



# The Link Between Pain and Addiction



SILVER RIDGE

A PREMIER PROGRAM BY PYRAMID HEALTHCARE

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## Introduction

Around 100 million Americans suffer from chronic pain, according to the *Journal of Neuroscience*, and for half of those individuals, the pain is significant or severe.<sup>1</sup> Chronic pain is pervasive. It affects every corner of a person's life, and managing it becomes a major focus. For many people suffering from pain, opioids are the best—and sometimes only—choice for reducing pain caused by illness, injury or conditions like fibromyalgia and arthritis.

But opioid use can lead to addiction, dependence and overdose death. The over-prescribing of opioids for chronic pain has led to the current opioid epidemic that has, to date, claimed nearly as many American lives as the Vietnam War.

Here, we look at the relationship between pain, addiction and the opioid crisis, including how addiction and dependence develop and how non-opioid pain management can help prevent addiction and stem the crisis.



# Exploiting Pain for Profit:

How the Opioid Crisis Unfolded



Before its use was made illegal by the U.S. government in 1924, heroin was found in numerous over-the-counter remedies, including children's cough medicines, elixirs for menstrual pain and infant sleep aids. After World War II, a variety of synthetic opioids, including hydrocodone and oxycodone, were formulated from heroin for medical use, but physicians shied away from prescribing them due to their well-known risk potential for abuse, addiction and dependence.

Then, in the 1970s, an aggressive marketing and lobbying campaign by pharmaceutical companies convinced doctors that they were under-treating pain. As a result, by the late 70s, physicians were prescribing more opioid painkillers to treat pain resulting from illness, injury and surgery.

## How A Fateful Letter Fueled the Opioid Epidemic

In 1980, the *New England Journal of Medicine* published a letter from Boston University Medical Center researchers. The letter described an analysis of 12,000 patients who received at least one dose of an opioid painkiller while in the hospital. It concluded that although the use of prescription opioids was widespread in hospitals, addiction was rare in hospital patients who had no history of addiction.

Unfortunately, the journal misrepresented the letter's conclusion in its headline, which read, "Addiction Rare in Patients Treated with Narcotics." The letter was inconsequential until the late 1990s, when the pharmaceutical industry began another aggressive marketing campaign to further increase the use of opioids—particularly OxyContin, which had just been approved by the Food and Drug Administration. Drug companies used the *New England Journal of Medicine* letter to convince the medical community that opioid painkillers had a low risk of addiction.

According to the National Institute on Drug Abuse, this led to a dramatic increase in opioid prescriptions and widespread diversion and abuse.<sup>2</sup> When it became abundantly clear in the years following that the pharmaceutical industry had deceived the medical community, Purdue Pharma was ordered to pay \$600 million in fines.

But the damage had been done: In the early 1990s, around 76 million opioid prescriptions were written each year. In 2013, 207 million opioid prescriptions were written, even though research showed that Americans' perception of pain hadn't changed.

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**IN 2013, 207 MILLION  
OPIOID PRESCRIPTIONS  
WERE WRITTEN.**

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It's estimated that more than two million Americans are currently addicted to prescription painkillers. Another 591,000 are addicted to heroin. It's important to note that 80 percent of people who are addicted to heroin first abused prescription opioids, which are more expensive and harder to come by than heroin. Between 1999 and 2015, opioid overdose deaths more than quadrupled, and today, around 115 people lose their lives to an opioid overdose every single day.

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## States Fight Back Against Big Pharma

The pharmaceutical industry spends \$2.5 billion every year lobbying and funding members of Congress in order to influence lawmakers to pass pharma-friendly legislation. The industry contributed more than \$20 million to political campaigns in 2016, and this has led to grave inaction on the part of the federal government. But some states and cities, whose resources for fighting the opioid epidemic are dwindling, have taken it upon themselves to try to hold pharmaceutical companies responsible for the epidemic they helped cause.

