

Chronic Pain Reconsidered

A New Role for Therapists

By [Howard Schubiner](#)

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Sixteen years ago, tired of the academic rat race of striving for yet another grant and another publication, I left the only job I'd ever had as a physician. I went from being a well-established teacher, clinician, and researcher at Wayne State University to practicing medicine at a community hospital, where I thought I'd just coast along, helping people feel better, until my retirement. But the shift turned out to be less gratifying than I'd anticipated. I found that my frustrations with academia were soon replaced with the irritations of dealing with the modern medical bureaucracy—issues with documentation, billing, electronic medical records, practicing defensive medicine to try to avoid lawsuits, and pressure to see more patients in less time.

Most frustrating, however, was that as an internal medicine specialist, many of the patients I saw regularly suffered from chronic pain conditions that seemed impervious to medical treatments. And it wasn't just happening in my small office: the number of people with chronic pain was exploding across the country. Often prescribing opioids was the only way to help. We were at the beginning of the opioid abuse epidemic. Clashes with patients about their dosages became increasing frequent, and I wondered at times if I was one of the many doctors being scammed and contributing to widespread addiction. Physicians, insurers, and the patients themselves were all at a loss. Although I had no particular desire to delve into the specific issue of chronic pain, which I figured must be one of the most unsatisfying areas of medicine, I just couldn't avoid it.

Then a year into my new position, a colleague suggested that I read *The Mindbody Prescription* by John Sarno, explaining that a close friend of his had made a remarkable recovery from chronic back and leg pain after reading it. Knowing that I'd started to practice and teach mindfulness meditation a few years earlier, he thought I'd enjoy the book's exploration of the role our minds play in the production of pain.

As a rehabilitation physician at New York University, Sarno saw hundreds of patients with back pain every year. He noticed that the degree of pain and the likelihood of recovery

appeared to be unrelated to the degree of abnormalities demonstrated on X-rays, CT scans, and MRI exams. In other words, many people whose imaging studies appeared normal had severe and chronic pain, while others with significant abnormalities had little pain and recovered quickly. In fact, most people have “abnormal” X-rays and MRIs, even those with no pain at all. A study published in 2014 by Waleed Brinjikji from the Mayo Clinic showed that 50 percent of pain-free 30-year-olds have evidence of disc degeneration on MRIs, and 40 percent have evidence of a bulging disc. Those numbers are 80 and 60 percent, respectively, for pain-free 50-year-olds, and they rise from there. A study published in 2009 evaluated more than 1,100 people with acute back pain and followed them for one year after the pain started—only 1 percent of them were found to have a significant structural abnormality in their back.

These were eye-opening facts to me. Few people in the medical profession were looking at the disconnect between pain and structural abnormalities in the body. I was intrigued. Could it be that we were attributing the vast majority of back pain to disorders like scoliosis, degenerative and bulging discs, and poor posture when the pain had a different source?

Sarno dug deeper. Interested in exploring the role of emotions in causing physical symptoms, he offered a relatively simple approach: recognize that most people with chronic pain have a psychosomatic disorder, change their mindset about the pain, and deal with the emotions that caused the problem. His goal was to cure pain, rather than just manage it. The results were startling. The recognition that back pain could be caused purely by stress and unrecognized emotions—meaning there was nothing wrong with the back itself—led to remarkable recoveries for many of his patients. Some of them didn’t even need to deal with the stressful situation or process their underlying emotions, as they naturally started to adjust their thinking and see the pain as irrelevant.

Were these ideas too simple to be true? I decided to find out for myself and called Sarno on the phone, at which point he invited me to visit. A few weeks later, I arrived at his small office, decorated with dated, nondescript hospital furniture and tucked away in a corner of the Rusk Rehabilitation Institute, on the lower east side of Manhattan. Mary, his long-time receptionist, was the only other person there. By allowing doctors to shadow him as he worked with patients, he hoped that more people in the medical field would accept his ideas

about pain and other associated conditions. But few had—very few. Most dismissed his ideas as simplistic, unrealistic, and a modern form of snake oil.

Yet to the many patients who'd recovered from chronic pain thanks to his methods, Sarno was a legend. A vigorous 80-year-old, he walked three miles to work every day, laughed easily, and struck me immediately as a warmhearted character. But he didn't pull any punches when it came to his disdain for the "unscientific and invasive" way the medical profession was treating people with neck and back pain.

