CBD BENEFITS AND FACTS

1. Reduced Risk of Diabetes and Obesity

Several studies have shown that regular cannabis users have a lower body mass index, smaller waist circumferences, and reduced risk of diabetes and obesity. One 2011 report published in the American Journal of Epidemiology, based on a survey of more than fifty-two thousand participants, concluded that rates of obesity are about one-third lower among cannabis users. This is despite the findings that participants tend to consume more calories per day, an activity that is potentially related to THC's stimulation of ghrelin, a hormone that increases appetite but also increases the metabolism of carbohydrates. CBD on its own was shown in 2006 to lower the incidence of diabetes in lab rats, and in 2015 an Israeli-American biopharmaceutical collective began stage 2 trials related to using CBD to treat diabetes. Research has demonstrated that CBD benefits weight loss by helping the body convert white fat into weight-reducing brown fat, promoting noatherogenesisrmal insulin production and sugar metabolism.

In studying over 4,600 test subjects, researchers found that current cannabis users had fasting insulin levels that were up to 16 percent lower than their non-using counterparts, higher levels of HDL cholesterol that protects against diabetes, and 17 percent lower levels of insulin resistance. Respondents who had used cannabis in their lifetime but were not current users showed similar but less pronounced associations, indicating that the protective effect of cannabis fades with time.[180]

Excess insulin promotes the conversion of sugars into stored fat and leads to weight gain and obesity. The research emerging about the interplay between cannabinoids and insulin regulation may lead to some major breakthroughs in the prevention of obesity and type 2 diabetes.

2. Better Cholesterol Profiles and Lowered Risk of Cardiovascular Disease

A 2013 study that measured data from 4,652 participants on the effect of cannabis on metabolic systems compared non-users to current and former users. It found that current users had higher blood levels of high-density lipoprotein (HDL-C) or "good cholesterol." The same year, an analysis of

over seven hundred members of Canada's Inuit community found that, on average, regular cannabis users had increased levels of HDL-C and slightly lower levels of LDL-C ("bad cholesterol").

Linked to diet and lifestyle, atherosclerosis is common in developed Western nations and can lead to heart disease or stroke. It is a chronic inflammatory disorder involving the progressive depositing of atherosclerotic plaques (immune cells carrying oxidised LDL or low-density lipoproteins). A growing body of evidence suggests that endocannabinoid signalling plays a critical role in the pathology of atherogenesis. The condition is now understood to be a physical response to injuries in the arterial walls' lining, caused by high blood pressure, infectious microbes, or excessive presence of an amino acid called homocysteine. Studies have demonstrated that inflammatory molecules stimulate the cycle leading to atherosclerotic lesions. Existing treatments are moderately effective though carry numerous side effects. CB2 receptors triple in response to inflammation, allowing anandamide and 2-AG, the body's natural cannabinoids, to decrease inflammatory responses. The CB2 receptor is also stimulated by plant-based cannabinoids.

A 2005 animal trial showed that low-dose oral cannabinoids slowed the progression of atherosclerosis. Researchers the following year wrote that the immunomodulatory capacity of cannabinoids was "well established" in science and suggested they had a broad therapeutic potential for a variety of conditions, including atherosclerosis.

A 2007 animal study on CBD effects showed it had a cardio-protective effect during heart attacks, and more details were published that year about the involvement of the CB1 and CB2 receptors in cardiovascular illness and health.

3. Reduced Risk of Cancer

Could cannabidiol help prevent tumours and other cancers before they grow? A 2012 study showed that animals treated with CBD were significantly less likely to develop colon cancer after being induced with carcinogens in a laboratory.[187] Several studies had already shown that THC prevents tumours and reduces them, including one in 1996 on animal models that found that it decreased the incidence of both benign and hepatic adenoma tumours.[188] In 2015, scientists analyzed the medical records of over eighty-four thousand male patients in California and found that those who used cannabis, but not tobacco, had a rate of bladder cancer that was 45 percent below the norm. Topical products can be used to treat and prevent skin cancers. Continuing research is focused on the best ratio of CBD to THC and the most effective dose level in cancer prevention and treatment.

