

# Hemp for Pain, Cancer, and More

For years, both researchers and patients have experienced amazing benefits from hemp oil for everything from reducing seizures to stopping tumors. But until recently, the regulatory environment for hemp oil was unfriendly, to say the least, so many people who would have benefited from the science and real-world results could not. Now they can.

Virtually free of psychoactive THC (delta-9-tetrahydrocannabinol) – legally, THC content must be 0.3 percent or less – the oil from *Cannabis sativa* stalks provides a full range of other compounds called cannabinoids (including cannabidiol – popularly known as *CBD* – as well as canna-bichromene and cannabigerol), that affect the brain and body in very positive ways without impairing the focus of the person using it.

These compounds are also known as *phytocannabinoids* to distinguish them from naturally-occurring cannabinoids in the body called *endocannabinoids*. I think that the growing interest and research surrounding hemp oil is an exciting development in natural medicine, and one that is long overdue. Hemp oil has the potential to answer many health needs, and I'll review a few of them here.

## Hemp Oil is Not Marijuana

Before I go any further, I want to make it clear that what I am discussing is *not* marijuana. What hemp oil and marijuana have in common is that they originate from *Cannabis sativa*. But the plants themselves are different. Hemp oil is from hemp plants selected to be low in THC, while medical and recreational marijuana is from plants selected for increased THC content,

the compound that causes a “high.” As I mentioned earlier, by law, hemp oil cannot contain any significant amounts of THC.

## Cannabinoid Receptors & The Endocannabinoid System: A New Science

The science of *how* the mind and body respond to pain, neurological signals, and stress has been intensively studied for as long as there has been medicine. But a newer development – one that has really only advanced in the past twenty-five years or so – has been in understanding cannabinoid receptors and the “endocannabinoid system” (ECS).

If you notice a similarity between the words “cannabis” and “cannabinoid receptors”, it is definitely not accidental. These receptors, frequently abbreviated as CB1 and CB2, are so named because of the way they are involved with perception of pain, neurological factors, *and* other physical health concerns, too. The compounds from cannabis interact with these receptors, found on the surfaces of cells.

Both CB1 and CB2 are expressed in the hippocampus, a part of the brain associated with memory and emotion. But each also has its own areas of expertise, too. Broadly speaking, CB1 is involved with cognitive responses – fear and memory – while CB2 is more aligned with the immune system, peripheral structures of the body, and digestion. In an extremely simplified way, you could think of the CB1 receptor as the “mind receptor” and CB2 as the “body receptor.”

## Terry Talks



## Nutrition

### Terry's Bottom Line

Some of the most exciting recent developments in natural health involve hemp oil, making it one of the most intensively sought-after natural medicines on the market. Like anything with a lot of new news around it, there is also a lot of confusion surrounding hemp oil, its compounds, and its benefits. While much of the current focus centers on cannabidiol (CBD), one of the compounds from *Cannabis sativa*, I recommend a hemp oil with the complete entourage of phytocannabinoids from the plant, of which CBD is only one. The endocannabinoid system – our own set of receptors and cannabinoids – needs a full range of nutrients.

The best hemp oil provides a full spectrum of phytocannabinoids that can help in a multitude of ways:

- Stop joint and muscle pain
- Slow cancers and stop the spread of tumors
- Strengthen bones
- Alleviate epilepsy symptoms

### HERE ARE MY SUGGESTIONS:

If you are looking to stop joint and muscle pain, slow the spread of tumors, or alleviate epilepsy symptoms, I recommend taking:

**Option #1:** European Hemp (*Cannabis sativa*) stalk and seed oil

**Option #2:** A combination of European Hemp (*Cannabis sativa*) stalk and seed oil **AND** Curcumin (*Curcuma longa*) Rhizome Extract enhanced with turmeric essential oil and standardized for curcuminoid complex (curcumin, demethoxycurcumin, and bisdemethoxycurcumin)

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Our bodies create our own cannabinoids, including anandamide (AEA) and 2-arachidonoylglycerol (2-AG), which affects emotions, the nervous and digestive systems, the immune system, sensation of pain, and other aspects of health. These internally-created cannabinoids activate our receptors, and help us stay in a balanced, healthy state. In fact, anandamide is named for the Sanskrit word “ananda,” which means bliss. That alone gives you a pretty good indication of how important the endocannabinoid system is to our well-being. It is essentially an adaptogenic system, affecting the body and mind in multiple ways.