I observed his approach over the course of a week as he performed detailed medical histories and thorough physical exams to rule out a structural disease process, such as a fracture, infection, or tumor. Only then might he conclude that the patient's pain was caused by the brain. I noted how masterfully he explained to patients that it was not "all in their head," but that their brain was generating pain as a way of distracting them from what it believed to be dangerous situations and fearful emotional reactions.

Sarno was nothing if not direct. He'd tell his patients in no uncertain terms that there was nothing wrong with their back: rather, they had Tension Myoneural Syndrome (TMS), a term he coined to describe this phenomenon. He was a powerful presence to his patients, who were desperate for relief from severe pain, but he was also compassionate. This combination of authoritarian doctor and fatherly figure inspired a deep sense of trust.

The key to recovery, he explained to them, is the recognition that nothing is wrong with the back itself, and that the unconscious brain is the real culprit in the creation of their pain. His main intervention was psychoeducation: he asked patients to read his books to help them fully grasp this new understanding. He instructed them to return to normal activities, tell themselves that there was nothing psychically wrong with them, use fewer medications, stop physical therapy, and get rid of devices designed to support them. He also suggested keeping a journal to write about the stressful situations in their life and their emotional reactions to them.

Not many people with severe and chronic pain were willing to accept this kind of explanation back in 1982, when he wrote his first book, *Mind Over Back Pain*. Yet over the years, a small but significant minority of people who did read his books got better—they were the "book cures." Many others chose to visit him to find out more about the source of their pain.

One of the first of Sarno's patients I met was a man who for 12 years had experienced back pain that hadn't responded to any treatment and was so excruciating he'd been unable to work, exercise, or enjoy life. After only a month of following Sarno's advice, he was pain free. He could barely believe what had occurred, and his gratitude for "the good Dr. Sarno" was immense. Of course, not everyone experienced this kind of miraculous response. Despite reading and writing and regularly talking to their brains, their pain remained. According to Sarno, they were the 15 percent who'd need psychotherapy to augment his treatment.

Three Stories, Three Lessons

My father always told me that if something seems too good to be true, it probably is. But I was captivated enough by Sarno's work with his patients that I wanted to see if I could replicate his results in my own medical practice. So when I returned to Detroit, I asked my boss if I could set up a pilot program for a few patients with chronic pain and other symptoms that hadn't responded to medical treatments. I had no idea what I was getting into, but I had the presence of mind to do two things: read everything I could find on chronic pain, and listen carefully to the medical histories and life stories of people who were experiencing it.

Even though the field of neuroscience was exploding with findings that definitively linked the brain and the body, most physicians and therapists remained separated into silos: we treat the bodies, you treat the minds. But as I read articles and books by Joseph LeDoux, Timothy Wilson, Daniel Wegner, Antonio Damasio, Edward Shorter, and others, the line between medicine and psychotherapy began to blur for me.

Early in my research, I heard three stories that taught me invaluable lessons in understanding how the mind and body interact in the experience of pain. First, a friend of mine told me about how he'd been working alone at a construction site when he'd inadvertently shot a nail into his hand with a high-powered nail gun. He'd seen it go in, but had felt no pain at all. How could such a thing happen? Using the framework of neuroscience, I now understood that when you touch a hot stove, your finger doesn't cause the pain; sensors send messages to the brain about the injury, and the brain decides whether to activate the pain response, or not. All pain is due to a set of neural circuits or pathways activated by a danger/alarm mechanism in the brain.

In my friend's case, since he was alone, his brain apparently decided that it was more important for him to drive himself to the hospital (which he did), than to be in severe pain. After all, if you sprain your ankle while being chased by a lion, your brain will likely decide it's more important to keep you running than to send you pain signals. When children fall on the playground, their brains decide if they should cry or not, in part depending on their parent's facial expression in the moment. Lesson one: not all injuries cause pain.

The second story appeared in the *British Medical Journal* in 1995, and described a man who'd jumped down onto a large nail that pierced the sole of his boot and came out through the top. He'd been rushed to the hospital in severe pain, where he'd immediately been given pain medications. Upon removing the nail and the boot, both the man and his physician had been shocked to find no injury at all—the nail had entered precisely between two toes! This man's brain had activated pain to protect him and make sure he got help as soon as possible; it was just mistaken about the actual risk of injury. Lesson two: not all pain is due to an injury.

