

# Medical Cannabis



# Medical Cannabis:

## *A Practical Guide to Medical Marijuana*

By

Corey Hebert

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Dedicated to my two beautiful children, Joseph and Elan.  
Absolutely everything I do in this life is to ensure that you  
both are able to achieve your dreams.

Continue to work hard and love life, you deserve every  
moment of peace and happiness.

—Daddy



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# INTRODUCTION

Humans have been cultivating cannabis for a variety of purposes for about 12,000 years, including as a vital food source and for industrial purposes. The use of cannabis as a medicine was first realized around 2900 BC by Emperor Fu Hsi of China<sup>1</sup>, who believed the plant contained both yin and yang, opposite or contrary forces that complement each other to support all natural systems (Hasan, 2023). While medical science has come a long way since the days of Emperor Fu Hsi, by the 20th century, many nations had outlawed the use, possession, or distribution of cannabis.

However, conditions are changing rapidly in the US and abroad. As of 2024, at least 38 states and the District of Columbia currently allow for medical cannabis in one form or another<sup>2,3,4</sup> (DISA, 2023). Medical cannabis is being used to treat numerous conditions such as Lou Gehrig's Disease, HIV/AIDS, epilepsy, terminal illnesses, Parkinson's, multiple sclerosis, Crohn's disease, glaucoma, cancer, seizures, post-traumatic stress disorder (PTSD), chronic pain, muscle spasms, and many other conditions as determined by a physician's opinion (Rogers, 2023).

After many years, the medicinal potential of cannabis is starting to be recognized worldwide. Although cannabis remains prohibited in most

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<sup>1</sup> Hasan, KM. 2023. "Cannabis Unveiled: An Exploration of Marijuana's History, Active Compounds, Effects, Benefits, and Risks on Human Health." *Substance Abuse: Research and Treatment Vol. 17*. 20. Jun. 2023, doi:10.1177/11782218231182553.

<sup>2</sup> DISA. 2023. "Marijuana Legality by State." DISA. July 1, 2023. <https://disa.com/marijuana-legality-by-state>.

<sup>3</sup> "Marijuana Laws and Ballot Measures in the United States." n.d. Ballotpedia. [https://ballotpedia.org/Marijuana\\_laws\\_and\\_ballot\\_measures\\_in\\_the\\_United\\_States](https://ballotpedia.org/Marijuana_laws_and_ballot_measures_in_the_United_States).

<sup>4</sup> Smith Rogers, L. 2023. "The Evidence—and Lack Thereof—about Cannabis." PublicHealth.jhu.edu. Johns Hopkins Bloomberg School of Public Health. August 25, 2023. <https://publichealth.jhu.edu/2023/risks-and-benefits-of-legalized-cannabis>.

countries, including the US (on a federal level), some countries like Germany, Finland, Israel, and Canada have already taken the bold initiative to allow the use of medical cannabis.

As previously mentioned, 38 states in the United States have amended their laws to legalize the medical use of marijuana (DISA, 2023). Moreover, studies have shown that medical cannabis has fewer side effects compared to painkillers, especially opioids; however, from my medical experience, patients who use marijuana for medical purposes generally report feeling much better overall.

Critics of legal medical cannabis argue that cannabis legalization will lead to increased use, especially among minors. In some cases, they even argue that medical cannabis will lead to increased crime and/or poverty. Misinformation has soared in the United States throughout the 20th century, particularly with the government's unsuccessful war on drugs and propaganda like the notorious film *Reefer Madness*.

One might think that legalization—and effectively ending the government's war on this beneficial plant—would mean the end of civilized society as we know it. However, legalization has had the opposite impact due to the combination of sound regulation and education initiatives.

In states like Colorado, for example, the percentage of teenagers using cannabis has been dropping steadily since it was first legalized (FSMB, 2024)<sup>5</sup>. At the same time, the use of cannabis in states that have legalized the drug has not exceeded the national average (Rogers, 2023)<sup>6</sup>. That's due at least in part because, in many states like Florida, you cannot obtain cannabis for medical use unless you have a qualified condition as

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<sup>5</sup> Federation of State Medical Boards. 2024. "Medical Marijuana: State-by-State Overview." Updated April 2024. <https://www.fsmb.org/siteassets/advocacy/key-issues/medical-marijuana-requirements-by-state.pdf#:~:text=URL%3A%20https%3A%2F%2Fwww.fsmb.org%2Fsiteassets%2Fadvocacy%2Fkey>

<sup>6</sup> Smith Rogers, L. 2023. "The Evidence—and Lack Thereof—about Cannabis." Publichealth.jhu.edu. Johns Hopkins Bloomberg School of Public Health. August 25, 2023. <https://publichealth.jhu.edu/2023/risks-and-benefits-of-legalized-cannabis>.

established by a medical doctor who is licensed to prescribe marijuana cards. This method prevents people from accessing the plant for reasons other than those prescribed, keeping overall averages intact.