When endocannabinoid levels decline, especially in connection to chronic disease, inflammation, low omega-3 and vegetable intake, and other stresses that take a mental and physical toll on our health, phytocannabinoids can help. They can prevent the breakdown of our own natural cannabinoids and research is finding they can effectively treat a host of diseases, from pain to epilepsy.

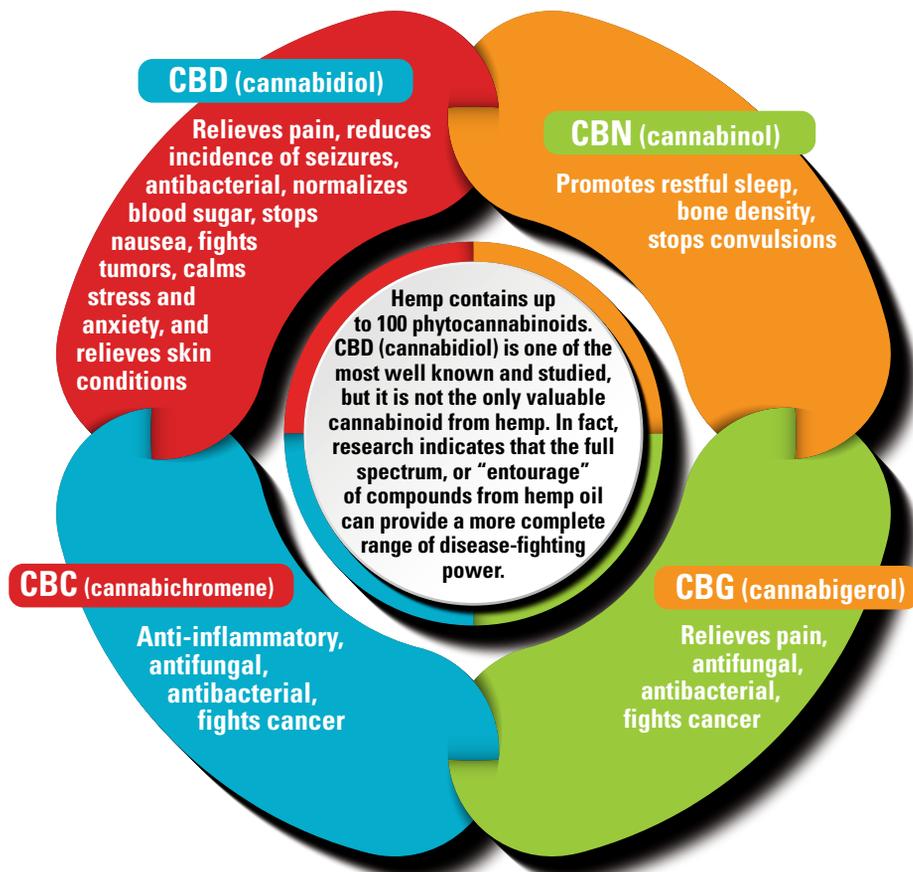
## Fights Pain and Inflammation

For fighting pain, I’ve often recommended curcumin enhanced with turmeric essential oil for better absorption, blood retention, and effectiveness. But hemp oil cannabinoids appear to be natural pain fighters too, due to their ability to reduce inflammation and modulate the brain’s response to pain. In fact, it is one of the major reasons that people become interested in hemp oil to begin with. Of course, the full mechanism of how the compounds from hemp oil fight pain is still under investigation.

Since hemp oil cannabinoids help preserve our own natural endocannabinoids, British research may provide a partial answer. They found that patients with osteoarthritis and rheumatoid arthritis had elevated levels of endocannabinoids in their synovial tissue – the tissue located between joints – compared to those *without* those conditions. It’s as though the body was flooding those particular regions with endocannabinoids in order to relieve the pain.

Further research showed that changes in the endocannabinoid levels might also have

## There’s More to Hemp Oil Than CBD



Russo EB. Taming THC: potential cannabis synergy and phytocannabinoid-terpenoid entourage effects. *Br J Pharmacol.* 2011 Aug;163(7):1344-64.

something to do with the way we perceive pain; including feelings of anxiety and depression that often accompany joint conditions.

Phytocannabinoids may help people dealing with neuropathic (nerve) pain from chemotherapy, which doesn’t always respond easily to conventional medications. A double-blind, placebo-controlled pilot trial showed that an oral spray decreased pain by an average of 2.6 (compared to 0.6 for the placebo) on an 11-point pain intensity scale.

Other clinical work with oral sprays for neuropathic pain (which include THC and CBD) have found similar positive results.

