BASIC CLINICAL CANNABINOID PROVIDER™

BCCP™

NATIONAL CANNABIS CERTIFICATION SERVICES

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HISTORY OF CLINICAL CANNABIS

As early as 2900BC, there are records of the healing powers of clinical cannabis. In Ancient China, Emperor Fu His refers to "ma," the Chinese word for cannabis, as a powerful and popular medicinal product. More than one thousand years later, cannabis is referenced in the Chinese Pharmacopeia. Throughout the ages, evidence of cannabis use can be found in the Bible for its use as an anointing oil, as an Egyptian burial ritual as in Pharaoh Ramesses and in India as an anesthesia referred to as bhang, a mixture of cannabis and milk.

We know that as early as 1619, cannabis was a part of US culture when Jamestown colony settlers were required by law to grow hemp. In 1840, Dr. William O'Shaughnessy, an army physician from Ireland who served in Indian, reintroduced the use of clinical cannabis to England, which had not been used since pre Victorian era. A decade later, clinical cannabis is introduced to the US Pharmacopeia.

In the early 20th century, particularly after the Mexican Revolution, cannabis was being introduced for recreational use. Historically this has been attributed to Mexican soldiers and immigrants, creating a social stigma with the use of cannabis. For the first time known in history, cannabis takes on a negative connotation, and anti-cannabis legislation begins. In 1906, the Pure Food and Drug Act requires labeling of cannabis, along with cocaine and heroin. In 1907, California labels cannabis as a "poison," making its possession a misdemeanor offense. Other states including Nebraska, Texas, Wyoming and Oregon follow California's lead. And in 1911, Massachusetts becomes the first US state to ban cannabis.

In the 1930s, a clear campaign against cannabis in the US becomes evident, drawing a direct connection between its use and "insanity," crime and its association with immigrants, particularly by William Randolph Hearst who launched a national propaganda campaign with the aid of Henry Anslinger, head of the Federal Bureau of Narcotics (FBN). The duo are credited planting the seeds for the 1936 Convention for the Suppression of Illicit Traffic in Dangerous Drugs and the film "Refer Madness," which depicted crazed behavior by cannabis users, teenagers in particular. 1937, Anslinger drafted the Marijuana Tax Act, making the possession and transfer of cannabis illegal throughout the US for purposes other than medicinal, and placing hefty taxes on cannabis for medical uses. In 1943, cannabis and products containing cannabis are removed from the US Pharmacopeia.

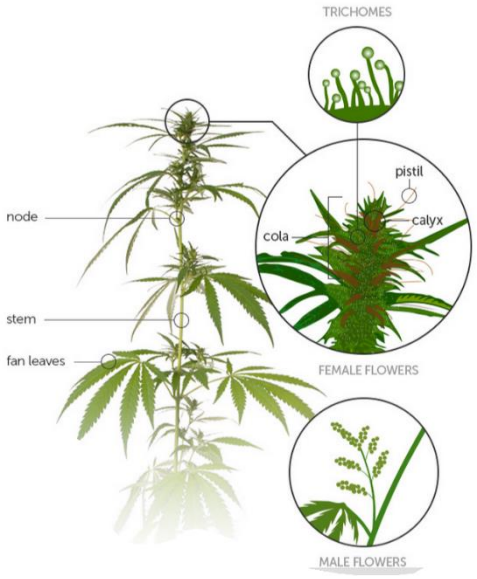
In 1944, the New York Academy of Medicine issues the LaGuardia Report, which debunks what have become common conceptions that cannabis use leads to insanity, violence or crazed behavior. The report is labeled "unscientific" by Anslinger who denounced the authors of the study who had spent five years conducting research. In the year that followed, Anslinger is reported to have personally commissioned the American Medical Association to produce a study more supportive of his theories. The study, which included one white male and thirty-four black males, concluded that cannabis use made the study participants "disrespectful toward white soldiers and officers."

In 1970, the Controlled Substances Act listed cannabis as a Schedule I, with no medical exception. In 1973, President Nixon established the Federal Drug Enforcement Agency (DEA) to gain a foothold on America's "drug war," which he labeled as "public enemy number one." In 1986, the Anti-Drug Abuse Act is signed by President Regan, imposing mandatory minimum sentences for drug offenses, including marijuana.

In the years that follow increased federal legislation, many states including Alaska, Oregon, Colorado, California, Massachusetts and Maine, push for the decriminalization of cannabis either in its cultivation, possession or medicinal use. In 2009, Attorney General Eric Holder authors the Ogden Memo, stating the US Department of Justice will no longer prioritize the prosecution of medical marijuana patients in accordance with state law. In 2012, the AMA recommends changing marijuana' status to Schedule II .