There are other lingering misconceptions, such as the fact that many people believe cannabis negatively affects health. In the following chapters, we will take a closer look at why these misconceptions persist, provide a brief history of cannabis, and discuss why legalizing medical cannabis in our medical opinions is immensely important.

It is our belief, which is grounded in extensive research coupled with our combined experience, that legalizing medical cannabis will constitute one major step toward curbing the overuse of drugs like opioids, which are very addictive and dangerous.

As we've all seen, the war on drugs reached a fevered pitch in recent years, and yet we remain cautiously optimistic. As doctors, we understand the pros of medical cannabis outweigh the cons; however, the onus is on our readers to demand change in the face of misinformation and propaganda.

Thank you for coming along on this journey with me. This is "Medical Cannabis: A Practical Guide to Medical Marijuana." We will attempt to dispel the prevalent myths around the issue of medical cannabis by exploring the current literature and the overt politicization of the issue, which tends to cloud rational judgment. However, first, we will begin with a brief overview of the history of this remarkable plant.



# CHAPTER 1

## A BRIEF HISTORY OF CANNABIS

The issue of medical cannabis continues to clog the headlines in recent years as critics—pro and against legalization—line up to pass judgment. As such, one would think the issue of cannabis (or medical cannabis) was a relatively new phenomenon. However, humans have cultivated cannabis for longer than any other plant known to man. For more than 12,000 years, cannabis has provided humans with access to vital medicine, food, clothing, and other products.

In 2016, a new hypothesis placed the origin of cannabis on the Tibetan Plateau in Central Asia around 27.8 million years ago, where it diverged from *humulus*, which is popularly known as *hops* (Culvert, 2019).<sup>7</sup> 40,000-year-old human remains were found in the Altai region north of the Tibetan Plateau, which means cannabis most likely attracted the attention of early humans as a viable source of food. Per the same source, the earliest evidence for cannabis use is 10,200-year-old dry cannabis seeds that were found in a clay jar at a Jomon-period Japanese archaeological excavation on the island of Okinoshima, which is near Munakata on the southern island of Kyushu in present-day Japan.

Furthermore, these early humans left an array of cave paintings from the Neolithic period of Kyushu that at least seem to depict tall stalks with hemp-looking leaves and strangely clad humans, horses, and waves, suggesting that foreign traders were bringing cannabis to Japan (most likely from the Korean peninsula).

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<sup>7</sup> Culvert, O. 2019. “Cannabis Originated in Tibet 28 Million Years Ago, Says a New Study.” June 19, 2019. Updated July 28, 2020.  
<https://www.leafly.com/news/science-tech/cannabis-originated-tibet-28-million-years-ago>

It's widely believed that cannabis spread across the Eurasian continent beginning around 5,000 years ago, following the domestication of the horse and the emergence of the Bronze Road. The Bronze Road is an ancient trade route that cut straight through the steppes and was much less arduous than its predecessor, the Silk Road, which came later. So, cannabis must have been a valuable trade commodity about 5 millennia ago under the barter system before the advent of modern currency.

Residue from charred cannabis seeds found in Romania and the North Caucasus provides even more evidence that cannabis was being burned during the Bronze Age (likely as either an inebriant or for funeral rituals or both).