Muscle spasticity in multiple sclerosis can also be difficult to treat with conventional drugs. A combination THC/CBD oral spray improved conditions for some patients in as little as one month.

For any kind of muscle and joint pain, I think that a combination of hemp oil and curcumin enhanced with turmeric essential oil would be a very effective option.

## Fights Tumors

Phytocannabinoids from hemp have been found to kill cancer cells and inhibit the spread of tumors *without* affecting healthy cells.

For instance, CBD has been found to fight glioblastoma, a difficult-to-treat form of brain tumor. Researchers found that this compound from hemp oil initially inhibited the spread of cancer cells, and seemed to work best when combined with conventional drugs in this scientific study. As we learn more, it’s likely that cannabinoids from hemp could be considered an adjunct therapy for a variety of cancers.

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The anti-inflammatory abilities of hemp oil are key to stopping cancer, although the precise pathways and exactly how it does this are still being investigated. It has been shown to reduce 5-lipoxygenase (5-LOX) inflammation, in one cell study by 40 percent, but there is still a lot of ongoing research in this area.

Scientific research has found that CBD also stops leukemia cells, while other work has found that a full range of cannabinoids inhibited prostate cancer cells, highlighting the value of a complete entourage of compounds from hemp.

## Cannabinoids Reduce Seizures

One of the health concerns that could be most dramatically affected by cannabinoids from hemp oil is epilepsy. Epilepsy is a disorder in the central nervous system that disrupts neural activity in the brain. The resulting symptoms of the condition can be as mild as a few unfocused seconds that would appear as daydreaming, to muscle twitches, to completely losing consciousness. CBD from hemp has been clinically tested for individuals with the condition, and although more work needs to be done, initial results are very promising.

In an early clinical study, patients stayed on their anti-seizure medication (although the authors mentioned that it was no longer controlling symptoms) and took either CBD or a placebo. While there were only eight individuals taking the hemp oil compound, half of them were almost symptom free during the course of the trial, and three others noted a partial reduction in symptoms. This two-phase study began with small daily doses for the first 30 days (3 mg/kg), and followed with a larger dose (200-300 mg daily). This was one of the opening salvos in what would become a long road of using compounds from cannabis to promote health, without impairing or affecting cognition.

A more recent Israeli study found that a CBD-enriched hemp oil (which also included a small amount of tetrahydrocannabinol or "THC" in a ratio of 20:1 CBD to THC) reduced the frequency of seizures in 89 percent of the children in the trial. Of those, some (18 percent) saw a large drop in seizure frequency – anywhere from 75 to 100 percent.

Researchers also reported improved language and motor skills, behavior, and sleep. The children included in this multi-center study had a form of epilepsy that was resistant to standard medications, so seeing positive results from hemp oil is a wonderful development.

What's interesting about the addition of a small level of THC in this case is that early research found that CBD alleviates the "jitters" brought about in people by THC. The fact that CBD is considered an anticonvulsant and affects the brain and nerves in a stabilizing way may be one of the reasons it combats drug-resistant seizures. Further research will, no doubt, reveal more about the mechanism of action. I think that combining hemp oil with a ketogenic diet, which has also been shown to decrease symptoms (see my article regarding this high-fat, high-protein regimen),

could make a remarkable difference for those with epilepsy.

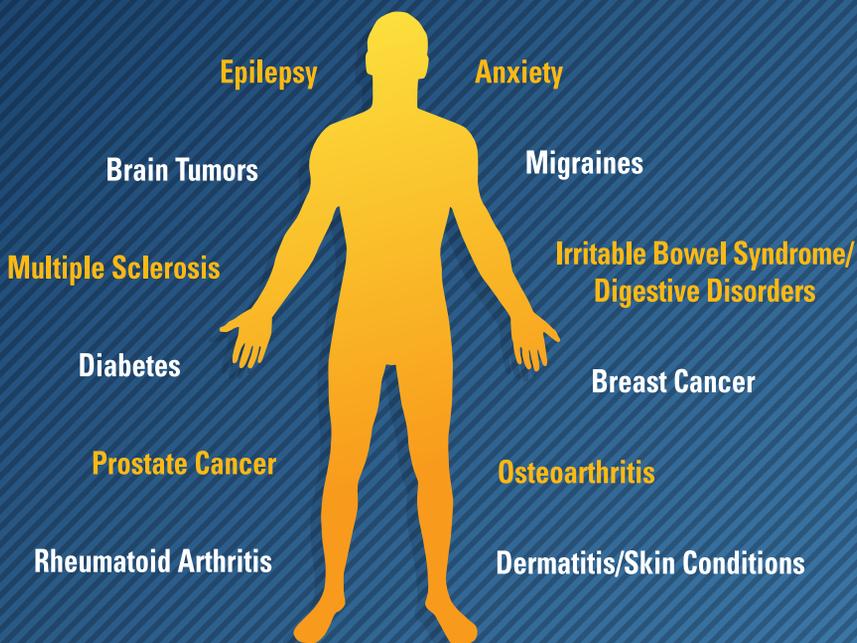
## Hemp Oil Cannabinoids for Whole Body Health

In addition to the benefits I've outlined so far, cannabinoids from hemp oil may help strengthen your bones and keep your skin healthy, too.