The last story came from a physician I met who'd served in the Vietnam War and had sustained shrapnel wounds to his left leg when his company had gotten ambushed. He'd been in severe pain and was medevaced from the field of battle. Over the next few weeks, his injuries healed, his brain deactivated the danger signal, and his pain went away. Almost 20 years later, as he was walking down the street with his wife, he suddenly experienced the same pain in his left leg that he'd had with the shrapnel wounds. A moment later, he became aware of the sound of a helicopter approaching overhead.

His brain had learned the pain as a neural pathway or circuit—the same kind of circuitry that allows us to ride a bike. Even though it'd been decades since the injury, the triggering stimulus of the whirring helicopter had activated it—a conditioned response. Lesson three: pain is a neural pathway in the brain that can be activated by triggers. Or put briefly, the reign of pain lies mainly in the brain.

It turns out that our brains generate all our internal experiences, based on feedback from our bodies and a process termed “predictive coding.” Our brains predict what we should experience on a moment-by-moment basis. When I had low-back pain several years ago, I felt it every time I bent over. After I figured out that the problem wasn't due to a structural abnormality in my back, and that my brain was creating this pain as a conditioned response, I

consciously changed how I thought about it. I started bending over very deliberately without worrying about the pain, reminding myself that nothing was wrong with my back.

This simple process worked to reprogram the predictions my brain was making, so that I eventually stopped having back pain when bending over. Therapists might recognize this as the well-known process of graded exposure and desensitization, which has been used for decades to treat phobias. But most doctors would be shocked to find how useful it can be for chronic pain when the cause isn't a structural disorder in the body but a neural circuit that's been learned.

As I studied the medical literature on pain, I was shocked by the ineffectiveness of most medical treatments. For example, how many research studies do you think have shown that surgery for low-back pain is better than physical therapy, or exercise, or just waiting? The answer is none. Do research studies show that injections for neck and back pain work to reduce pain? The answer is yes. However, do these injections work better than placebo injections when you combine the data into meta-analyses? Now the answer is no.

When you reflect on this, and the fact that the vast majority of people with neck and back pain don't have a clearly identifiable structural cause for their pain, it makes sense that invasive procedures are often not the best treatment, especially given their risk for complications. Plus, we all know that the widespread use of opioid medications for chronic pain has caused a devastating epidemic.

There's another group of disorders for which there's no clearly identifiable medical disease process, including tension and migraine headaches, irritable bowel syndrome, painful bladder syndrome/interstitial cystitis, pelvic floor dysfunction, fibromyalgia, temporo-mandibular joint dysfunction, and chronic fatigue syndrome. (CFS is currently controversial, with some individuals appearing instead to have systemic exertional intolerance disease.) Many people with one or more of these disorders suffer from chronic neck or back pain as well. I was learning that the brain can produce a wide variety of syndromes.

When I started my internship as a fresh, young, frightened physician, I developed diarrhea that lasted for six months. There was nothing wrong with my bowels: it was the fear of making mistakes that literally scared the crap out of me. When I was in my 30s, as I was starting my career, becoming a father, dealing with the pressures of supervising residents,

running programs, and doing research, I began to get neck pain. It came and went for years. I assumed that I had arthritis in my neck and that I kept sleeping on it wrong. My X-rays and MRIs showed degenerative changes and bulging discs. I had physical therapy many times.

Looking back, I can now see that my brain was activating neck pain as a way to alert me to the danger of overworking and taking on too much responsibility. Research shows that emotional stress activates the same areas of the brain as does a physical injury. Both physical injury and emotional injury can cause real, physical pain. A recent MRI shows that I have several large bulging discs that press on some of the nerve roots in my neck—yet I have no neck pain at all.

In other words, the emerging medical, psychological, and neuroscience data confirmed that Sarno was right all along. We might assume that physical symptoms such as pain and diarrhea are due to something amiss with the body, but they often aren't. Treatment for them might be better left to therapists than to physicians, but since Sarno seemed to be able to do this work as a physician, I figured I'd give it a try. It was obvious that I'd need longer than the typical 15-minute doctor visit to evaluate someone who's had pain for many years. Sarno allowed an hour for a new patient visit, and to the surprise of my colleagues, and patients, I scheduled my appointments for even longer.