As noted in the intro, in terms of medicine, the earliest written accounts of cannabis being used for medical purposes originate in ancient China, where the plant became part of the generational lexicon and was passed down for hundreds of years. The tradition extends at least as far back as the Emperor Shen Nung, who reigned approximately 4,700 years ago (Britannica).<sup>8</sup> Per the emperor's teachings, cannabis was cited as an important herbal remedy with important medical qualities alongside ephedra and ginseng. By the first century C.E., medical cannabis had expanded for the treatment of at least 100 different medical conditions, and much of this knowledge, which passed along orally for many years, was captured in the first Chinese pharmacopeia, *Pen-Tsao Ching* (NIH, 2012).<sup>9</sup>

From 1500 to 200 B.C.E., cannabis was used medicinally throughout the Mediterranean region as well as India. According to the *Avesta*, the religious text of Zoroastrianism of ancient Persia (modern-day Iraq), cannabis was ranked as the single most important of all known medical plants (Sacred Texts, 2023).<sup>10</sup>

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<sup>8</sup> "Shennong: Chinese Mythological Emperor." n.d. Encyclopedia Britannica. <https://www.britannica.com/topic/Shennong>.

<sup>9</sup> "Classics of Traditional Chinese Medicine: Emperors and Physicians." 2012. Nih.gov. U.S. National Library of Medicine. 2012. <https://www.nlm.nih.gov/exhibition/chinesemedicine/emperors.html>.

<sup>10</sup> "Zoroastrianism: Sacred-Texts." 2023. Sacred-Texts. July 28, 2023. <https://www.sacred-texts.com/zor/index.htm>.

Polish anthropologist Sula Benet has controversially claimed that cannabis was a holy ingredient in the anointing oil recipe recounted in the Hebrew Old Testament book of Exodus, and in ancient Islamic medicine, cannabis was both lauded as useful and condemned as a poison. Nonetheless, the legendary Persian physician Mohammed-e Zakariā-ye Rāzi (865-925 C.E.) cited a plethora of different medical uses for cannabis (A&E, 2018).<sup>11</sup>

Until the 17<sup>th</sup> century, hardly anything was written in the West about medical cannabis. The English scholar Robert Burton, in *The Anatomy of Melancholy*, included cannabis as one of many different plant remedies for depression (Daisy, 2018).<sup>12</sup> And herbalist Nicholas Culpeper included cannabis as an anti-inflammatory in *The English Physician* [sic].

The “Indian Hemp Drugs Commission Report,” which was conducted by the British government and first published in 1894, did not solely focus on the fiber cannabis varieties routinely called hemp but included significant coverage of varieties of cannabis found throughout India. The report was made up of seven volumes and 3,291 pages of testimony from hundreds of interviews conducted across India and found that the occasional use of hemp in moderate doses may be beneficial for medicinal purposes (Herbal Heritage, 2024).<sup>13</sup>

In 1838, medical cannabis was reintroduced to the Western world by William O’Shaughnessy, an Irish physician who worked in India and studied the medicinal properties of the plant. He first experimented with animals, including dogs, pigs, fish, and birds, to gauge the toxicity of cannabis; but he was only able to induce inebriation in his human subjects (Chenkus, 2019).<sup>14</sup>

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<sup>11</sup> “Persian Empire.” 2018. HISTORY. A&E Television Networks. January 25, 2018. <https://www.history.com/topics/ancient-middle-east/persian-empire>.

<sup>12</sup> Daisy. 2018. “Robert Burton’s the Anatomy of Melancholy.” [www.rcpe.ac.uk](http://www.rcpe.ac.uk). February 8, 2018.

<https://www.rcpe.ac.uk/heritage/robert-burtons-anatomy-melancholy>.

<sup>13</sup> “Herbal Heritage.” 2024. Herbal Heritage. November 17, 2024.

<http://www.herbmuseum.ca/content/1894-indian-hemp-drugs-commission-report>.

<sup>14</sup> Chenkus, Alec. 2019. “History of Cannabis Use: Reintroduced to Western Medicine | Ohio Marijuana Card.” Ohio-Marijuana-Card. October 9, 2019.

O'Shaughnessy also experimented with alcoholic tinctures of cannabis, while working with people who suffered from rheumatism, tetanus, and cholera. He found cannabis to be uniformly effective in calming his human patients. O'Shaughnessy also tried using cannabis on a patient who was suffering from rabies; the patient later died, but the physician later noted that the patient was able to “pass more peacefully” as a result of the concoction.

