



MYTHS and MISCONCEPTIONS about CBD THC

It doesn't get you high, but it's causing quite a buzz among medical scientists and patients. The past year has seen a surge of interest in cannabidiol (CBD), a non-intoxicating cannabis compound with significant therapeutic properties. Numerous commercial start-ups and internet retailers have jumped on the CBD bandwagon, touting CBD derived from hemp as the next big thing, a miracle oil that can shrink tumors, quell seizures, and ease chronic pain—without making people feel “stoned.” But along with a growing awareness of cannabidiol as a potential health aid there has been a proliferation of misconceptions about CBD.

#1 “CBD IS MEDICAL. THC IS RECREATIONAL.”

Project CBD receives many inquiries from around the world and oftentimes people say they are seeking “CBD, the medical part” of the plant, “not THC, the recreational part” that gets you high. Actually, THC, “The High Causer,” has awesome therapeutic properties. Scientists at the Scripps Research Center in San Diego reported that THC inhibits an enzyme implicated in the formation of amyloid beta plaque, the hallmark of Alzheimer's-related dementia. The federal government recognizes single-molecule THC (Marinol) as an anti-nausea compound and appetite booster, deeming it a Schedule III pharmaceutical, a category reserved for drugs with little abuse potential. But whole plant cannabis, which is the only natural source of THC, continues to be classified as a dangerous Schedule I drug with no medical value.

#2 “THC IS THE BAD CANNABINOID. CBD IS THE GOOD CANNABINOID.”

The drug warrior's strategic retreat: Give ground on CBD while continuing to demonize THC. Diehard marijuana prohibitionists are exploiting the good news about CBD to further stigmatize high-THC cannabis, casting tetrahydrocannabinol as the bad cannabinoid, whereas CBD is framed as the good cannabinoid. Why? Because CBD doesn't make you feel high like THC does. Project CBD categorically rejects this moralistic, reefer madness dichotomy in favor of whole plant cannabis therapeutics. (Read the foundational science paper: *A Tale of Two Cannabinoids*.)

#3 “CBD IS MOST EFFECTIVE WITHOUT THC.”

THC and CBD are the power couple of cannabis compounds—they work best together. Scientific studies have established that CBD and THC interact synergistically to enhance each other's therapeutic effects. British researchers have shown that CBD potentiates THC's anti-inflammatory properties in an animal model of colitis. Scientists at the California Pacific Medical Center in San Francisco determined that a combination of CBD and THC has a more potent anti-tumoral effect than either compound alone when tested on brain cancer and breast cancer cell lines. And extensive clinical research has demonstrated that CBD combined with THC is more beneficial for neuropathic pain than either compound as a single molecule.

#4 “SINGLE-MOLECULE PHARMACEUTICALS ARE SUPERIOR TO ‘CRUDE’ WHOLE PLANT MEDICINALS.”

According to the federal government, specific components of the marijuana plant (THC, CBD) have medical value, but the plant itself does not have medical value. Uncle Sam’s single-molecule blinders reflect a cultural and political bias that privileges Big Pharma products. Single-molecule medicine is the predominant corporate way, the FDA-approved way, but it’s not the only way, and it’s not necessarily the optimal way to benefit from cannabis therapeutics. Cannabis contains several hundred compounds, including various flavonoids, aromatic terpenes, and many minor cannabinoids in addition to THC and CBD. Each of these compounds has specific healing attributes, but when combined they create what scientists refer to as a holistic “entourage effect” or “ensemble effect,” so that the therapeutic impact of the whole plant is greater than the sum of its single-molecule parts. The Food and Drug Administration, however, isn’t in the business of approving plants as medicine. (See the scientific evidence.)

#5 “CBD IS NOT PSYCHOACTIVE.”

CBD is not an intoxicant, but it’s misleading to describe CBD as non-psychoactive. When a clinically depressed patient takes a low dose of a CBD-rich sublingual spray or tincture and has a great day for the first time in a long time, it’s apparent that CBD is a powerful mood-altering compound. Better to say, “CBD is not psychoactive like THC,” than to simply assert that CBD is not psychoactive. CBD won’t make a person feel stoned, but it can impact a person’s psyche in positive ways.

#6 “PSYCHOACTIVITY IS INHERENTLY AN ADVERSE SIDE EFFECT.”

According to politically correct drug war catechism, the marijuana high is an unwanted side effect. Big Pharma is keen on synthesizing medically active marijuana-like molecules that don’t make people high—although it’s not obvious why mild euphoric feelings are intrinsically negative for a sick person or a healthy person, for that matter. In ancient Greece, the word euphoria meant “having health,” a state of well-being. The euphoric qualities of cannabis, far from being an unwholesome side effect, are deeply implicated in the therapeutic value of the plant. “We should be thinking of cannabis as a medicine first,” said Dr. Mikuriya, “that happens to have some psychoactive properties, as many medicines do, rather than as an intoxicant that happens to have a few therapeutic properties on the side.”