Normally, specialized cells called osteoblasts add fresh minerals to bone while osteoclasts remove older bone tissue by breaking down the minerals and reabsorbing them into the bloodstream. The two processes are crucial for health and intricately interlinked. But age, diet, genetics, and a number of factors can create the conditions for osteoporosis and other bone-degenerative diseases. Aside from making sure you have a full mineral and nutrient supplement in your regimen, you may want to add hemp oil.

## Imbalanced Endocannabinoid System = INCREASED DISEASE RISK

Your endocannabinoid system (ECS) affects your physical and mental well-being, adapting to health conditions and environmental situations as needed. Hemp oil, with a full spectrum of phytocannabinoids, provides nutrients for this system and can help fill the gaps due to any deficiencies of your own natural endocannabinoids.



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Laboratory research at the Hebrew University in Jerusalem has found that hemp oil compounds helped heal bone fractures by stimulating osteoblast activity and helping build the matrix that supports minerals building new bone tissue. Considering the complications of many prescription drugs for dealing with bone issues, hemp oil provides a much better option.

Your endocannabinoid system regulates your skin, too. It regulates much of the lipids

(fats) that determine the oiliness or dryness of your skin and whether or not you suffer from dermatitis, acne, or other disorders. A supplemental hemp oil may help balance out your skin's production of oils.

## Select the Best Hemp Oil

Hemp oil compounds, including CBD, have a lot to offer. But you have to be careful which kind you choose. It's easy to think that only CBD is important, but hemp oil is complex, and the other non-THC phytocannabinoids are valuable. The best hemp oil provides a full entourage of compounds from the stalk, because a complete spectrum works together more strongly than any one single compound can on its own.

Also, be aware of the growing conditions of hemp oil. European, non-GMO hemp from specially cultivated plants that are carefully tended are going to deliver the results you're looking for. I would also suggest adding supplemental omega-3s to your diet, especially if they are bound to phospholipids. Omega-3s are part of the scaffolding for the endocannabinoid system.

## How Your Endocannabinoid System (ECS) Works

Your endocannabinoid system is made of receptors and natural cannabinoids that fit into these receptors much like a key fits a lock. The entire system, when in balance, keeps your body and mind in optimal health. But if it is depleted by stress, illness, or other factors, it needs nourishment. Phytocannabinoids from hemp oil can help. They bolster your natural endocannabinoids and help maintain the balance you need, much like adaptogens.

**1** Your endocannabinoid system provides its own cannabinoids—when the system is working optimally.

**2** During periods of mental or physical stress, your endocannabinoid system is activated.

Endocannabinoids surge to where they are needed most, fitting into specific receptor sites (chiefly CB1 and CB2).

**3**

These cannabinoids send signals to the surrounding tissue and the brain, and help stop anxiety, inflammation, and even tumors.

**4**

**5** Your body tries to maintain a balance of cannabinoids—only using them when necessary. However, health challenges can deplete your natural supply.



**6** Nourishing your endocannabinoid system is critical if you have concerns with daily energy and stress, physical pain, or any serious health condition.



## CURCUMIN: A Perfect Partner to Hemp Oil

Hemp oil phytocannabinoids are amazing compounds. So are curcuminoids from turmeric. Pairing them up makes a lot of sense. These two botanicals fight pain, cancer, depression, Alzheimer's, and virtually double the protective power you can supply to your mind and body.

Your best option is a curcumin combined with turmeric essential oil for enhanced absorption, blood retention, and the added benefit of turmerones – compounds that have strong anti-inflammatory power of their own.

**Turmeric Rhizome (Root)**  
(*Curcuma longa*)



There is a bright future for hemp oil. Like curcumin, French grape seed extract, and boswellia, it is an incredibly powerful natural medicine for almost every health condition.

When in doubt, always consult your physician or healthcare practitioner. This article is intended to provide you with information to maintain your health.