In his research, per the previously notated source, cannabis was used both as an inebriant and as a medicine and was consumed orally rather than smoked. The use of ground marijuana known as bhang was used in bhang lassi, a drink that consisted of milk, spices, and cannabis, which had already been present in the Indian subcontinent for approximately 1,000 years. Some recipes of bhang lassi call for 1 ounce of cannabis flowers and leaves, which could easily deliver about 200 mg of THC per serving, a rather large dose. Of course, bhang lassi is typically not heated about the temperature at which THCA transforms into an intoxicating form known as THC. Bhang lassi recipes first call for making a tea out of cannabis water before folding in milk, meaning few of the water-soluble cannabinoids are extracted. Therefore, bhang lassi is traditionally prepared to be mild in its effects, as such recipes suggest.

It should be noted: India was still a part of the British empire during O'Shaughnessy's lifetime, and his work would gain notice throughout Europe, where doctors spent the next fifty years studying medical cannabis.

In 1887, Raffaele Valieri, a notable Italian physician, touted the benefits of cannabis grown locally in Campania as a medical alternative to O'Shaughnessy's *cannabis indica* concoctions (Pisanti and Bifulco, 2017).<sup>15</sup> Valieri's work provided some of the earliest observational evidence that supported the use of cannabis high in *CBD*. In fact, he recommended inhaling hemp as a means of treating neuropathic pain,

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<https://www.ohiomarijuanacard.com/post/history-of-cannabis-use-reintroduced-to-western-medicine>.

<sup>15</sup> Pisanti, S., and Bifulco, M. 2017. “Modern History of Medical Cannabis: From Widespread Use to Prohibitionism and Back.” *Trends in Pharmacological Sciences* 38 (3): 195–98. <https://doi.org/10.1016/j.tips.2016.12.002>.



asthma, migraines, COPD, and Graves' disease, an autoimmune thyroid condition.

In the 1890s, Thomas Barlow Wood and Thomas Newton Spivey of Cambridge University conducted a study of the constituent effects of cannabis resin found in Indian strains (Appendino, 2020).<sup>16</sup> The cannabinoid cannabinal they claim to have isolated was later found to be a mixture, and the actual isolation of cannabinal was not confirmed until much later in 1938 by a team of researchers at the Lister Institute.

Per the same source, an editorial was published in New York in 1895 in the *Medical and Surgical Reporter* that noted the safety of cannabis as a medicine, citing there had never been a poisonous attribute to the use of the plant. Nonetheless, medical cannabis remained mostly on the fringes of the medical community throughout the Western world for many more years. To understand why this is true we must examine the history of the prohibition of cannabis, which curtailed peer-reviewed research and misshaped public opinion for many decades in the United States.

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<sup>16</sup> Appendino, G. 2020. "The Early History of Cannabinoid Research." *Rendiconti Lincei. Scienze Fisiche E Naturali* 31 (4): 919–29. <https://doi.org/10.1007/s12210-020-00956-0>.



## CHAPTER 2

# THE PROHIBITION OF CANNABIS

In October 2009, the United States Justice Department reported that federal prosecutors would no longer be pursuing medical marijuana users and distributors as long as they complied with state laws. As a medical doctor, I was delighted by the news that hopefully we would soon see an end to the federal prohibition of medical cannabis in short work (which has still not yet occurred). However, the Obama-era Justice Department's move did formalize an important policy by the White House and then-Attorney General Eric Holder and hinted at other such moves to come that might alleviate some burdensome regulations around medical cannabis.

Since that time, a lot has changed. Currently, 38 states allow doctors to prescribe medical cannabis to patients suffering from ailments ranging from AIDS to chronic pain to PTSD and more, and in the state of Maryland a prescription will soften the punishment of a user who is faced with prosecution, as yet another example of the changing political winds around medical cannabis.

However, there was not a major sea change in American attitude toward cannabis until the end of the 19th century when around 2 to 5 percent of the population was unknowingly addicted to morphine, which was a popular secret ingredient in medicines like "The People's Healing Liniment for Man or Beast" and "Dr. Fenner's Golden Relief" (Stack, 2009).<sup>17</sup> Therefore, unwittingly, a large portion of the country was being washed over with a morphine-induced sense of relief that had potentially deadly side effects.

To combat such harmful products, the U.S. government introduced the Pure Food and Drug Act in 1906, which created the Food and Drug Administration. The act did not explicitly apply to marijuana, but it did

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<sup>17</sup> Stack, P. 2009. "Medical Marijuana." *TIME*. nextgen. October 21, 2009. <https://time.com/archive/6933930/medical-marijuana/>.

bring the distribution of opium and morphine under the control of doctors, and the regulation of certain chemical substances marked a monumental shift in drug policy in this country.