4. Helps Maintain Brain Health and Create Resilience to Trauma and Degeneration

Cannabinoids are neuroprotective, meaning that they help maintain and regulate brain health. The effects appear to be related to several actions they have on the brain, including the removal of damaged cells and the improved efficiency of mitochondria. CBD and other antioxidant compounds in cannabis also work to reduce glutamate toxicity. Extra glutamate, which stimulates nerve cells in the brain to fire, causes cells to become over-stimulated, ultimately leading to cell damage or death. Thus, cannabinoids help protect brain cells from damage, keeping the organ healthy and functioning properly. CBD has also been shown to have an anti-inflammatory effect on the brain.

As the brain ages, the creation of new neurons slows down significantly. In order to maintain brain health and prevent degenerative diseases, new cells need to be continuously created. A 2008 study showed that low doses of CBD- and THC-like cannabinoids encouraged the creation of new nerve

cells in animal models, even in ageing brains. CBD also benefits the brain by helping to prevent other nerve-related diseases like neuropathy and Alzheimer's disease.

5. Protects against Bone Disease and Broken Bones

Cannabinoids are facilitative of the process of bone metabolism—the cycle in which old bone material is replaced by new at a rate of about 10 percent per year, crucial to maintaining strong, healthy bones over time. CBD in particular has been shown to block an enzyme that destroys bone-building compounds in the body, reducing the risk of age-related bone diseases like osteoporosis and osteoarthritis. In both of those diseases, the body is no longer creating new bone and cartilage cells. CBD helps spur the process of new bone-cell formation, which is why it has been found to speed the healing of broken bones and, due to a stronger fracture callus, decrease the likelihood of re-fracturing the bone (bones are 35–50 percent stronger than those of non-treated subjects).

6. Protects and Heals the Skin

The skin has the highest amount and concentration of CB2 receptors in the body. When applied topically as an infused lotion, serum, oil, or salve, the antioxidant (a more powerful antioxidant than vitamins E and C) in CBD oil has many benefits and can repair damage from free radicals like UV rays and environmental pollutants. Cannabinoid receptors can be found in the skin and seem to be connected to the regulation of oil production in the sebaceous glands. Cannabis-based topical products are being developed to treat related issues from acne to psoriasis and can promote faster healing of damaged skin.

In fact, historical documents show that cannabis preparations have been used for wound healing in both animals and people in a range of cultures spanning the globe and going back thousands of years. The use of concentrated cannabis and CBD oils to benefit and treat skin cancer is gaining popularity with a number of well-documented cases of people curing both melanoma and carcinoma-type skin cancers with the topical application of CBD and THC products. The best known of these is the case of Rick Simpson, who cured his basal cell carcinoma with cannabis oil and now has a widely distributed line of products. Cannabis applied topically is not psychoactive.

7. Anti-inflammatory Benefits of CBD

Cannabinoids have been proven to have an anti-inflammatory effect in numerous studies. CBD engages with the endocannabinoid system in many organs throughout the body, helping to reduce inflammation systemically. The therapeutic potential is impressively wide-ranging, as inflammation is involved in a broad spectrum of diseases.

8. Anxiety and Stress

The oral use of cannabis and CBD for anxiety appears in a Vedic text dated around 2000 BCE, and it is one of the most common uses of the plant across various cultures. While THC can increase anxiety in some patients, it lowers it in others. However, CBD effects have been shown to consistently reduce anxiety when present in higher concentrations in the cannabis plant. On its own, CBD has been shown in a number of animal and human studies to lessen anxiety. The stress-reducing effect appears to be related to activity in both the limbic and paralimbic brain areas.

A 2012 research review assessed a number of international studies and concluded that CBD has been shown to reduce anxiety, and in particular social anxiety, in multiple studies and called for

more clinical trials. Two years later, researchers in an animal study related to stress and the endocannabinoid system wrote that augmentation of the endocannabinoid system might be an effective strategy to mitigate behavioural and physical consequences of stress.

