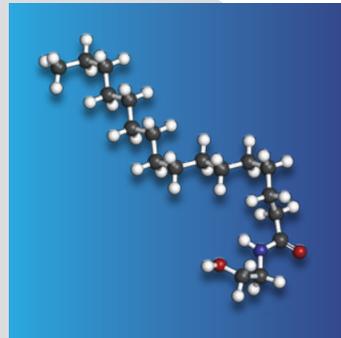




A Chronic Pain Revolution

Targeting the Cause of Chronic Pain with Two Natural Extracts





Getting to the Root of Chronic Pain

Chronic pain is a devastating condition that affects many people across the country. But before we can successfully treat it, we need to understand the true cause of chronic pain. Learn how chronic pain happens — and what we're doing wrong (and right!) when it comes to researching and treating it.



A Natural Solution for Chronic Pain

Have you had your PEA and honokiol today? If you suffer from chronic pain, these two natural compounds may be able to help! Recent advances show that these two extracts can safely and effectively ease chronic pain by targeting its underlying causes. Find out more about this exciting discovery — and its potential to revolutionize how chronic pain is managed.



Ten Lifestyle Tips for Chronic Pain

From sleeping to exercising to eating, what you do throughout your day can play a role in your chronic pain. You can make several lifestyle changes to help reduce your chronic pain. Read on to discover 10 helpful tips!



#1

**Getting to
the Root of
Chronic Pain**



“Pain is a major healthcare problem worldwide. Although acute pain may reasonably be considered a symptom of disease or injury, chronic and recurrent pain is a specific healthcare problem, a disease in its own right.”

— The European Federation of the International Association for the Study of Pain Chapters

Getting to the Root of Chronic Pain

Chronic pain is a huge and growing problem in the United States. In fact, it’s estimated that more than one in ten Americans suffer from it.¹ What’s more, the prescribing of opioids for chronic pain by the medical establishment has unfortunately played a role in the tragic opioid epidemic that’s sweeping the nation.

Clearly, it’s time to find a better solution for chronic pain. To do that, we need to understand the true causes of chronic pain.

Rethinking Our Focus on Chronic Pain

Most of the research on chronic pain has focused on the types of pain that can become chronic, like back pain or pain caused by cancer or injuries. But this research doesn’t really answer the question of why chronic pain develops.

The reasons behind chronic pain are complex and involve psychological, social, and health-related quality of life issues as well as biological ones. By focusing solely on the biological (i.e., the injury/disease) rather than the underlying pathology, we’re not researching the right thing.

Additionally, the current mainstay of chronic pain treatment — opioids (see sidebar) — targets pain receptors in the brain and blocks the pain, but it doesn’t do anything to fix the underlying problem, which really starts in the peripheral nerves.

So, our research and our treatments aren’t really targeting the true cause of chronic pain. As the European Federation of the International Association for the Study of Pain suggests, perhaps it’s time to study and treat chronic pain as its own disease and not just as leftover pain from an injury or disease.

First, let’s look at the underlying pathology that leads to chronic pain.

What Really Causes Chronic Pain?

Chronic pain can come from a variety of conditions, including lower back pain, diabetic neuropathy, shingles, cancer, and spinal cord injury. But while these conditions may be vastly different, the mechanisms by which they produce chronic pain are actually similar.

The cause of chronic pain starts in the peripheral nerves and soon involves the brain. It's basically a four-step process:

- 1 Peripheral nerve inflammation persists following an insult or injury.
- 2 Pain receptors, called nociceptors, pick up this inflammation and become hypersensitive.
- 3 The nerves in the spinal cord that receive the signals from the nociceptors become hyperactive and continue to send pain signals to the brain without the original injury's stimulation.
- 4 These constant pain signals from the hyperactive nerves in the spinal cord soon cause abnormal neurotransmitter signaling in the pain areas of the brain. The main neurotransmitter involved is gamma-amino butyric acid, or GABA, an important feel-good signal that helps dampen pain. With the loss of GABA signaling, the pain sensation is heightened.

