, there is little if any evidence that these new technologies have reduced back pain disability

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costs and some evidence that costs may actually be increasing.^{4,5,6}

There are many possible explanations for the apparent discrepancy between physician beliefs about the clinical effectiveness of these treatments and clinical outcomes. One possible explanation is that current medical practice fails to identify those patients who are least likely to benefit from medical therapies- those in whom psychological factors are a major contributing factor to chronic pain. When such patients are treated exclusively under the medical model of care, their symptoms might actually worsen.⁷ In such patients, the medical model may reinforce patients’ beliefs that “the” cause of pain can be isolated to an anatomic abnormality or injury, potentially contributing to the “sick role” and consequently delaying effective behavioral treatments.

Family physicians rely heavily on diagnostic imaging, especially MRI, to identify anatomic abnormalities causing back pain. However, research studies have documented a high prevalence of “abnormal” MRI findings, such as disc bulges, protrusions, and facet joint arthritis in asymptomatic patients.⁸ A recent study found no association between MRI findings and pain in older adult women.⁹ That is not to say that MRI is of no value as a diagnostic tool, but its value is usually overvalued by practicing physicians. A recent study found that MRI results affected treatment in only 6% of cases.¹⁰ Similar results have lead experts to conclude that MRI scanning may be no better than a plain x-ray.^{11,12,13,14} In the clinical setting, however, we often rely on MRI findings; our patients with back pain routinely bring their MRI pictures to the office telling us that another physician has shown them abnormal anatomic problems such as bulging discs that are “the” cause of the pain. These patients often attribute these MRI abnormalities to specific causative events such as motor vehicle or work-related accidents.



The concept of injecting corticosteroids into joint articulations and epidural spaces is not new; it has its scientific basis in the reduction of inflammation thought to accompany conditions such as disc herniation with radiculopathy and spinal osteoarthritis. Based on MRI findings, family physicians increasingly refer patients with chronic back pain to pain specialists for corticosteroid injections. Since MRI imaging is of limited value in determining whether an anatomic problem is actually the principle cause of pain, it should not be surprising that corticosteroid injections are often ineffective! In fact, there is little clinical evidence supporting injection treatments for chronic back pain in controlled clinical trials. Each of three recent reviews (Weinstein et al. 2003, Nelemans et al. 2003, Merrill 2003)^{15,16,17} concluded that there is a need for further randomized, placebo-controlled clinical studies. Weinstein “endorsed” lumbar epidural injections in the treatment of lumbosacral radicular pain with disc herniation based on *theoretical constructs and practical experience*, but not on the results of randomized clinical studies; he concluded that research had produced mixed results. Merrill reviewed forty-four clinical studies involving interventional pain management, and concluded that the “scien-

tific literature provides scant proof of the long-term benefit of these procedures.” Nelemans updated a previous Cochrane Library review of chronic back pain treatment. His review included twenty-one randomized trials involving patients with low back pain lasting longer than one month and concluded “Convincing evidence is lacking on the effects of injection therapies for low back pain. There is a need for more, well designed explanatory trials in this field.” Perhaps even more disturbing than the lack of supporting outcome data is the fact that there is no consensus on technical aspects of these procedures.¹⁸

In decades past, family physicians were reluctant to prescribe opiates, in part over concern of fostering addiction or fear of drug enforcement agency scrutiny. In the 1980's, we were far more likely to prescribe the short-acting opiates then available (e.g. propoxyphene, codeine, hydrocodone, oxycodone) than long-acting opiates (e.g. methadone). In the 1990's, research demonstrated theoretical and clinical advantages to long-acting preparations for treating chronic pain. The pharmaceutical industry responded with the introduction of new, controlled-release formulations of opiate analgesics (e.g. OxyContin®, Duragesic®) in the mid 1990's. Unfortunately, prescription drug abuse and dependence also increased dramatically during this same period of time, with OxyContin® receiving the most media attention. In 2004 the United States National Survey on Drug Use and Health concluded that nearly 2.0 million adults had used OxyContin® non-medically at least once in their lifetime.¹⁹ Many of these prescriptions were written by well-intentioned family physicians. While there is evidence that opiate medications in conjunction with other treatments (e.g. injection treatments) reduce patient self-assessment of pain, there is no evidence that they improve psychological well-being or pain behavior.²⁰ A recent, comprehensive review of the efficacy and safety of long-acting oral opiates for chronic non-cancer pain found insufficient evidence to support the use of long-acting over short-acting medications or of one long-acting medication over another.²¹

Researchers have consistently found a high prevalence of psychiatric disorders among patients with chronic pain syndromes.^{22,23,24,25,26,27} Although MRI tests are not predictive of which patients with back pain will respond to anti-inflammatory medications (e.g. ibuprofen) and which will need opiate medications, psychosocial assessment is predictive. A recent study performed a regression analysis of four non-anatomic variables that might predict treatment: responder's age, depression, personality disorder, and a history of substance abuse.²⁸ This study found that 79% of patients could be correctly classified into anti-inflammatory responders and non-responders based solely on these variables.