Having been a doctor for 25 years, I'd always had the privilege and responsibility of hearing the details of people's lives—but this was different. Not only did I have more time to listen, I was able to tune into specific clues and make connections that I never had before.

Each patient taught me something. I saw the horrible impact of childhood trauma and how that often primed the brain to react with physical pain to subsequent stressful life events. I saw how pain was a common response to a brain that's been placed in a "dangerous" psychosocial situation. Yet as difficult as it was for me to hear my patients' stories, this new paradigm led to a sense of hopefulness.

A New Prescription

One of my first patients was Mary, a woman in her 50s, who'd had facial and head pain for 17 years. Her pain was constant and debilitating. After seeing many pain specialists and trying

more than 20 medications and several procedures, such as injections and surgery, to try to decompress her facial nerve, she'd given up any hope of recovery. Her only option, she'd been told, was to cope as best she could with a chronic and incurable condition.

When I asked about her upbringing, she told me that while her mother was mild mannered and caring, her father swung unpredictably from being calm and respectful to being demanding, highly critical, and abusive. She recalled him grabbing her by the collar once and yelling into her face, "Why can't you do anything right?"

Still, Mary had no problems with chronic pain until the day she'd received glasses with a new prescription. Within seconds of putting them on, she got a sharp pain on the left side of her head and face, which persisted—for 17 years. Her adult life had been good. She'd been in a healthy marriage and had healthy children. The opticians and eye doctors tried many different glasses and prescriptions, all to no avail.

I asked whether some kind of stressful event had been going on in her life when she'd gotten the new glasses. After thinking about it, she remembered that it was around this time that she'd been assigned to a new boss: he was demanding, micromanaging, and he yelled at her almost every day. My eyes widened. It seemed that the new pair of glasses had nothing to do with her pain, except that the moment she'd put them on—in the midst of a stressful time that her subconscious linked to a frightening childhood with a highly critical, male, adult authority figure—is when her brain chose to activate the alarm signal, pain, which had become learned as a neural pathway and then conditioned.

None of her other doctors had seen the bigger picture of how her life circumstances might have led to brain-induced pain. But could this insight about the mind–body connection really make any difference? What could I offer Mary that she hadn't already tried? After all, she'd already consulted with a pain psychologist, who'd used several therapeutic interventions to address the anxiety and depression caused by her pain, taught her mindfulness exercises to help her cope with it better, and offered advice to help her cognitively reframe it.

Hundreds of studies show that cognitive behavioral therapy (CBT) is effective for pain, but this often just means that CBT results in better outcomes than being on a waiting list or receiving treatment as usual. Results are less impressive when CBT is compared with another form of treatment. Moreover, the average reduction in pain after a typical course of CBT is

about 0.5 points on a 10-point pain scale. Two other standard psychological treatments for chronic pain, Acceptance and Commitment Therapy (ACT) and Mindfulness-Based Stress Reduction (MBSR), haven't been shown to be superior to CBT.

This isn't to say these treatments don't have value. I attended a mindfulness retreat led by Jon Kabat-Zinn and Saki Santorelli in 1999 and realized what a powerful force mindfulness could be. I started a personal mindfulness practice, became certified as a teacher, and have been teaching mindfulness since then. These concepts have been life-changing for many people over the years, but as I reflected on my patients with chronic pain, few had experienced dramatic results with mindfulness.

What was I to make of all this? To find out, I collaborated with Mark Lumley, a professor of psychology at Wayne State University, and we've conducted several research studies over the years. We believe that three major factors explain the lack of success with standard pain psychology approaches.

First, the cause of pain is typically not investigated carefully enough to distinguish structurally induced pain from pain induced by the brain or neural pathways. Some people have a combination of the two, but this is less common than you might think, since as I mentioned before, the vast majority of chronic pain occurs in those with no structural disorder. Most clients and therapists assume that the pain has a structural cause, thus limiting the potential effect of therapy. Sarno taught me clearly that you must first diagnose the cause of pain in order to treat it.