Opioids, the common prescription for chronic pain, aren't addressing any of these steps. So not only do opioids put chronic users at risk of addiction, they merely block the pain and don't help to heal the problem. (See next page.)

In the next section, we're going to look at an exciting new solution for chronic pain — a natural, dual-action approach that targets the cause of chronic pain without the risk of addiction or dependence.

A (Not So?) Novel Idea

More than 20 years ago, researchers were already catching on to the role a hyperactive spinal cord plays in chronic pain.

In the mid-nineties, a research paper published in *Current Opinion in Neurobiology* concluded that the nerves in the spinal cord that become hyperactive are low-threshold nerve fibers.² Low-threshold means it doesn't take strong signals for these nerves to activate. They are the nerves involved in feeling innocuous sensations, like the feeling you get from wearing a shirt.

But if these nerves become overactive, almost any simple sensation can create pain. This is called allodynia — perceived pain in the presence of stimuli that is normally not painful, like touch or temperature.

Unfortunately, not enough attention was paid to this research at the time, and physicians just continued to prescribe opioids for chronic pain.



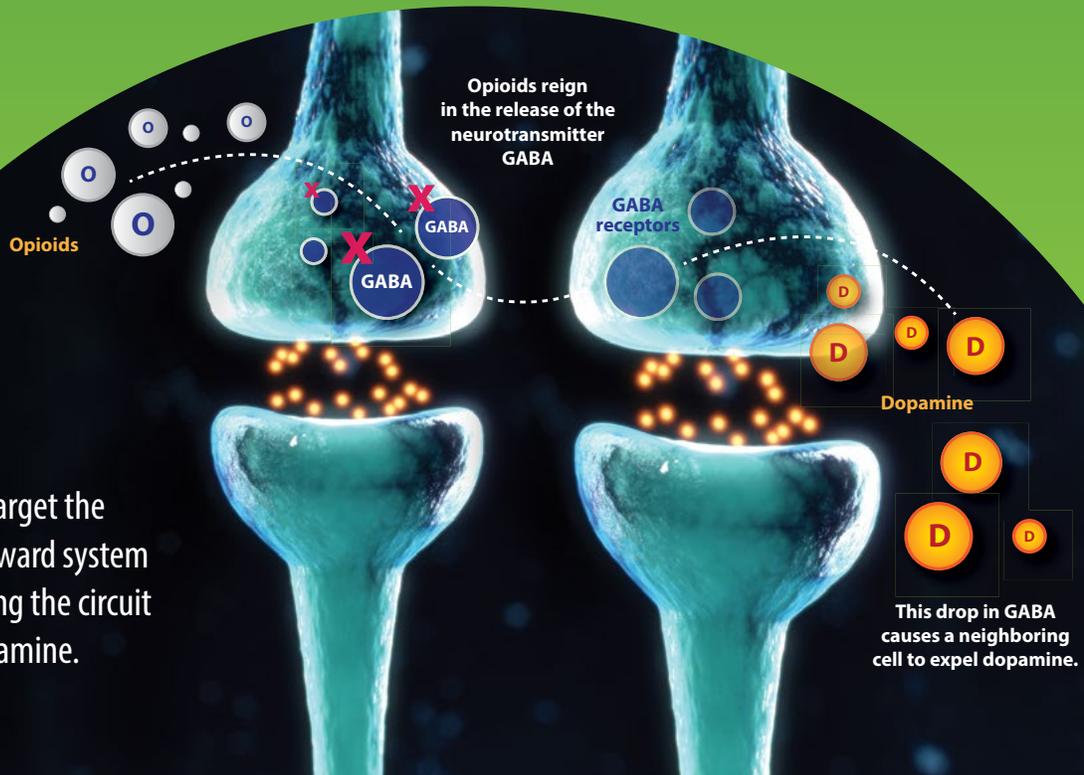
Opioids and Chronic Pain

Many people with chronic pain are prescribed opioids by their physicians. Opioids bind to opioid receptors in the brain and do in fact block the pain signal. But there are two major problems:

First, blocking these receptors causes a huge release of dopamine into the brain, which can lead to withdrawal, addiction, and abuse.