CANNABIS: THE PLANT

Cannabis, a flowering herb which is a member of the hemp family is a native of Asia which is now cultivated worldwide. There are both male and female cannabis plants, although in appearance they are undifferentiated, although female plants may be somewhat shorter and have more branches. Both male and female plants produce flowers, the female's being more dense and upright. It is the female cannabis plant which has been cultivated for clinical use as the trichomes clustered on female flowers.



The trichomes ooze an oil referred to as "terpenes" as well as cannabinoids such as THC and CBD, a major phytocannabinoid containing up to 40% of the plant's extract, providing medical effectiveness without feeling "stoned."

There are two major types of cannabis plants. The more willowy sativa plants which can reach up to 20 feet high produce an uplifting and energetic effect while the more broad leaves of indica produce a relaxing and calming effect.

Male cannabis produce pollen, females produce seed. Cannabis seed germination is typically 3-6 days. After germination, a stem of approximately 4 inches topped with "seed leaves" appears. The plant then develops limbs and leaves.

CANNABIS STRAINS

There are three major strains of cannabis: indica, sativa and hybrid. It is highly possible to prescribe exactly the right strain of cannabis based on the ailment.

Indica

- Reduces pain
- Relaxes muscles
- Relieves spasms
- Reduces seizures
- Reduces inflammation
- Aids sleep
- Reduces anxiety and stress
- Reduces nausea
- Relieves headaches and migraines
- Reduces intra-occular pressure
- Broncho-dilator and expectorant

Sativa

- Reduces nausea
- Stimulates appetite
- Fights depression
- Creates positive, uplifting feeling
- Promotes creativity
- Relieves headaches
- Relaxes muscles
- Acts as expectorant

Because cannabis sub-strains are constantly evolving, as is their availability, www.Leafly.com is an excellent resources which allows clinicians and patients to enter their specific location and major strain desired whether indica, sativa or hybrid. The user is then provided with a comprehensive chart of suggested sub-strains, which can be selected individually for their specific description, recommendations and local availability.

CANNABIS DELIVERY METHODS

In addition to proper strain selection, the appropriate delivery method is a priority when prescribing a cannabinoid based medication for patients. The main delivery methods are inhalation, ingestion and topical applications. There are many methods of cannabis intake which fall under these main umbrellas.

INHALATION

Inhalation is the most commonly known method of cannabis use, although it comes in many forms. Cannabis may be rolled in papers, or burned in pipes, hookahs, water pipes or various homemade devices. Some recent studies have demonstrated minor to moderate concern regarding the impact of inhaling combustible materials, expressing primarily concerns regarding carcinogens however, other studies indicate possible beneficial properties in the treatment of asthma and bronchitis. The addition of water in pipes may also provide benefits.

Most recently, vaporization has become a popular cannabis delivery method for health conscious consumers and patients. Cannabis is steadily heated during vaporization, extracting THC, CBD and other cannabinoids while potentially avoiding harmful toxins typically released during combustion. There are a variety of vaporizers available which vary in efficiency, quality and portability. Additionally, the form of cannabis product being utilized with a vaporizer needs to be considered as some are used for cannabis concentrates, oils and waxes.

“Dabbing” involves highly concentrated cannabis droplets on a heated nail, creating vapors which are then inhaled through a glass globe in which they are trapped. This creates a high THC level and is not recommended.

ORALLY

Oral delivery of cannabis is increasingly popular, including use of tinctures, oils and "edibles." While digestion time should be considered when prescribing, it is not always over concern.

Tinctures, liquid cannabis extracts, provide extremely specific dosage control and take effect quickly. Alcohol, glycerol or vinegar is typically used as the solvent, with a dosage generally of 3 to 4 drops placed under the tongue for immediate effects.

Oils are made by extracting therapeutic compounds with alcohol and evaporating the solvent which leaves behind a tarry, oil like substance which can be directly consumed or placed in ingestible capsules.

"Edibles" are one the most increasingly popular cannabis markets. Eating or drinking cannabis can provide completely different results from other delivery methods which immediately introduce cannabis to the bloodstream. They can provide longer onsets and more powerful psychoactive effects. High fat content foods such as butter and olive oil enable extraction best. While it is possible to cook with the cannabis plant itself, this does not produce an accurate dosage as heating, fat solvency and potency and not necessarily accurate in the recipe. Using tinctures is a preferable method for preparing foods or drinks which contain cannabis.