Second, the techniques used in standard pain psychology are geared toward helping people cope better with pain, or function better in life in spite of pain, rather than eliminating it. CBT, ACT, and MBSR generally don't focus on the underlying mechanism of neural pathway pain. The vicious cycle of pain leading to fear of pain, worry about pain, and monitoring and anticipating pain—which in turns drives the danger/alarm mechanism in the brain that leads to persistent suffering—needs to be addressed directly. If you believe you have physical damage and can't do anything about it, you'll have difficulty shutting down your fear responses to pain. To be clear, the techniques used in CBT, ACT, and MBSR are of great value; but I believe they're enhanced when used as part of a program to eliminate pain, rather than just manage it better.

Finally, standard pain-psychology treatment typically doesn't directly address emotions as a cause of pain. The prevailing view is that strong emotions are primarily a result of pain and that modulating or regulating them is the preferred method of addressing them. However, it's more useful to help clients see the links among stress, emotions, and the cause of pain, and to encourage them to experience, express, and examine strong emotions, such as anger, guilt, grief, and compassion. When people with pain see that they're able to experience strong emotions without suppressing them and have corrective emotional experiences, they often experience dramatic changes in their pain.

Putting It into Practice

Back to Mary, the woman with chronic head pain. I examined Mary and completed a detailed evaluation of all the testing she'd had done. Given that the findings on her physical evaluation were normal and her psychosocial history strongly suggested her pain was a response to stress, the fact that her pain had persisted for years seemed due to the process of "learned pain" and predictive coding. This became especially apparent when she told me her pain would sometimes shift from one location in her head to another, and that it varied from day to day without a connection to any physical activity. Pain due to neural pathways generally acts this way, whereas structurally induced pain tends to be more consistent.

I carefully explained this to Mary, who was open to these ideas and excited to learn how to unlearn her pain. Once patients clearly understand that their pain isn't due to a structural problem, they can engage in the process of reprogramming the neural pathways in their brains, which starts with introducing mindfulness practices that reduce fear, anticipation, and attention to pain. As mentioned, these techniques are a powerful way to interrupt the pain-fear-pain cycle; and they're much more effective when patients understand that they are not damaged, that the cause of the pain is neural pathways, and that these are reversible.

Imagine using mindfulness practice so as to be able to "sit with" your pain. When you have the understanding that your pain has an irreversible structural cause—a foundation that traditional psychological treatments often build on, even when it's not the case—you may be able to gain some separation from it, but it's unlikely that you'll be able to disregard it completely.

Compare that to simply sitting with your thoughts as they arise in the mind, knowing they're just products of the mind and only have the power you give them. When pain has been diagnosed as resulting from neural pathways rather than structural processes, it can be put into the category of thoughts: purely constructs of the brain. By understanding that you're not damaged, and you're not destined to always have these thoughts, even those that are scary or emotional can be set aside with practice. This makes the mindfulness process much more effective for pain, and most patients can learn to eliminate nonstructural pain.

When I explained all of this to Mary, she began to consider her pain differently. She frequently reminded herself that her pain didn't represent any structural disorder, and that she could disregard it and empower herself to be more active and engaged in pleasurable activities, whether she had pain or not. Understanding that the purpose of the pain was to activate a danger/alarm signal for her, she worked at not letting the pain frighten her, offering herself soothing phrases and self-compassion instead. Even if she continued to have pain, I urged her to keep her focus on reducing her fear, worry, and even attention to it. These are important steps to becoming pain free.

Initially, Mary had some skepticism about whether this approach would work, but I assured her that there was no reason it wouldn't. I saw her every other week for a month, and then once a month. To her amazement, she was pain free in four months. And all I'd done was listen carefully, rule out a physical cause, connect the dots to uncover a mind-body problem, explain it all, and coach her to recover. The results were so dramatic I was amazed, too. Then it happened with another patient, and another. This was so different from my experience as a traditional internist with chronic pain that it hooked me into a new career path.

The Hand's Tale

Initially, I felt so much enthusiasm for this work that I just expected other physicians, therapists, and people with pain to follow suit immediately. I started giving lectures locally and then nationally. I visited prominent pain treatment centers. People responded, but only to a point. Pushback came mostly from physicians and therapists who were impressed by the testimonials but wanted more numbers if they were going to be persuaded to venture so far

from their usual scope of practice. If this approach wasn't a panacea for everyone, what did the outcome studies say?