Secondly, the opioids only block the pain — they don't address the underlying cause of chronic pain and, therefore, they don't really solve the problem.

So while opioids are highly effective and useful in treating acute pain, they aren't a good solution when it comes to chronic pain.



Opioids target the brain's reward system by flooding the circuit with dopamine.

Getting to the Root of Chronic Pain

A Natural Solution for Chronic Pain

Ten Lifestyle Tips for Chronic Pain



#2

**A Natural
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A Natural Solution for Chronic Pain

So now it's clear that we need an entirely new approach to treating chronic pain — one that safely and effectively intervenes in both the brain and the peripheral site of tissue damage and inflammation. Fortunately, scientists have recently identified two powerful natural compounds that work together to target the four steps causing chronic pain.

PEA: A Powerful, Peripherally Acting Pain Reliever

The first of these natural compounds is palmitoylethanolamide. That's quite a mouthful, so we're just going to call it PEA!

PEA is a fatty acid produced by the body in response to tissue damage. This damage causes inflammation, which is a natural part of the healing process, and PEA keeps the inflammation at the site of injury under control.³ And this, in turn, shuts off the pain signal that goes from the inflammation to the nociceptors to the spinal cord — basically taking care of steps 1 to 3 in the pain process that we described in the first section.⁴

Scientific research on the effects of PEA on mast cells — one of the cells responsible for turning on inflammation — and their role in chronic pain originated in the lab of Nobel laureate Rita Levi-Montalcini. Normally, PEA helps to control the activity of the mast cells so they don't stimulate excessive inflammation.

The effects of PEA on chronic pain have been well-studied, with outstanding results. Sixteen clinical trials and six case reports involving more than 1,500 participants have demonstrated the pain-reducing power of PEA.^{4,5}

One large study followed 636 patients suffering from sciatic pain over a period of three weeks. The benefits shown in that short amount of time were remarkable: In just three weeks, PEA supplementation greatly reduced pain scores and improved quality of life ratings. The 600 mg daily dosage of PEA displayed the highest degree of effectiveness as compared to the 300 mg dosage or placebo.⁶

This same study also had an impressive NNT — the number of patients needed to treat to observe a 50% reduction in pain. The NNT gold standard for a pain intervention is less than 5, with 1 being perfect. In this study, the NNT was astoundingly just under 3 at week two and 1.5 at week three for the 600 mg dosage, indicating an extraordinarily high degree of effectiveness.^{6,7} (For comparison, the NNT of the commonly prescribed gabapentin for diabetic neuropathy was 5.9.⁸)

So PEA provides relief from chronic pain by controlling inflammation in the peripheral nerves and the signals being sent to the spinal cord, thereby taking care of the first three steps in the chronic pain process. But what about the fourth step, where the brain loses control over GABA signaling? We've got something for that too!

Honokiol — A Brain Intervention

Honokiol, a natural compound extracted from magnolia bark, has been shown to provide a pain-relieving effect in the brain¹² presumably by targeting the GABA signaling that is often reduced during step 4 of the chronic pain process.¹⁰

Honokiol is believed to interfere with the chronic pain cycle by binding to GABA receptors in the brain, reestablishing healthy GABA signaling and restoring a natural pain-dampening effect in the brain.^{11,12}

While there aren't yet any published clinical studies on honokiol supplementation for chronic pain, there are several promising preclinical animal studies.

In one such study, researchers injected the paws of mice — some of which had been treated with honokiol and some with a placebo — with molecules known to be enhanced in the chronic pain state. They were then subjected to a heat stimulus, and the faster the animal withdrew their paw, the more pain they felt.