It was not until 1914 that drug use was officially defined as a crime under a congressional bill titled the Harrison Act, marking yet another milestone in the country's war on certain drugs (Faure, 2017).<sup>18</sup> To get around the slippery issue of states' rights, the Harrison Act used taxes to regulate opium- and coca-derived drugs and levied a tax on nonmedical uses of both drugs, sending the prices of those drugs soaring.

Per the same previously listed source, by 1937, 23 states outlawed marijuana altogether to deter former morphine and cocaine addicts from taking up a different drug. Others propose the measures were also a backlash against Mexican immigrants who were arriving in droves, only a slight minority of whom were bringing marijuana with them. However, that didn't stop more acts at the federal and state levels to follow.

In 1937, the Federal Government passed the Marijuana Tax Act, making the nonmedical use of marijuana illegal for the very first time—at the federal level (Marijuana Tax Act of 1937).<sup>19</sup> Only the birdseed industry, which successfully argued that hemp seeds gave birds' feathers a shiny gloss, was exempted. Interestingly, to this day birdseed producers are allowed to use imported hemp seeds, and yet the federal prohibition on domestic industrial hemp manufacturing lingered.

There was an exception during World War II when the federal government planted huge hemp crops that supplied the rope needs of the Navy and made up for Asian hemp supplies that were tightly controlled by the Japanese at the time of war.

At this time, marijuana was banned in all 48 states of the union, although it remained listed as a medicine in the U.S. Pharmacopeia (USP), making

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<sup>18</sup> Faure, A. 2017. "The Harrison Act of 1914: Smart Drug Policy." Smart Drug Policy. January 10, 2017. <https://smartdrugpolicy.org/the-harrison-act-of-1914>.

<sup>19</sup> "The Marihuana Tax Act of 1937: Full Text of the Act." n.d. [www.druglibrary.org](http://www.druglibrary.org).  
<https://www.druglibrary.org/schaffer/hemp/taxact/mjtaxact.htm>.

access to the plant virtually impossible except through illicit black market means. After the Federal government banned cannabis in 1937, the legislative counsel of the American Medical Association (AMA), Dr. William C. Woodward, testified before the House Ways and Means Committee that “there are potentialities in the drug that should not be shut off by adverse legislation. The medical profession and pharmacologists should be left to develop the use of this drug as they see fit.” Nonetheless, the advice of Dr. Woodward was ignored, and by the mid-20<sup>th</sup> century, perceptions had greatly shifted in this country.

At the same time, the American Medical Association continued to oppose the removal of cannabis medicine from the USP for another five years after the 1937 Act before it was finally excised in 1942. Cannabis would continue to be included in the USP for the next 75 years, and then, in 2016, the USP instituted a deliberative process that may eventually see herbal cannabis return to the pharmacopeia. From WWII until the early 1960s, however, cannabis would only be studied as a potentially dangerous narcotic alongside the likes of heroin, cocaine, and LSD.

In the 1950s, the United States Congress passed the Boggs Act and the Narcotics Control Act, creating mandatory sentences for drug offenders that included marijuana possessors and distributors (Marijuana Sentencing Explained).<sup>20</sup>

On an international level, the League of Nations, which later became known as the United Nations (UN), ratified the International Opium Convention in 1925, which included language that banned cannabis and cannabis derivatives except for scientific and medical use; please note, this specific prohibition on cannabis persists internationally to this day. However, a few short years later, in 1928, the United Kingdom banned cannabis altogether.

The Single Convention on Narcotic Drugs of 1961 is the primary international treaty that prohibited the production and supply of certain proscribed classes of drugs around the world such as LSD, cocaine, heroin, and cannabis. The treaty required signatory nations to pass laws that aligned

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<sup>20</sup> Admin. n.d. “Mandatory Sentencing Explained: Trial.”  
<https://trial.laws.com/sentence/types-of-sentences/mandatory-sentencing>.

with the stated provisions of the international agreement. The agreement permitted the production and supply of the scheduled drugs, including for research and/or medical purposes. Government officials and pundits alike often suggest reforming the treaty in order to reform cannabis laws at the national or state level. At the very least, the treaty, which is still in effect, complicates the legalization trend, as numerous states around the world have recently legalized marijuana for recreational, industrial, and medicinal purposes.

