

Thinking Away the Pain

Meditation as cheap, self-administered morphine

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Pain is a huge medical problem. According to a new report from the Institute of Medicine, chronic pain costs the U.S. more than \$600 billion every year in medical bills and lost productivity. Back pain alone consumes nearly \$90 billion in health-care expenses, roughly equivalent to what's spent on cancer.

Despite the increasing prevalence of chronic pain—nearly one in three Americans suffers from it—medical progress has been slow and halting. This is an epidemic we don't know how to treat. For the most part, doctors still rely on over-the-counter medications and opioid drugs, such as OxyContin and Vicodin. While opioids can provide effective relief, they're also prone to abuse, which is why overdoses from prescription painkillers are now a leading cause of accidental death.



Having a headache? Don't take your mind off it—put your mind to it.

But there are glimmers of progress in the war against pain. New therapeutic approaches don't target body parts or nerves close to the source of the problem. They don't involve highly technical surgeries or expensive new drugs. Instead, they focus on the mind, on altering the ways in which we perceive the pain itself.

Consider a study by scientists at Wake Forest University. After only a few days of meditation training—teaching people to better focus their attention, concentrating less on the discomfort and more on a soothing stimulus—subjects reported a 57% reduction in the "unpleasantness" of their pain. Such improvements are roughly equivalent to the benefits of morphine.

A brain scanner showed how the intervention worked. Learning to meditate altered brain activity in the very same regions, such as the insula and anterior cingulate cortex, that are targeted by next-generation pain medications. It's as if the subjects were administering their own painkillers.

While this research demonstrates the therapy's practicality—it typically took less than two hours of training to see a marked improvement—it's not the first time that scientists have demonstrated a connection between meditation and reduced sensitivity to pain. Previous studies have shown that experienced Zen meditators have significantly higher pain thresholds and that meditation training can reduce the anxiety associated with intense discomfort.

But meditation isn't the only mind-based approach that has gotten impressive results. Researchers at Duke University recently looked at a wide variety of psychological interventions for chronic lower back pain, including cognitive behavioral therapy, biofeedback and hypnosis. In almost every case, these treatments proved effective, leading to improved health outcomes at a fraction of the cost of conventional medical approaches.

The larger lesson is that, for far too long, we've been treating pain as a purely physical problem, a sensation rooted in the breakdown of the flesh. As a result, we've invested in costly and often ineffective surgeries, such as spinal fusion, that attempt to fix the mechanical failure.

But this approach oversimplifies an extremely complex condition. It's now clear that pain is best understood as a mental state concerning the body, an objective sensation terribly twisted by the brain. And that's why these psychological interventions sometimes work better than scalpels: They help us to untwist our thoughts.

In "*Much Ado About Nothing*," Shakespeare said that "there was never yet philosopher that could endure the toothache patiently." The Bard was making a point about the intransigence of pain, about how difficult it is to ignore. After all, when we are immersed in the awful feeling—when a molar is throbbing or a

muscle is strained—the discomfort seems to exist beyond our control.

But Shakespeare was wrong. It turns out that we can learn to better endure the toothache, that even simple talk therapies can ease our suffering. This doesn't mean, of course, that the pain isn't real. The pain is always real. But the mind is so powerful that it can alter the most real things in the world.