Researchers discovered that the mice with the honokiol dose withdrew their paws significantly more slowly than the placebo mice, indicating a considerable reduction in pain and demonstrating the impressive analgesic potential of honokiol.⁹

Other studies have also shown that an oral administration of honokiol is quickly absorbed and distributes evenly throughout the brain, where pain signals are processed.¹³⁻¹⁵



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PEA + Honokiol: A Game Changer for Chronic Pain

By working together to combat the underlying causes of chronic pain, the dynamic duo of PEA and honokiol offers a promising solution for those suffering from chronic pain. What's more, these natural, non-narcotic supplements won't produce addiction or dependence.

If you're dealing with chronic pain, the unique, targeted, dual-action approach of PEA and honokiol could provide the safe and effective pain relief you're looking for.



Getting to the Root of Chronic Pain

A Natural Solution for Chronic Pain

Ten Lifestyle Tips for Chronic Pain



#3

Ten Lifestyle Tips for Chronic Pain



Alter your habits to ensure a better night's sleep by keeping a regular sleep schedule, winding down before bed, and cutting back on alcohol use.

Ten Lifestyle Tips for Chronic Pain

Chronic pain management isn't always about medication. To help manage your chronic pain, try incorporating some or all of these changes into your life.

1. Get those zzzzz's

Talk about a vicious cycle: Chronic pain makes it harder to sleep, but if you don't get enough sleep, your chronic pain can be even worse the next day. Alter your habits to ensure a better night's sleep by keeping a regular sleep schedule, winding down before bed, and cutting back on alcohol use.

2. Walk it out

It's another vicious cycle — people are often less active because of chronic pain and that, in turn, can make chronic pain worse. Exercise releases endorphins, the brain chemicals that help improve your mood and block pain signals. Try walking — or some other exercise — a few times a week for 30 minutes a day, working up to it slowly if necessary.

3. Distraction can be a good thing

You've heard people say, "Find something to keep your mind off your problems." It turns out that works for chronic pain too — literally! Studies have shown that when a person is distracted, the areas in their brain that process pain are less active. So distract yourself by calling a friend, reading a book, doing a puzzle — any activity that keeps you busy and stops you from thinking about your pain.

4. Take a deep breath (or several)

Spend a few minutes breathing deeply and slowly, placing your hand on your abdomen and feeling it rise and fall. Deep breathing is a great relaxation technique that could help relieve some pain and tension. The best part? You can do it anywhere!

5. "Namaste" the pain away

Yoga continues to gain popularity worldwide, and it's no wonder. With its gentle stretching and mind-body techniques, yoga has been found to ease pain, improve mood, and reduce the need for pain medication. Look for a beginner or gentle class in your area, or search online for helpful videos so you can try it at home.

6. Let stress go

Stress can increase the body's sensitivity to pain, so reducing stress may provide some relief from chronic pain. Activities like the deep breathing and yoga mentioned above can help reduce stress, but you can also try calm music, meditation, massage, biofeedback, and other stress management techniques.

7. Dear Journal ...

Pain can often be hard to describe, so a pain journal is a good way of helping both you and your doctor understand your chronic pain and find an effective way to treat it. Each day, record your pain score (between 1 and 10) in your journal, noting your activities for the day and how they made you feel.

8. Up and at 'em!

If you suffer from chronic pain, you should avoid prolonged bed rest. While a little rest after a new injury is fine, lying in bed or on the couch longer than usual isn't good for chronic pain — and could even weaken muscles and make the pain worse.

9. What's on the menu?

Depending on the type of pain, some foods can affect chronic pain. For example, fatty meat or milk can worsen the pain of inflammatory arthritis. Keep a food diary and note whether your pain increases after eating certain foods. Then try cutting out those foods to see if your symptoms change.

10. Put that cigarette out

Smoking slows healing, worsens circulation, and increases your risk of degenerative disc problems, all of which can influence chronic pain. You already have so many good reasons not to smoke — and now you can add chronic pain to that list!

Source: www.WebMD.com



A pain journal is a good way of helping both you and your doctor understand your chronic pain and find an effective way to treat it.

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