The United States has traditionally been a staunch supporter of the agreement, passing a flurry of laws that reinforce the international treaty. These laws have, in turn, led to the mass incarceration of a number of simple users and sellers—including a disproportionate number of black men—and wrecked entire communities of color. Therefore, not everything the federal government—or certain states—have done on marijuana has truly helped the people who need it the most.

The modern era of cannabis research did not arrive until 1964 with the discovery of the major psychoactive ingredient in marijuana: delta-9-tetrahydrocannabinol, or THC. The structure of the yellowish, clear, tasteless, resinous liquid was elucidated for the first time and then synthesized by Raphael Mechoulam and Yechiel Gaoni, researchers at the Weizmann Institute of Science in Israel.

Cannabis is part of the plant family Cannabaceae, which consists of flowering plants that likely originated in the Tibetan Plateau, as noted, about 12,000 years ago, but it has evolved as it spread throughout the world since that time.

Moreover, the discovery of tetrahydrocannabinol (THC) is a major milestone in the world of marijuana. This discovery revolutionized the way that we think of cannabis today.

Dr. Raphael Mechoulam is an Israeli organic chemist and professor of medicinal chemistry and is widely considered to be the father of medical

cannabis (Mechoulam, 2021, 30-50).”<sup>21</sup> According to the same source, he was born on November 5<sup>th</sup>, 1930, and he received the Rothschild Prize in 2012 the Heinrich Wieland Prize in 2004 as well as the Israel Prize in Exact Sciences in 2000.

Dr. Mechoulam was born Jewish in Bulgaria and later moved with his family to Israel where he studied chemistry and got his first research experience working for the Israeli Army on insecticides. He then went on to receive his Master of Science in biochemistry from the Hebrew University of Jerusalem and then his Doctorate from the Weizmann Institute based on a thesis on the chemistry of steroids. He then went on to do postdoctoral studies at the Rockefeller Institute in New York thereafter he became part of the scientific staff at the Weizmann Institute before moving on to the Hebrew University of Jerusalem as a professor. Raphael was then elected as a member of the Israel Academy of Sciences in 1994.

Dr. Mechoulam is best known how his isolation, elucidation, and synthesis of THC, for the isolation and identification of endogenous cannabinoid anandamide in the brain as well as for the 2-arachidonoylglycerol from the peripheral organs. Many refer to Raphael as *the father of cannabis* for the major contributions he has made to the industry. Recently, Raphael and his research team received recognition for the total synthesis of another miraculous cannabinoid called cannabigerol (CBG).

The beginning of his exposure to cannabis began in South America where, at the time, only a few musicians were consuming cannabis.

Raphael explained that he just opened one book from his vast collections of books and had to choose one that made sense for him to research. He chose cannabis because the compounds in the cannabis plants have active products which turned out to be interesting for him. In fact, he had no idea that receptors for the compounds (cannabinoids) could be found all over the human body.

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<sup>21</sup> Mechoulam, R. 2021. “Cannabinoids as Therapeutic Agents (Routledge Revivals).” 1st Edition. Chapman and Hall. September 9, 2021.

He explained that only much later did he found out about the cannabis plant phyto-endocannabinoids which react to the human endocannabinoid system, delivering effects all over the body.

Raphael's biggest scientific interest is in the chemistry and pharmacology of cannabinoids. Dr. Mechoulam has published over 350 scientific articles and assisted his students and fellow researchers such as Shimon Ben-Shabat, in major cannabis breakthroughs, as well. Many people believe that it is plausible that Dr. Mechoulam will win a Nobel Prize for his work and contributions to the cannabis industry.

Raphael was 32 years old when he began cannabis research with his friend Dr. Yehiel Gaoni. He first applied for a research grant from the National Institutes of Health (NIH) in America but was rejected, at least until they successfully isolated THC. Soon after that, the NIH went to Israel to see their work. At the time, they had isolated around 10 grams of THC from hashish, which was taken back to America. From there, the initial stages of testing on THC in America were done with Dr. Mechoulam and Dri Gaoni's isolated stash.

Dr. Mechoulam and his teams were able to do such research, even though Israeli law prohibited cannabis just like American law did. However, he was not subjected to the law as it was assumed that he would never go out and start selling cannabis. In connection with that, there were extremely few people who were able to work on cannabis.