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Physical or sexual abuse is also linked to pain syndromes. Recent studies (Bailey et al. 2003, Finestone et al. 2001, Goldberg et al. 1999, Goldberg et al. 2000, Lampe A et al. 2003)^{29,30,31,32,33} support earlier findings in the psychiatric literature that patients with chronic pain are far more likely to have experienced physical or sexual abuse than the general population. Bailey found that 61% of patients with chronic pain had a history of physical or sexual abuse and that the multidisciplinary treatment was effective. Finestone compared women who had experienced childhood sexual abuse with two control groups: hospital nurses and psychiatric outpatients; sixty-nine percent (69%) of abused women reported a chronic painful condition lasting more than three months,

compared to 43% of the combined control groups. Women who had experienced childhood sexual abuse also had more surgeries, hospitalizations, and family physician visits than controls. Goldberg compared chronic pain patients with a control group of hospital employees, finding physical, sexual and verbal abuse present in 54.4% of the chronic pain group, compared with 21.4% of the control group. In an earlier study, Goldberg examined the relationships between traumatic events in childhood, such as sexual and physical abuse and family alcoholism and different types of chronic pain; conditions associated with traumatic childhood events included fibromyalgia (64.7%) myofascial pain (61.9%) and facial pain (50%). Lampe compared women with chronic pelvic pain, non-pelvic pain and control groups, finding childhood sexual abuse more common in women with pelvic pain, and any childhood abuse associated with any pain type. The prevailing medical model of diagnosis and treatment does not directly address patients' need for recovery from trauma and abuse.

Most pain specialists agree that patients with preexisting psychiatric disorders are at increased risk for developing chronic pain and substance use disorders. The incidence of preexisting mood, anxiety, somatoform and personality disorders is higher among pain patients than in the general population. A recent study of patients disabled because of painful conditions supports this widely held belief. This study found a higher prevalence of both pre-injury and post-injury psychiatric disorders than the general population; 37.7% of patients met DSM Axis I criteria for a pre-injury disorder and 64.1% for an Axis I post-injury disorder (excluding pain disorders).³⁴ Of these, 55.4% had a major depressive disorder and 13.2% a substance use disorder. Axis II diagnoses were present in 70% of patients.

As a family physician who is also an addiction specialist, I am acutely aware of the link between pain and addiction. Each year, ASAM offers a “Pain and Addiction: Common Threads” conference. There are striking parallels between patients with substance use and chronic pain disorders. Addiction

specialists often treat patients with no prior substance abuse who “lost control” over opiate pain medications and suffered adverse consequences. Invariably, these patients were at increased risk for addiction; many had prior treatment for depression, panic disorder, or ill-defined painful conditions of likely psychogenic origin. Many had a history of having been abused as children. Often, they had family members who were addicts. Just as chronic pain patients are more likely to have a co-morbid psychiatric condition than the general population, so too are addicts. And a high proportion of addicts also suffer from chronic, untreated pain! A recent study reported the prevalence of severe pain of over six months duration among those treated in drug-free residential and methadone treatment programs, finding a high prevalence of chronic pain in both populations with methadone maintenance patients (37%) most often afflicted.³⁵ Another study found that 61.3% of methadone patients had chronic pain, and 44% believed their pain contributed to their addiction.³⁶

Although facet joint and epidural injections have yet to be shown to be effective in treating chronic back pain, behavioral treatments have been. There is evidence supporting specific psychological therapies, especially cognitive behavioral therapy and relaxation in the treatment of chronic pain.^{37,38,39,40} Intensive biopsychosocial rehabilitation has also been shown to be effective in reducing pain and improving function in adults with back pain.⁴¹ The Cochrane Database of Systemic Reviews finds strong evidence that behavioral treatment has a moderate positive effect on pain intensity and a small positive effect on generic functional status.⁴²