In addition to elucidating the relationship between CBD and anxiety, these findings appear to support that the anxiolytic effect of chronic CBD administration in stressed mice depends on its proneurogenic action in the adult hippocampus by facilitating endocannabinoid-mediated signaling.

How to Take the Medicine: Dosage and Delivery

It is suggested that patients work with a health care practitioner experienced in recommending cannabidiol or medicinal cannabis so that dosage and delivery methods can be developed and fine-tuned on an individual basis. At the same time, educated and aware patients can be their own highly informed health consultants.

For anxiety, CBD products with a ratio of 20:1 or higher are recommended and administered as drops, capsules, or edibles. High-CBD cannabinoids can be very effective in reducing chronic anxiety, treating temporary stress, and protecting the body from the physiological effects of both. Varieties high in linalool, a terpene shared with lavender, are known to be effective for relieving anxiety. In particular the strain AC/DC is very effective.

Always start with the micro dose to test sensitivity and go up as needed within the dosing range, before going to the next, until symptoms subside. The micro to standard dose is usually recommended to treat stress and anxiety with CBD. For relief of immediate symptoms, as in a panic or anxiety attack, vaporising or smoking work well. The medication lasts one to three hours, whereas most ingested products, including CBD oil, take thirty to sixty minutes before taking effect and last six to eight hours. Vaporisers that use a cartridge filled with the CO2 concentrate are highly effective, and these are available in various ratios of CBD to THC. Herbal vaporisers that use the whole plant are also an effective delivery method. Sublingual sprays or tinctures taken as liquid drops take effect quickly and last longer than inhaled products.

Effectiveness: Current Science—CBD Benefits for Anxiety

The Cannabis Health Index (CHI) is an evidence-based scoring system for cannabis (in general, not just CBD oil effects) and its effectiveness on various health issues based on currently available research data. Refer to cannabishealthindex.com for updated information. Using this rubric and based on eleven studies, cannabis rated in the possible-to-probable range of efficacy for treatment of anxiety.

Conscious Lifestyle Magazine Recommends:

Elixinol Organic High Potency CBD Capsules

Elixinol offers a highly concentrated, high-potency, organic whole-hemp plant CBD oil , which is naturally extracted with carbon dioxide and free of all synthetics and chemicals. Whole-hemp plant extracts contain synergistic compounds that are believed to enhance the effectiveness and benefits of CBD.

9. Depression and Mood Disorders

Clinical depression is a serious mood disorder characterised by persistent sadness and loss of interest, sometimes leading to decreased appetite and energy and suicidal thoughts. Commonly used pharmaceuticals for depression often target serotonin, a chemical messenger that is believed to act as a mood stabilizer. The neural network of the endocannabinoid system works similarly to the way that serotonin, dopamine, and other systems do, and, according to some research, cannabinoids have an effect on serotonin levels. Whereas a low dose of THC increases serotonin, high doses cause a decrease that could worsen the condition. In 2009 researchers concluded that there was substantial evidence pointing to endocannabinoid signaling as a target for the pharmacotherapy of depression. Authors of a 2016 study wrote that “CBD could represent a novel fast antidepressant drug, via enhancing both serotonergic and glutamate cortical signaling through a 5-HT1A receptor-dependent mechanism.”

CBD might especially be effective for depression related to chronic stress, which has been shown to cause a decrease in endocannabinoid levels.

Effectiveness: Current Science—CBD Benefits for Depression

The Cannabis Health Index (CHI) is an evidence-based scoring system for cannabis (in general, not just CBD effects) and its effectiveness on various health issues based on currently available research data. Refer to cannabishealthindex.com for updated information. Using this rubric and based on twenty-one studies, cannabis rated in the possible-to-probable range of efficacy for treatment of depression.

Research in 2005 called for clinical trials to look into the effectiveness of cannabinoids for bipolar disorder (manic depression).[317] In 2010, a study suggested that CBD was not useful for the manic episodes associated with bipolar disorder.[318] However, for depressive episodes, the evidence points to greater potential for effectiveness.