#7 “CBD IS SEDATING.”

Moderate doses of CBD are mildly energizing (“alerting”). But very high doses of CBD may trigger a bi-phasic effect and can be sleep-promoting. If CBD-rich cannabis flower confers a sedating effect, it’s likely because of a myrcene-rich terpene profile. Myrcene is a terpene with sedative and painkilling properties. CBD is not intrinsically sedating, but it may help to restore better sleeping patterns by reducing anxiety.

#8 “HIGH DOSES OF CBD WORK BETTER THAN LOW DOSES.”

CBD isolates require higher doses to be effective than whole plant CBD-rich oil extracts. That doesn’t mean single-molecule CBD is a better therapeutic option than CBD-rich cannabis, which has a wider therapeutic window than a CBD isolate. Reports from clinicians and patients suggest that a synergistic combination of CBD, THC, and other cannabis components can be effective at low doses – as little as 2.5 mg CBD and/or 2.5 mg THC. Some patients may require significantly higher doses of CBD oil to obtain satisfactory results. An excessive amount of CBD could be less effective therapeutically than a moderate dose.

#9 “CBD CONVERTS TO THC IN A PERSON’S STOMACH.”

Orally administered CBD is well-tolerated in humans. But concerns about possible harmful side effects, which might limit CBD’s therapeutic utility and market potential, were raised by misleading reports that CBD converts to high-causing THC in the stomach. It does not (read the evidence). There have been extensive clinical trials demonstrating that ingested CBD—even doses above 600 mg—does not cause THC-like psychoactive effects. On the contrary, CBD in sufficient amounts can lessen or neutralize the THC high. The World Health Organization studied the issue and gave CBD a clean bill of health in a 2017 report that asserted: “Simulated gastric fluid does not exactly replicate physiological conditions in the stomach of humans undergoing CBD treatment.”

#10 “CBD IS FULLY LEGAL IN THE UNITED STATES BECAUSE IT’S NO LONGER A CONTROLLED SUBSTANCE.”

Not quite. The 2018 Farm Bill legalized the cultivation of industrial hemp (defined as cannabis with less than 0.3 percent THC) in the United States and removed various derivatives of hemp, including CBD, from the purview of the Drug Enforcement Administration (DEA) and the Controlled Substances Act. But the federal Food and Drug Administration (FDA) views CBD as a pharmaceutical drug. And because it has already approved CBD as a pharmaceutical (Epidiolex) for treating two forms of pediatric epilepsy, the FDA maintains that it is illegal to sell hemp-derived CBD as a dietary supplement. The DEA, meanwhile, retains jurisdiction over CBD derived from marijuana (cannabis with more than 0.3 percent THC), which is still prohibited under federal law. Rooted in reefer madness racism and enforced disproportionately against people of color, marijuana prohibition is akin to the Confederate statue still standing – a testament to enduring bigotry and social injustice.

#11 “LEGALIZING CBD, BUT NOT CANNABIS, ADEQUATELY SERVES THE PATIENT POPULATION.”

Seventeen U.S. states have enacted “CBD only” (or, better said, “low THC” or “no THC”) laws. And 30 states have legalized medical marijuana (not just CBD) in one form or another. Some states restrict the sources of CBD-rich products and specify the diseases for which CBD can be accessed; others do not. But a CBD-rich remedy with little THC doesn’t work for everyone. Parents of epileptic children have found that adding some THC (or THCA, the raw, unheated version of THC) helps with seizure control. For some epileptics (and many other people), THC-dominant products are more effective than CBD-rich products. Most patients are not well served by CBD-only laws. They should have access to a broad spectrum of whole plant cannabis remedies, not just low THC medicine. Anything less is a national scandal. One size doesn’t fit all with respect to cannabis therapeutics, and neither does one compound or one product or one strain. (Read more: Prohibition’s Last Gasp: “CBD Only”.)

#12 “CBD IS CBD—IT DOESN’T MATTER WHERE IT COMES FROM.”

It may be possible to extract CBD oil from some low-resin industrial hemp cultivars, but fiber hemp is by no means an optimal source of CBD. Industrial hemp typically contains far less cannabidiol than high-resin CBD-rich cannabis flower tops. Huge amounts of industrial hemp are required to extract a small amount of CBD, thereby raising the risk of contaminants because hemp is a “bio-accumulator” that draws toxins from the soil. But the debate over sourcing CBD is quickly becoming moot, as plant breeders focus on developing high-resin cannabis varieties (marijuana) that satisfy the legal criteria for industrial hemp – with THC measuring less than 0.3 percent and CBD levels exceeding 10 percent by dry weight. “Pure” CBD extracted and refined from industrial hemp or synthesized in a lab lacks critical medicinal terpenes and other plant compounds that interact with CBD and THC to enhance their therapeutic benefits.



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