

CBD Oil's Medical Uses

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Marijuana (*Cannabis sativa*) plants contain more than 100 different chemical cannabinoids. CBD (cannabidiol, pronounced ca-na'-bi-dy'-ol) is one of them that doesn't cause a 'high' like tetrahydro-cannabinol (THC – the mind-altering chemical in marijuana).

CBD is extracted from marijuana and hemp flowers and buds, then diluted with coconut or hemp seed oil. The body doesn't absorb more than about 20% of an oral dose. It can also be applied to skin.

Theoretically cannabinoids might benefit us in myriad ways, based on what we know about the body's own cannabinoid system. The endocannabinoid system consists of CB1 and CB2 receptors on brain, nerve and immune cells and the natural chemicals like anandamide which bind to those receptors. Activating or inhibiting the receptors regulates sleep, appetite, nausea, energy balance, euphoria from exercise, pain, the autonomic nervous system (which regulates unconscious nerve function, like heart rate and bowel movements), immune cell activation, stress response, memory and learning. The system is partly responsible for the placebo effect.

Potential uses:

Seizures: The Food and Drug Administration has approved CBD for only one medical use – treatment of certain rare types of childhood epilepsy.

Psychology: Some say CBD alleviates anxiety, with at least two well-controlled human studies to back up the claim. Since THC can induce anxiety, using a combination THC-CBD product may not be a good idea.

Case reports and mouse studies suggest that it might help people with PTSD or depression, but we lack human evidence. There is no good data to justify using it to treat psychosis.

Pain: A plausible mechanism and promising animal studies justify trying CBD oil applied to the skin, to alleviate pain in joints and painful neuropathy.

Immune: Some scientists presume that CBD's anti-inflammatory and antioxidant effects are proven, but spotty evidence in test tubes and mice is far from conclusive for humans.

Other uses: Health claims for CBD extrapolate test-tube physiologic effects to predictions that it will prevent or cure acne, cancer, Alzheimer's disease and heart failure. These predictions ignore the fact that an orally administered product might not be absorbed intact into the body, function as predicted within the body or be free of unacceptable side effects. So far we have no justification for most health claims in humans.

THC-CBD combination: A problem with CBD research is that many of the well-designed human studies have used a combination THC-CBD product instead of pure CBD. In one of these, the combo product alleviated "cancer pain" in a majority of 60 patients, but worsened nausea and vomiting. In another study, the same product alleviated nausea and vomiting in five of seven subjects. It's impossible to draw conclusions about CBD from THC-CBD experiments.

CBD may be 'natural', but pharmacologic doses of anything can have side effects. CBD interferes with drug metabolism, potentially raising other drug levels to a toxic degree. It has caused liver toxicity in up to 10% of users, some dangerously so. CBD's side effects include diarrhea, increased appetite, weight gain and fatigue.

All 50 states have legalized CBD with variable restrictions on use. Federal law has legalized only hemp-derived CBD products with no more than 0.3% THC. Hemp is *Cannabis sativa*, the same plant as marijuana, but negligible THC content.

Legality hasn't led to quality control or labeling specifications. You can only hope that the product contains as much CBD as that promised on the label and that it's not contaminated with THC, which worsen anxiety or seizures, or anything else.

Based on what we know so far, it is reasonable to try topical CBD for pain and oral CBD for anxiety. Be careful about product sourcing and purity.¶