Illinois Attorney General Lisa Madigan recently joined 40 other U.S. attorneys general in forming a coalition to investigate the marketing practices of pharmaceutical companies, which are often illegal or unethical. In 2017, she told NPR that her investigation shows that drug companies put pressure on physicians to prescribe powerful opioids "without regard for the law or patients' wellbeing."<sup>3</sup> Additionally, more than 250 state, county and city governments have sued pharmaceutical companies for aggressive and unlawful marketing practices, neglecting to control the overuse of opioids and failing to investigate or report suspicious orders for large numbers of opioids.

Case in point, according to NPR, are the 20.8 million oxycodone and hydrocodone pills that were sent to two pharmacies in Williamson, West Virginia—population 3,000—between 2008 and 2015.<sup>4</sup> And in 2008, pharmaceutical company Miami-Luken sent the nearby town of Kermit enough prescription opioids to provide 5,624 pills to every man, woman, and child in town. It's worth noting that West Virginia is one of the states hardest hit by the opioid epidemic.

The goals of the lawsuits are to get pharmaceutical companies to stop reporting that opioids are "safe" and "non-addictive" in their marketing materials; to receive financial help for responding to opioid overdoses; and to force pharmaceutical companies to develop—and pay for—opioid treatment programs to help people end their addiction to opioids for good.





## Over-Prescribing

*Puts Americans in Pain At  
Higher Risk for Addiction*

Today, the United States accounts for 4.6 percent of the world's population, but we consume 80 percent of its prescription opioid medications. Even so, doctors are prescribing fewer opioids than they were a few years ago, according to a 2017 study by the Centers for Disease Control.<sup>5</sup> The prescribing rate fell from 81 prescriptions per 100 people during its peak in 2010 to 71 prescriptions per 100 people in 2015, and during the same time, high-dose prescriptions fell by 41 percent. Overall, the number of opioid prescriptions written in the U.S. dropped 19 percent between 2010 and 2015.

However, this good news is clouded by the fact that the length of opioid prescriptions increased from an average of 13 days in 2006 to 18 days in 2015, giving people longer access to the drugs and increasing the risk of diversion and abuse. Physicians still prescribe three times more opioids than they did in 1999—enough to medicate every single American around the clock for three weeks.

Currently, the federal government offers no opioid prescription guidelines, although the current administration's opioid commission stressed in 2017 that establishing guidelines for prescribing opioids and mandating physician education about opioids should be major priorities for curbing the opioid epidemic.<sup>6</sup>



As a result of the lack of official guidance, prescribing practices vary greatly among physicians. For example, a University of Michigan study found that after laparoscopic gallbladder surgery, painkiller prescriptions ranged from 15 pills to 120 pills, but patients only used, on average, six pills.<sup>7</sup> Similarly, a Pacira Pharmaceuticals study found that patients receive an average of 85 pills following surgery, leading to 3.3 billion unused pills each year that may potentially find their way to the street.<sup>8</sup>

The problem with over-prescribing isn't just that it increases a patient's risk of becoming addicted or dependent. It's also that unused pills often find their way to the hands of someone else who will abuse them. It's common for people to hold on to unused pills and dole them out to friends and family members who need them, and theft of opioid painkillers from medicine cabinets is also a contributing problem.



How Opioid  
Dependence and  
Addiction Develop



**OPIOIDS PRODUCE TOLERANCE VERY QUICKLY, WHICH MEANS THAT YOU NEED INCREASINGLY LARGER DOSES OF OPIOIDS TO GET THE DESIRED EFFECTS, INCLUDING PAIN RELIEF.**

According to the 2012 National Health Interview Survey, two-thirds of people who abused opioids—which is defined as taking them in a way other than exactly as prescribed—did so in an attempt to reduce their pain.<sup>9</sup> Just 10 percent of respondents said they abused opioids to get high or relax. In some cases, individuals were unaware that they could develop dependence and addiction to these medications by taking more than prescribed.