Authors of a 2013 review of animal studies wrote that CBD showed anti-anxiety and antidepressant effects in several models and suggested that the compound worked by interacting with the 5-HT1A neuroreceptor.

“It is important to remember that CBD benefits and improves the activity in the endocannabinoid system by increasing the time anandamide works on the CB1 and CB2 receptors,” writes Dr. Michael Moskowitz. “Anandamide works on the serotonin, norepinephrine, and dopamine systems. It also works on the GABA-glutamate system and the hypothalamic-pituitary-adrenal axis. Its main role is restoring balance through inhibition when levels are too high and enhancement when they are too low. This is the most likely reason phytocannabinoids in general and CBD specifically are able to regulate depression and anxiety.”

10. Pain

“For the relief of certain kinds of pain, I believe, there is no more useful medicine than Cannabis within our reach,” wrote Sir John Russell Reynolds, neurologist, epilepsy research pioneer, and physician to Queen Victoria back in 1859.[382] In fact, cannabis was used for pain relief in all of the major ancient civilisations from Asia through the Middle East and into Europe and the Americas. The scientific inquiry into cannabis over the past several decades has confirmed that it is an effective and safe analgesic for many kinds of pain.

Of all the reasons that people use CBD today, pain is the most common. The same can be said of cannabis in general. In the United States, over seventy million people suffer from chronic pain, which

is defined as experiencing over one hundred days per year of pain. Physicians differentiate between neuropathic (usually chronic) and nociceptive pains (usually time-limited), and cannabis works on most neuropathic and many nociceptive types of pain. A number of studies have demonstrated that the endocannabinoid system is both centrally and peripherally involved in the processing of pain signals.[383] Most discussions of using CBD for pain treatment suggest that finding the right dosage is critical.

Cannabinoids can be used along with opioid medications, and a number of studies have demonstrated that they can reduce the amount of opioids needed, lessen the buildup of tolerance, and reduce the severity of withdrawal.[384] At least ten randomised, controlled trials on over one thousand patients have demonstrated efficacy of cannabinoids for neuropathic pain of various origins.

How to Take the Medicine: Dosage and Delivery

It is suggested that patients work with a health care practitioner experienced in recommending CBD oil or medicinal cannabis so that dosage and delivery methods can be developed and fine-tuned on an individual basis. At the same time, educated and aware patients can be their own highly informed health consultants.

Oral CBD products with a ratio of 20:1 or higher and administered as drops, capsules, or edibles can be very effective in treating pain, especially the inflammatory type. Most discussions of treating pain with CBD suggest that finding the right dosage is critical. Always start with the micro dose to test sensitivity and go up as needed within the dosing range by body weight until symptoms subside. The micro to standard dose is usually recommended to treat pain, but patients need to carefully monitor their condition and experiment to find the right formula; 10–40 mg of CBD or CBD+THC together is usually enough.

If CBD-dominant products alone are not enough to treat a particular case, products with a higher ratio of THC are sometimes recommended to better manage pain. For day use, more stimulating, sativa varieties with higher concentrations of myrcene could be added to the formula. In general, for pain, and especially for evening and nighttime, indica strains are favoured for their relaxing, sedative effect. A person without experience with THC should use caution and titrate slowly up to higher doses. Research as well as patient feedback have indicated that, in general, a ratio of 4:1 CBD:THC is the most effective for both neuropathic and inflammatory pain. Each individual is different, however—for some, a 1:1 ratio of CBD:THC can be more effective, and others prefer a high-THC strain when it can be tolerated. Each patient's tolerance and sensitivity will differ, and through titration the correct strain and ratio combination can be found.

Other cannabinoids are also shown to relieve pain, including CBC, CBG, THCV, and THCA. Chemotypes high in beta-caryophyllene, myrcene, and linalool provide additional pain relief and increase the effectiveness of other cannabinoids for analgesia.

