

# Providing chronic pain relief without the pills

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Members of Arizona State University's Psychology Department are studying ways to manage chronic pain without the use of prescription pain medicine.

Nicole Zeig still vividly remembers how it felt the first time she took a prescription painkiller.

The racing thoughts she always had were silenced, and there was a sense of peace and serenity she had never felt before.

"It was amazing," she said. "It was like falling in love."

Zeig, an Arizona State University alumna, was used to being a "weird kid." She was always getting in trouble for breaking the rules and not fitting in. She also had the added challenge of being born with a genetic condition called Ehlers-Danlos syndrome type 3. It's a [connective tissue](#)

[disorder](#) that affects the collagen in her body, making her "too flexible" and causing chronic [pain](#).

When Zeig was 16 years old, she herniated two disks in her lower back. To help manage the pain, her doctor prescribed a muscle relaxer and opioid pain medication. But although her pain subsided, a new problem arose—addiction.

"I spent the next eight years of my life increasing doses and finding more creative ways to get pills," Zeig said. "By the time I quit in 2008, I was taking 60 OxyContin in one weekend."

Zeig is one of an estimated 2.1 million [people](#) in the United States dealing with substance-abuse issues related to prescription painkillers, a number tallied by the National Institute on Drug Abuse. It's a pervasive problem that can lead to grave consequences—more than 40 people overdose on [pain pills](#) in the U.S. every single day, according to the Centers for Disease Control and Prevention. But people in ASU's Department of Psychology are conducting studies that show how chronic [pain sufferers](#) can find relief without having to rely on pills.

The number of painkillers dispensed annually has increased from about 76 million in 1991 to 219 million in 2011. A report by the National Institutes of Health (NIH) attributes this rise to a couple of key factors. One is aggressive marketing by pharmaceutical companies. Another is greater social acceptance of pain pills to treat a wider range of conditions.

Despite their widespread use, opioids aren't actually effective for every ailment. For example, they have not been shown to help with the chronic pain associated with fibromyalgia. But many fibromyalgia patients are being prescribed opioids anyway, said ASU psychologist Mary Davis.

"It can be a misdirected treatment that becomes a problem in and of itself, because it doesn't reduce the pain. And it can make normally pleasant experiences feel less rewarding in the long run," Davis said.

She has worked at ASU for the past 15 years studying chronic pain. Her research, funded by the NIH, has led to the development of new pain management interventions. Though patients like Zeig may never be "cured" of their chronic pain, there are healthy and effective ways to treat it besides addictive painkillers.

"The impetus is to try and help people improve the quality of their lives," Davis said.

## **Mind over pain**

Through randomized clinical trials involving patients with [chronic back pain](#) or fibromyalgia, Davis has compared three different pain-management approaches. She said all of them have proven to be effective.

The first intervention is education—giving people information about their pain and where it comes from. Knowing how the condition is related to sleep or nutrition can help a patient better manage their pain.

"People experience a boost simply by getting information," Davis said. "Knowledge really is power."

Another intervention, called [cognitive behavioral therapy](#), helps patients change the way they think about their [pain experience](#). This is important, since living with pain can often feel hopeless. After Zeig went to rehab to break her opioid addiction, she had to learn to manage her pain without pills. She experienced how easy it is to become a victim of one's own pain.

"I was so focused on the pain—I was trapped by it," Zeig said. "I felt like I was always going to be in pain and there wasn't any way out."

Cognitive behavioral therapy aims to prevent this type of thinking, or "catastrophising," which Davis said can make the pain feel even worse. Her research shows that if patients can identify when they're stuck in that negative mind-set, they can learn to change their thoughts and behaviors. This helps them manage their pain more effectively and feel less hopeless. That could mean making a decision to distract themselves from the pain by relaxing in a warm bath, for example, or calling a friend.

"Rather than thinking that the pain will be horrible forever, which tends to make the situation worse, a person might try thinking, 'I know that this is just a flare and it will get better soon,' " Davis said.

The third intervention, called mindfulness meditation, involves regulating one's emotions. Rather than responding to pain in a reflexive way—like automatically taking painkillers—patients can learn to make those decisions consciously.

"When we feel pain, we might decide, 'OK, well, I'm going to take an opiate, or I'm going to stay in bed today,' in a kind of automatic way, without really considering all of our options first," Davis said.

If patients can interrupt that automatic behavior, they might assess their pain and make a different choice, such as focusing on something positive that they want to experience that day, or deciding to pay attention to what they are grateful for. But even if they make the same choice—to take a pill or stay in bed, for example—it will be deliberate and intentional, rather than automatic.

"We start to see that we have more options than we thought, and start

trying out different choices," Davis said.

## **Setting goals to lessen pain**

One of the consequences of chronic pain is that it often forces people to give up activities they love.

With this in mind, ASU psychologist Paul Karoly is looking at the role of goals, and how they relate to a patient's ability to cope with pain.

While conducting NIH-funded research on women with fibromyalgia, Karoly found that pain can undermine goals. On days when they didn't get a good night's sleep, women reported that their pain kept them from pursuing important social goals, like spending time with friends and family. However, women who did accomplish their social goals, even after not getting a good night's sleep, reported experiencing less pain throughout the day and feeling more positive emotionally.

"This told us that goals can be undermined by pain, but goal pursuit can help people who are suffering from pain-related disorders," Karoly said.

Using his research findings on goals, Karoly is now working with a graduate student to develop mindfulness-based pain interventions. He said that one of the reasons some people manage their pain more effectively than others is their prioritization of goals.

"Our view is that if you can get your motivational house in order, you can probably cope better with pain," Karoly said. "It doesn't mean that you'll be blissfully happy, but you'll be more effective, and that's really what our goal is."

Seven years after quitting painkillers, Zeig still lives with pain every day. She manages it with physical therapy, self-hypnosis and physical

awareness. Last year, she graduated from ASU with her Master's in Applied Ethics. She and her husband also recently had a baby girl. Though Zeig's journey has been long and challenging, it could also provide hope to those struggling with [chronic pain](#) who believe relief can only come from a pill.

"I did not think I was capable of living without pain medication," Zeig said. "I think that people who are in pain are either a victim to it, or they are active participants in their lives. Once I took an active role in overcoming it, it really does work."

Provided by Arizona State University

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