Cocaine, morphine, and cocoa were all discovered around 150 years ago and Dr. Mechoulam thought it seemed strange that THC was not yet known before he discovered it. He goes on to explain that it may have to do with the fact that cocaine, morphine, and cocoa were all discovered easily because they contained a nitrogen atom, which THC does not have that atom and also presents with a mixture of other compounds. He states that there were no isolation techniques available at that time, but now we know of over 60 compounds that make up the cannabis plant.

Nobel Prize winner, Lord Alexander Todd, also tried to isolate the cannabis compounds but was never successful in isolating the compounds as pure substances. Raphael states that such brilliant researchers working with the



plant may not have known that the plant was made up of so many, and more complex, compounds.

Israel and its' researchers continue to be at the forefront of breakthrough and research in the cannabis industry. However, what we've known for some time is that marijuana should not be listed as a Schedule 1 drug in this country or per the Single Convention because the plant does have many medical benefits, some of which we describe herein. This is not an attack on the US government, the UN, or certain other entities. That would be beyond our purview—and we will leave that up to you to decide whichever position you choose on marijuana legalization. However, we have seen that even the best of intentions in terms of legislation does not always have the kind of positive effects we might imagine, as the prohibition of marijuana has caused more problems than it has solved.

In the following chapter, we'll take a broad state-by-state look at the current status of medical cannabis in the United States. As noted, laws and regulations are everchanging so please exercise diligence surrounding the issue, particularly if you decide to seek treatment with cannabis.



## CHAPTER 3

### STATE-BY-STATE BREAKDOWN

The legalization of medical cannabis is gaining momentum across the United States and beyond. However, the exact policies for medical cannabis use vary by state and can be unclear to many people due to the constant evolution of laws and public perception. As of 2024, 24 states have legalized marijuana for recreational use, while a total of 38 states and the District of Columbia have implemented medical marijuana programs for patients (DISA, 2023)<sup>22</sup>. This leaves the remaining states adhering to federal laws, including the classification of marijuana (cannabis/THC) as a Schedule 1 drug, which indicates that it has no recognized medical benefits—a notion we strongly believe is inaccurate.

When combined with a healthy lifestyle, cannabis can be quite useful for a range of ailments. With so much confusion between state and federal marijuana laws, it can be difficult to keep track of which states have legalized marijuana. Interestingly, one of the top Google searches in early 2021 was, “What states have medical marijuana?” There were roughly 10,000 searches for the phrase “medical marijuana states,” highlighting the public's interest in the subject. It's encouraging to see people researching to make informed decisions.

Even without a visual map, it is essential to delve into how medical marijuana laws differ greatly between states. We will explore specific examples, beginning with Florida, to illustrate the complexity and variation in laws across the country. Readers are strongly encouraged to research medical and recreational marijuana laws in their respective states.

In Florida, patients can obtain medical marijuana through Medical Marijuana Use Registry Identification Cards, which must be presented for

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<sup>22</sup> DISA. 2023. “Marijuana Legality by State.” DISA. July 1, 2023. <https://disa.com/marijuana-legality-by-state>.

verification when purchasing medicine at one of the approved medical dispensaries in the state. These cards also help authorities verify whether individuals seeking treatment are legal patients according to the statewide database. Law enforcement officers in Florida can ask a patient to show their card at any time (Marijuana Laws and Ballot Measures in the United States).<sup>23</sup>

Patients prescribed marijuana can purchase a set amount of product from state-licensed dispensaries. These facilities cannot dispense more than a 70-day supply of marijuana in any format at one time per patient (or no more than a 35-day supply of a smokable product). Edibles are available but must be commercially made by medical dispensaries and infused with cannabis oil. Each dispensary must carry at least one low-THC product for patients who are more sensitive to the psychoactive nature of cannabis (Wikipedia, 2019)<sup>24</sup>.

Medical marijuana, including sales, use, transactions, and delivery devices, is exempt from state sales tax. Marijuana cannot be consumed in public places, school campuses, workplaces, or operational motor vehicles. This means individuals can only consume their medicine in private places, and driving under the influence of marijuana is a criminal offense in Florida and many other states (Smith, 2023)<sup>25</sup>.