### **How Dependence Develops**

Opioids produce tolerance very quickly, which means that you need increasingly larger doses of opioids to get the desired effects, including pain relief. That's because as you use opioids, the brain compensates by changing the activity of involved neurotransmitters in an attempt to maintain normal brain function.

But as you use larger doses, the brain continues to compensate, and at some point, brain function may shift so that it now operates more comfortably when opioids are present than when they're not. Then, when you suddenly stop using opioids, normal brain function rebounds. This produces intense withdrawal symptoms that include severe cravings, nausea and vomiting, abdominal cramps and diarrhea, body aches and chills.



## How Addiction Develops

Addiction is different from dependence. Addiction and dependence can occur independently of one another. Some people who are treated for intense chronic pain become dependent on opioids without developing an addiction to them.

Addiction is characterized by the inability to stop using a drug despite the fact that using it causes serious problems, such as relationship, health, legal and financial troubles. Opioids produce an intense euphoria, caused by a massive release of the feel-good neurotransmitter dopamine. This brain chemical plays an important role in the brain's learning, memory, motivation and reward systems. Opioids hijack the dopamine system of the brain, which results in intense cravings for the drug. Addiction affects thought and behavior patterns and leads to dysfunctional ways of thinking and behaving, including compulsive behaviors, denial, and withdrawal from friends and family.

## Treating Opioid Dependence and Addiction

Opioid dependence is treated through medical detox or medication-assisted treatment. During medical detox, all traces of opioids are allowed to leave the body, and various medications are used to reduce the severity of withdrawal symptoms. Medication-assisted treatment is the new gold-standard for treating opioid dependence and involves taking less-active opioid medications, including buprenorphine and methadone, to prevent withdrawal altogether while helping to normalize brain function.

Medical detox and medication-assisted treatment do very little to address an addiction, which is far more complex than dependence. The National Institute on Drug Abuse stresses that once an addiction develops, professional help is almost always needed to end it. That's because addiction typically has various underlying issues that led to the substance abuse in the first place, and these must be addressed for successful recovery. Common underlying issues include chronic stress, a history of trauma and co-occurring mental illnesses like anxiety or depression.

Treatment helps individuals address these issues, change dysfunctional thought and behavior patterns, develop healthy coping skills and find purpose and meaning in a life of sobriety.





# Non-Opioid Pain Management

Prevents Opioid Addiction



**FACTORS THAT INCREASE THE RISK OF OPIOID ABUSE INCLUDE A HISTORY OF SMOKING, A HISTORY OF ALCOHOL OR DRUG ADDICTION AND THE PRESENCE OF MENTAL ILLNESSES LIKE ANXIETY AND DEPRESSION.**

A study of 36,177 surgical patients published in the *Journal of the American Medical Association (JAMA)* found that 5.9 to 6.5 percent of patients become new, persistent opioid users after surgery regardless of the seriousness of the procedure.<sup>10</sup>

According to research by the University of Michigan, factors that increase the risk of opioid abuse include a history of smoking, a history of alcohol or drug addiction and the presence of mental illnesses like anxiety and depression.<sup>11</sup> Those who are at a higher risk for opioid abuse should seek alternative methods of pain management.

The most common alternative to opioids for pain management is a multi-faceted approach that includes a variety of treatments, techniques and therapies. But fewer than 200,000 people use these treatments, according to an article in the *American Journal of Public Health*.<sup>12</sup> For the most part, under-utilization of non-opioid pain management is due to the limited number of multi-disciplinary pain management programs and the fact that most insurance plans don't cover these types of treatment.

### Non-opioid pain management therapies used in a multi-pronged approach include:

- **Non-Opioid Pain Medications**

Non-opioid pain medications like acetaminophen (Tylenol), aspirin (Bayer) and ibuprofen (Motrin) can provide effective pain relief for a range of conditions. Adjuvant medications, which are those that aren't designed to treat pain but help manage it, include some antidepressants and seizure medications that have been shown helpful for some types of pain. To promote the development of other non-opioid pain relievers, the 2017 opioid commission recommends that the government establish goals for pain management research and fast-track FDA approval for non-opioid pain medications.