For relief of immediate symptoms, as in a flare-up of pain, vaporising or smoking work well. The medication effect is immediate and lasts one to three hours, whereas most ingested products take thirty to sixty minutes before taking effect (faster on an empty stomach) and last six to eight hours. Vaporisers that use a cartridge filled with the CO_2 concentrate are highly effective, and these are available in various ratios of CBD to THC. Herbal vaporisers that use the whole plant are also an

effective delivery method. Sublingual sprays or tinctures taken as liquid drops also take effect quickly and last longer than inhaled products.

When pain is localised, topical products can be applied. These can be made using CBD-dominant cannabis as well as THC strains. Topicals affect the cells near application and through several layers of tissue but do not cross the blood-brain barrier and are, therefore, not psychoactive. These may be available as CBD oils, ointments, salves, or other forms, and with varying ratios of CBD and THC (a ratio of 1:1 is often recommended as ideal for skin application). The skin has the highest amount and concentration of CB2 receptors in the body.

Effectiveness: Current Science—CBD Benefits for Pain

The Cannabis Health Index (CHI) is an evidence-based scoring system for cannabis (in general, not just CBD effects) and its effectiveness on various health issues based on currently available research data. Refer to cannabishealthindex.com for updated information and more about studies related to specific types of pain. Considering all of the studies together, which number over forty (for various types of pain), CBD and cannabis are shown to have a rating of likely probable efficacy. It is one of the best-substantiated medical uses of cannabinoids.

Sativex, a cannabis plant–derived oromucosal spray containing equal proportions of THC and CBD, has been approved in a number of countries for use to treat specific types of pain. Numerous randomised clinical trials have demonstrated the safety and efficacy of Sativex for treatment of central and peripheral neuropathic pain, rheumatoid arthritis, and cancer pain. [386]

Cannabinoids affect the transmission of pain signals from the affected region to the brain (ascending) and from the brain to the affected region (descending). A 2011 study showed that CBD and CBC stimulated descending pain-blocking pathways in the nervous system and caused analgesia by interacting with several target proteins involved in nociceptive control. Authors concluded that the cannabinoids “might represent useful therapeutic agents with multiple mechanisms of action.” [387] The following year, researchers reported that CBD significantly suppressed chronic inflammatory and neuropathic pain without causing apparent analgesic tolerance in animals. And then in 2013, researchers concluded that chronic pain patients prescribed hydrocodone were less likely to take painkillers if they used cannabis.

11. Sleep Disorders (Insomnia, Sleep Apnea)

Cannabis and sleep have a complex relationship that is only beginning to be understood by science. In general, for most people, indica strains are more relaxing and effective for sleep disorders, whereas sativa strains are more stimulating and tend to keep people awake.

Several studies conducted between 2004 and 2008 demonstrated the variable effect of different cannabinoids on sleep. In one, 15 mg of THC appeared to have sedative properties, while 15 mg of CBD appeared to have alerting properties.[416] Another tested the effects of CBD on animal models in both lights-on and lights-off environments and found that this non-psychoactive cannabis compound increased alertness with the lights on and had no discernable effects on lights-off sleep. The study’s authors concluded that CBD might actually hold therapeutic promise for those with somnolence, or excessive daytime sleepiness from a not-so-good night’s rest. Another study found CBD to be wake-inducing for most subjects, though some reported better sleep a few hours after taking it.

“Many of my patients report either better energy or sleepiness on the same high-CBD/low-THC plants,” Dr. Michael Moskowitz reported. “Most, however, feel more energy on high-CBD cannabis.”

In general, indica varieties of THC appear to work best as a sleep aid for most people. However, a significant number of people find THC, even indica strains, will make the mind more active. For these people, CBD oil can benefit them and tends to work well, providing relaxation and calm for the mental as well as the physical body. For these people, CBD taken at nighttime as part of a bedtime regime produces a restful sleep, not the alertness produced in the daytime. This bidirectional effect of CBD is the result of balancing the endocannabinoid system.

In relation to sleep apnea, a 2002 animal study observed the ability of THC to restore respiratory stability by modulating serotonin signalling and reducing spontaneous sleep-disordered breathing. In 2013 a trial using the pharmaceutical drug dronabinol, a synthetic THC mimic, noted improvements in fifteen out of seventeen study participants following twenty-one days of treatment.