Cannabis products must be sealed in tamper-proof containers. Patients under 18 cannot consume medical cannabis via smoking unless diagnosed with a terminal condition by a state-certified medical doctor. However, medical cannabis is used to treat a range of conditions in Florida, and the

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<sup>23</sup> “Marijuana Laws and Ballot Measures in the United States.” n.d. Ballotpedia. [https://ballotpedia.org/Marijuana\\_laws\\_and\\_ballot\\_measures\\_in\\_the\\_United\\_States](https://ballotpedia.org/Marijuana_laws_and_ballot_measures_in_the_United_States).

<sup>24</sup> Wikipedia Contributors. 2019. “Legality of Cannabis by U.S. Jurisdiction.” Wikipedia. Wikimedia Foundation. January 18, 2019. [https://en.wikipedia.org/wiki/Legality\\_of\\_cannabis\\_by\\_U.S.\\_jurisdiction](https://en.wikipedia.org/wiki/Legality_of_cannabis_by_U.S._jurisdiction).

<sup>25</sup> Smith Rogers, L. 2023. “The Evidence—and Lack Thereof—about Cannabis.” PublicHealth.jhu.edu. Johns Hopkins Bloomberg School of Public Health. August 25, 2023.

<https://publichealth.jhu.edu/2023/risks-and-benefits-of-legalized-cannabis>.

state is seeing a decline in the use of more harmful drugs, according to those same sources.

In Nevada, the laws differ slightly from those in Florida, with some notable similarities. For example, patients 18 and older, their parents or legal guardians, as well as designated caregivers, can purchase medical cannabis. Conditions treated in Nevada include a condition resulting in hospice care, a rare disease or condition as defined by federal law, inadequately managed using physical interventions or conventional treatments like opioids, Alzheimer's disease, ALS, autism, cachexia, cancer, Crohn's disease or ulcerative colitis, epilepsy or debilitating seizures, HIV/AIDS, multiple sclerosis or chronic muscle spasms, pain persisting longer than two weeks inadequately managed with other treatments like opioids, persistent nausea not responsive to conventional treatment (except for nausea associated with pregnancy), PTSD, and terminal illnesses with a remaining life expectancy under six months (DISA, 2023) (Smith, 2023)<sup>2627</sup>.

Some states, like Utah and others, have Compassionate Use Boards that approve medical cannabis for those who don't have a specifically named qualifying condition. However, in some states, you still cannot get prescribed medical cannabis at all. Tennessee and Alabama are examples of states with more restrictive laws (FSMB, 2024).<sup>28</sup>

In Tennessee, marijuana is illegal. Patients with a doctor's recommendation can buy and use CBD-rich extracts, but these must contain less than 0.9% THC per these same sources. This restrictive measure does not allow

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<sup>26</sup> DISA. 2023. "Marijuana Legality by State." DISA. July 1, 2023.

<https://disa.com/marijuana-legality-by-state>.

<sup>27</sup> Smith Rogers, L. 2023. "The Evidence—and Lack Thereof—about Cannabis." Publichealth.jhu.edu. Johns Hopkins Bloomberg School of Public Health. August 25, 2023.

<https://publichealth.jhu.edu/2023/risks-and-benefits-of-legalized-cannabis>.

<sup>28</sup> Federation of State Medical Boards. 2024. "Medical Marijuana: State-by-State Overview." Updated April 2024. <https://www.fsmb.org/siteassets/advocacy/key-issues/medical-marijuana-requirements-by-state.pdf#:~:text=URL%3A%20https%3A%2F%2Fwww.fsmb.org%2Fsiteassets%2Fadvocacy%2Fkey>

patients to fully benefit from the plant, and there is hope for better legislation in Tennessee and similar states in the future.

In Alabama, per the same sources, medical cannabis is illegal, and only certain CBD products can be purchased with a doctor's recommendation. CBD oil was decriminalized in Alabama in 2016, but any other marijuana products with THC remain banned. It is important to distinguish between CBD oil and products low in THC (typically under 3%) and medical-grade marijuana/cannabis, which offers much higher THC concentrations.

States are constantly changing their laws on recreational and medical marijuana. At the time of printing this book we have done in depth research and gathered the most current information available. The rules, laws, and regulations are constantly evolving, making it essential to stay informed. To that end, please research the laws in your state regarding medical cannabis before attempting treatment. It's also crucial to understand the pros and cons of treatment, many of which we will discuss. In the meantime, we'll take a closer look at the role of the FDA and the federal government as it pertains to cannabis-related research (or the lack thereof).