There are striking parallels between how the medical system treats chronic pain patients and addiction patients. When treating patients with addiction, the medical system concentrates its efforts on treating the presenting medical problems. Patients with substance use disorders are likely to encounter the medical system due to complications of their underlying illness, such as withdrawal syndromes, cirrhosis, pancreatitis, hepatitis, HIV, trauma, etc. Confronted with conditions that they

know how to treat, physicians order tests, prescribe medications, and refer to specialists to treat the presenting problems. Frequently, patients return to the hospital with the same condition at a future date, with no intervening addiction treatment. As an example, alcohol is a leading cause of pancreatitis. Physicians order MRI tests to confirm the diagnosis, treat the associated pain with intravenous opiates, and consult specialists for possible drainage of inflammatory collections within the pancreas. If a psychiatrist is consulted, the patient may be diagnosed with a concomitant psychiatric condition and receive a prescription for a psychiatric medication. Medications alone do not lead to recovery from addiction, though they are important in relapse prevention. Similarly, some patients with chronic pain respond to antidepressant medications, but rarely will a patient receiving opiate medication terminate opiate treatment after receiving an antidepressant. Efforts to treat the underlying condition—alcoholism in the case of pancreatitis—typically amount to little more than a consult to social services for a referral to a treatment program.

Physicians do not typically use the opportunity of an acute illness to confront denial and help the patient recognize the need for recovery: in other words, to help the patient “hit bottom.” The chronic pain patient, like the alcoholic, is often enabled by a medical system that places far greater emphasis on treating medical complications of a psychiatric illness than on treating the underlying psychiatric condition. Both the chronic pain patient and the addict with frequent hospitalization are apt to adopt the “sick role” characterized by disability, dependency, inability to express real needs, poor boundaries, low self-efficacy, and failure to accept responsibility. Both the chronic pain patient and the addict are in need of psychological treatment and recovery from a chronic illness.

CONCLUSION:

Family medicine is a specialty under attack. Each of the last three years, a smaller proportion of U.S. medical graduates have chosen our specialty, filling less than a one-half of available residency positions. We struggle to recruit truly “top” candidates. Sadly, I doubt that many of the residents with whom I trained would choose family medicine today. We were attracted by family medicine’s commitment to the biopsychosocial model and to changing the health-care system. We once thought of ourselves as the “gate keepers” of the healthcare system—playing a unique role in managing care to improve outcomes while minimizing unnecessary expense. We now debate our role in an increasingly expensive healthcare system, one in which the prescriptions we write cost three times what we are paid for providing care to our patients.

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Back pain is just one example of what is wrong with our system, and with what I believe is wrong with family medicine. We are physicians “under the influence,” “intoxicated by belief in medical technologies of unproven benefit. This is not to indict

or blame, but to state what I see as the facts. How are we educated about back pain management? We attend dinner discussions led by pharmaceutical company-paid interventional pain specialists. Our continuing medical education is dominated by pharmaceutical company-paid writers and lecturers. Research funding is largely by this same industry. Faced with limited time to see patients, and limited time to research the medical evidence, we are predisposed to intoxication by specialists and new treatments. Specifically regarding the treatment of back pain, are we really physicians “under the influence?” Ask yourself the following:

- **Do I order back MRIs because I believe the test is likely to explain why my patient’s back hurts?**
- **Do I refer patients with chronic back pain and bulging discs for**

corticosteroid injections?

- Do I believe that opiate medications will likely improve mood and behavioral function in my patients with chronic back pain?
- Do I believe that by prescribing a psychiatric medication I have done all that I reasonably could to address psychological contributors to chronic back pain?
- Do I believe that very few, if any of my patients with chronic back pain might be abusing or diverting prescription opiate medications?

If you answered “yes” to most of these questions, then your beliefs are inconsistent with the medical literature, and you might be practicing “under the influence.”

What I learned over 24 years ago still holds true: psychological factors are a major contributor to back pain disability. What has changed is that we as a specialty are less interested in behavioral approaches to managing back pain specifically and other psychophysiological disorders in general. By turning away from behavioral medicine, we have turned away from what once made us a

strong, vibrant specialty. From the standpoint of this observer, it is time for our specialty to “sober up” to the realities of modern practice, and advocate for change in the healthcare system so we may achieve the vision of family medicine as the specialty that evidence-based medicine is based on the biopsychosocial model.

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