- **Steroid Injections**

Pain related to inflammation in the joints, tendons and bursae are often effectively treated with steroids, which are injected directly into the area of pain. Cortisone injections are typically used for short-term pain, since they don't work as well for the long-term. The use of steroids to treat pain is typically one component of a larger-scale pain management plan.

- **Chiropractic Care**

Chiropractic care is generally effective for pain related to neuromuscular disorders and includes spinal manipulation, posture education, training in ergonomics, ultrasound therapies and laser treatments. Harvard Medical School points out that chiropractic care may also be effective for migraines, whiplash pain, back pain and neck pain.<sup>13</sup>

- **Acupuncture**

Acupuncture is an ancient Chinese practice that utilizes long, thin needles that are inserted at certain points around the body to improve the energy flow and stimulate the immune system to reduce pain due to fibromyalgia, osteoarthritis, back injuries and sports injuries. A review of studies published in the Archives of Internal Medicine found that acupuncture relieved pain by around 50 percent in 18,000 participants.<sup>14</sup>

- **Exercise**

Studies show that exercise can reduce the severity of some types of chronic pain, and it can improve physical function and quality of life. Specific exercise interventions for pain include strength, range of motion, flexibility, core and balance training programs.



- **Stress Reduction**

Stress worsens chronic pain, and reducing stress is important for pain management. Stress reduction techniques commonly used to manage pain include yoga, biofeedback, hypnosis, meditation and progressive relaxation.

- **Cognitive-Behavioral Therapy**

Cognitive-behavioral therapy, or CBT, is a talk therapy that focuses on helping individuals change thought and behavior patterns surrounding pain. CBT helps people change their perception of pain and helps them increase self-confidence for better pain management. While the effects of CBT on long-term pain have been shown to be small to moderate, it has a powerful impact on mood, which can improve the quality of life for someone suffering from chronic pain.

- **Pain Skills Workshops**

Pain skills workshops help individuals develop certain skills to reduce pain and learn to cope with it. These include stress reduction techniques; self-care strategies like good sleep hygiene and time management; self-massage; utilizing distractions; and understanding pain.





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**THERE'S AN IMPORTANT RELATIONSHIP  
BETWEEN PAIN, PAINKILLER PRESCRIPTIONS  
AND OPIOID ADDICTION.**

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## **A Step-Up Approach to Pain Management**

There's an important relationship between pain, painkiller prescriptions and opioid addiction. Understanding the link and knowing the risks of opioid use can help you make the best choices for you when it comes to pain management.

Pain management experts recommend a step-up approach to pain management that begins with a variety of non-opioid techniques and moves to opioids only when other interventions prove ineffective.

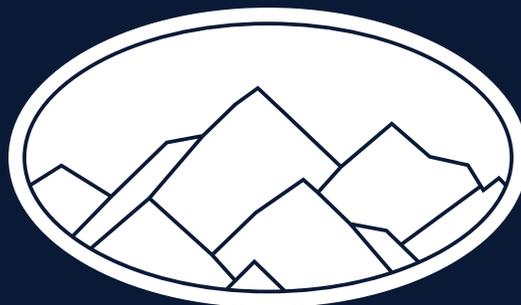
In many cases, a multi-faceted, non-opioid pain management approach can be as effective as opioid treatment, but it carries fewer side effects and none of the risk of addiction. Opting for non-opioid treatments for pain can lead to better pain management skills, a better quality of life and a higher sense of wellbeing.

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# SILVER RIDGE

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Silver Ridge serves established midlife adults who need to retreat discreetly from their daily lives. Here, we provide the perfect setting to focus on the addictions compromising your relationships, your future and your legacy.

**Every great legacy has a strong foundation. Build yours here.**