Obviously, we needed data. Easy to say, hard to do! But I was fortunate to collaborate with Mark Lumley at Wayne State University and some excellent researchers at the University of Michigan. We conducted a small, randomized, controlled trial for people with fibromyalgia, showing that our intervention was more effective than "usual care," with about 25 percent of people having a dramatic response, versus none in the usual care group. We also analyzed the results of my patients with chronic neck and/or back pain or fibromyalgia who'd had pain for an average of more than eight years. Two-thirds had sustained reductions of pain by at least 30 percent, and one-third had reductions of at least 70 percent.

This is quite good, considering that most people with that kind of chronic pain have only small or no improvements using both medical and psychological treatments. More recently, we conducted a large, randomized, controlled clinical trial in fibromyalgia patients, showing that an emotion-focused treatment was superior on several pain outcomes to standard CBT. Nevertheless, there were people who just didn't respond to this approach. Why not? What was missing in their treatment?

Some patients really can't grasp or believe that their pain, especially when it's severe, doesn't represent some kind of physical damage. Some have psychological trauma so obdurate that it requires more than cognitive-behavioral therapies to unlock. Some simply try too hard and get stuck in a cycle of too much focus on the problem and not enough on living their lives. Some, however, present no obvious reasons for not getting better, which I took as a challenge to learn more.

If someone has a form of cancer that progresses despite all the best treatments, that's not the "fault" of the physician. But for people with a mind-body problem and no actual physical disease, it seemed the onus was on me to get better at helping them. Over time, I found myself acting more like a therapist than most doctors would. With no formal training, I was definitely uncomfortable in that role, but my patients' problems increasingly required it. Because there was no clear divide between their medical and psychological problems, their treatment needed to be merged. I had a great deal of uncertainty and fear at times, but I tried to use common sense and go forward. And as people tended to respond more, I started getting more difficult patients, and I learned more from those experiences.

Eventually, a 32-year-old man named Philip was referred to me with pain in his hands that had persisted for three years. He was in so much pain every day that he couldn't pick up his infant son, type on a computer, or even turn a doorknob. The pain had begun gradually, without an injury, and had progressed to the point where he had to put his PhD research on hold. He'd seen every kind of physician and holistic practitioner imaginable. All his tests and physical examinations were completely normal. No one could figure out why no treatment had helped.

Philip, I learned, had grown up in Europe, where he'd excelled in academics and sports. His parents had doted on him, but when his father would get drunk, he'd beat Philip's mother. "What did you do when that happened?" I asked. He replied that he'd just hide and wait for it to be over. When I asked how he felt about it, he said that he used to tell himself and his friends that if he were ever to hit a woman, he'd cut off his own hand.

I then inquired about what was going on in his life when his hands had started to hurt, "Nothing special," he told me, adding that there was just some stress around finishing his dissertation. "Was a woman involved?" I asked. He answered that his mentor, a female professor, had accused him of some kind of infraction that could've threatened his position in the university, but nothing had come of it. "Was this on your mind much?" I wondered. No, he said, it really didn't bother him. "Really? No anger toward her?" Again, no. Not consciously anyway.

It seemed we had some work to do. I reviewed all his medical testing and confirmed that it was normal. I carefully examined his hands and conducted a detailed neurological exam, which assured me, and him, that he had no evidence of any nerve damage, arthritis, carpal tunnel syndrome, or any other structural disorder. In addition, his pain often shifted from one hand to the other, which was clearly evidence that neural pathways were the culprit. It seemed clear that his brain had interpreted his resentment and anger toward a woman as an extremely dangerous situation, and it acted strongly to prevent him from doing any harm to her.

This would be a perfect psychological story to describe a conversion disorder. In fact, if he'd developed paralysis of his arms with normal testing, any neurologist in the country would've diagnosed him as having a psychogenic disorder. But what the doctors didn't see was that instead of paralysis, his brain "chose" to generate severe hand pain.