TOPICAL

Topical applications of cannabis are an easily administered product. Utilizing full cannabis extract , a rich, decarboxylated oil, the cannabinoids are easily absorbed through skin, avoiding any health concerns entirely related to inhalation methods. There is no "high" associated with topical cannabis applications, making this an appropriate delivery method for daytime administration. Topical delivery is highly appropriate for localized muscular pain relief.

PAIN MANAGEMENT THROUGH CANNABIS

Chronic pain is estimated to affect more than 20% of Americans and is the most common diagnosis for which cannabis is prescribed. Studies indicate cannabis is most effective in chronic pain situations, vs acute pain, in part by preventing peripheral nociception from reaching the brain. Cannabinoids have been known to significantly reduce pain by attaching to pain receptors in the central nervous system. In patients whose pain has not been adequately reduced through "conventional" analgesics, cannabinoid products can produce effective results. Furthermore, there is evidence to support that cannabinoids used in conjunction with opiates leads to a greater cumulative relief from pain, allowing for the reduction of opiates in pain management.

The potential of cannabinoid treatments to relieve chronic pain lies in the cannabinoid receptors CB1 and CB2. CB1 receptors are located throughout the body with a high concentration in the central nervous system while CB2 receptors are focused in areas controlling function of white blood cells, tonsils and spleen which control immune functions. CB1 and CB2 receptors are located in systems responsible for the producing pain. Most importantly, the brain stem which controls breathing lacks cannabinoid receptors, alleviating the danger of respiratory distress as a result of high dosage.

Neuropathic pain results from a lesion to the peripheral or central nervous systems. Inflammatory pain is a response to tissue damage. Pro-inflammatory substances lower nociceptor thresholds. The source of pain, whether cutaneous, visceral or musculoskeletal should also be considered in addition patient conditions such as cancer, fibromyalgia, migraines, Parkinson's, etc. Cannabinoids also decrease depression and anxiety attributable to suffering from chronic pain, in addition to alleviating PTSD symptoms.

Cannabis has also been proven effective for treatment of the following conditions, which are covered more in depth in ACCP, Clinical Applications.

ADD	Alzheimers
Anxiety	Arthritis
Asthma	Autism
Cancer	Crohn's
Depression	Diabetes
Epilepsy	Fybromyalgia
Glaucoma	Heart Disease
HIV/AIDS	Mood Disorders
Nausea	Parkinson's
PTSD	Shingles

CANNABIS PRECAUTIONS

Most studies on cannabinoid use are based on smoked cannabis, which *may* add some deleterious substances.

Improper use of marijuana can cause dry mouth, nausea, vomiting, dry or red eyes, heart and blood pressure problems, lung problems, impaired mental functioning, headache, dizziness, numbness, panic reactions, hallucinations, flashbacks, depression, and sexual problems. With proper usage, it may also help to alleviate some of the same syndromes.

Pregnancy: Inconclusive studies state there **MAY** be a decrease in head circumference of infants born to mothers smoking heavily while pregnant. This may also increase the incidence of low birth weight and incidence of childhood leukemia.

Breast-feeding: There is no conclusive evidence that marijuana use is unsafe during lactation; it is known that doses reaching the infant are very small

Heart disease: Dose dependent, marijuana might cause rapid heartbeat, short-term high blood pressure and may also increase the risk of a having heart attack in susceptible patients. Therapeutic effects have also been noted involving the use of marijuana and heart disease. There are studies indicating cannabis may be effective in preventing and treating atherosclerosis.

A weakened immune system: Some research indicates that THC affects the immune system. Studies involving animals showed that THC might damage the immune system, making you more vulnerable to illness. Further research is needed

Liver disease: There may be increased fibrosis in patients with Hepatitis C.

Lung diseases: Studies have not found an increased risk of lung cancer in marijuana ***smokers***, as compared with nonsmokers. However, marijuana smoke does irritate the lungs and increases the likelihood of other respiratory problems through exposure to carcinogens and other toxins. Repeated exposure to marijuana smoke can lead to daily cough and excess phlegm production, more frequent acute chest illnesses, and a greater risk of lung infections

Seizure disorders: Marijuana might make seizure disorders worse in some people; in other people it might help to control seizures.

Surgery: Marijuana affects the central nervous system. It might slow the central nervous system too much when combined with anesthesia and other medications during and after surgery. Stop using marijuana at least 2 weeks before a scheduled surgery.