As with Mary, I explained to Philip how the brain causes pain in response to stressful situations and how it had persisted for three years due to the activation of neural pathways. He engaged in the cognitive and behavioral exercises that helped him start to use his hands despite pain, knowing that nothing was wrong and using them wouldn't harm him. I taught him mindfulness exercises to observe the pain as a mere thought, nothing he needed to react to. And I helped him address the feelings he had toward his female professor.

In an empty-chair exercise, a good deal of unexpressed anger toward his mentor rose to the surface. I then gave him a series of writing exercises with prompts to allay his feelings of guilt and help him bring to conscious awareness the fact that despite this anger, he would never, and had never, physically hurt this woman. In addition, he used writing exercises at home to express feelings from childhood toward his father (anger) and his mother (guilt over not protecting her). Other exercises would help him practice self-compassion over time.

Philip gradually progressed in his ability to use his hands, first with pain, and then over time with less pain. I saw him on four occasions. In three months, he was pain free and back in school, finishing his PhD. I received a note from him this year. He's now been pain free for the last decade and is happy with his marriage and position as a faculty member at a large university.

Getting Out of Our Silos

Approximately 50 percent of therapy clients have a chronic pain condition. But since chronic pain is generally perceived to be caused by structural disorders, it's treated primarily by physicians—while therapists have been trained to leave “medical symptoms” to the physicians and just focus on people's minds. This divide isn't working for many of those we're trying to help.

We're on the cusp of a revolution in treating chronic pain. Just as people seeking therapy often have pain, the patients I see with pain also have anxiety and depression. But in the same way that too many physicians treat all chronic pain as being a structurally induced pathological process, medical psychiatrists tend to treat all anxiety and depression as being disease states of the brain. I commonly see patients whose symptoms can shift from head pain to anxiety to back pain to depression, and back again, over the course of hours or weeks;

they're interchangeable manifestations of the same underlying danger signals and learned neural pathways. As healthcare professionals, we have the opportunity to get out of our silos and fully embrace the neuroscience of psychophysiology.

Not a day goes by that I don't get asked by a patient: why didn't my doctors mention this? Why isn't my therapist aware of this work? In fact, therapists are in a much better position to treat these individuals than physicians are, and most already have the skills to do so. We're now encouraging therapists to learn more about the role of the brain in pain, assessing clients for neural pathway disorders, and applying methods for curing, rather than coping with, chronic pain.

It may be uncomfortable at first, but your patients need you to ask them directly about their pain, to find out if it shifts, moves, or acts in ways that make it clear that it's brain induced. Their treatment should be geared toward therapy for anxiety, depression, and chronic pain at the same time, since the genesis of all of these conditions is likely to be the same.

Of course, paradigms don't shift easily. People with chronic pain often get the sense that these ideas imply that their pain isn't real, that it's all in their heads, that they're to blame for it. Nothing could be further from the truth. All pain is real and is generated by the brain. We need to explain this to patients in a caring, compassionate manner and offer hope.

Medical professionals who treat people with chronic pain—including physicians, physical therapists, and chiropractors—are used to focusing solely on the physical body. This is particularly true of back and neck pain, where the diagnosis of pain is based on MRI scans that often show the same images of degenerative disc disease and bulging discs seen in the majority of pain-free adults.

It's hard for these professionals to adapt these views without substantially changing their practices and source of income. Chronic pain costs more money and affects more people in the US than cancer, heart disease, and diabetes combined. Revenues from chronic pain treatment currently support a significant portion of the medical economy. More than 500,000 spinal fusion surgeries are done each year in the US. It's unclear how many of those are medically necessary, but many of them are based on the traditional view of pain and outdated interpretations of MRI testing.

For me, there's been a personal consequence to my career shift as a physician: now that I'm of age to retire, I don't want to. There's too much to be done. Luckily, I have fantastic colleagues to conduct research and teach with. I've given up my general internal medicine practice to focus on chronic-pain patients and continue to take the time to listen to their stories. Each day, I see how powerful our brains are in producing a wide array of symptoms, and I learn from my patients how to counsel them more effectively.

I'm inspired by their courage as I ask them to change their whole understanding of their pain, to face it rather than shrink from it, and to explore an emotional territory that they've spent years trying to avoid. I hope that more therapists will also be willing to courageously explore new territories by climbing out of their silos, changing some of their long-held notions about chronic pain, and recognizing the crucial role they can play in its treatment.

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