



CHRONIC PAIN

AND

MEDICAL CANNABIS



AmericansFor
SafeAccess

Advancing Legal Medical Marijuana Therapeutics and Research

A Note from Americans for Safe Access

We are committed to ensuring safe, legal availability of marijuana for medical uses. Today over one million Americans are legally using medical marijuana—or "cannabis," as it is more properly called—under the care of their medical professional, and nearly half the country lives in a state where this treatment is an option. This publication series is intended to help medical professionals, patients and policymakers better understand how cannabis may be used safely and effectively as a treatment for many medical conditions. You will find information on:

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While the federal prohibition of cannabis has limited modern clinical research and resulted in considerable misinformation, a scientific consensus on its therapeutic value has emerged, based on a growing body of successful clinical trials and preclinical research. The experience of patients, medical professionals and research has revealed that cannabis can safely treat a remarkably broad range of medical conditions, often more effectively than conventional pharmaceutical drugs. For some of the most difficult to treat conditions, such as multiple sclerosis and neuropathic pain, cannabis often works when nothing else does.

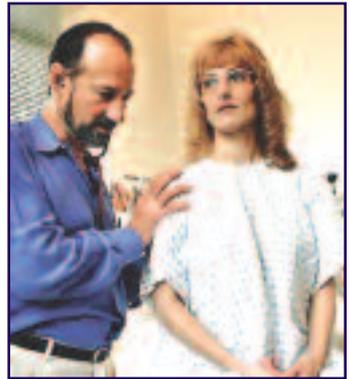
Many of its therapeutic uses are well known and documented, and medical researchers are learning more each day. Cannabis and its constituent components show potential to fight tumors, autoimmune disorders, and serious neurological conditions for which treatment options are limited. As of July 2014, 23 states and the District of Columbia have laws allowing its use under a doctor's supervision, and cannabis or a dose-controlled whole-plant extract of it is available by prescription in 11 countries and approved for 13 more.

This brochure is only a starting point for the consideration of applying cannabis therapies to specific conditions; it is not intended to replace the training and expertise of medical professionals with regard to medicine, or attorneys with regard to the law. But as advocates for the hundreds of thousands of patients who have found relief with cannabis, we know there are millions more for whom it may be the best medicine. For more information, see **AmericansForSafeAccess.org** or call **1-888-929-4367**.

Why Cannabis is Legal to Recommend

Medical professionals have a legal right to recommend cannabis as a treatment in any state, as protected by the First Amendment. That was established by a 2004 United States Supreme Court decision to uphold earlier federal court rulings that doctors and their patients have a fundamental Constitutional right to freely discuss treatment options. State rules for qualifying an individual patient for legal protections when using medical cannabis differ as to who may make the recommendation and for what conditions, as well as how that recommendation is communicated to state authorities. Medical professionals and patients should familiarize themselves with the laws and regulations in their state. ASA provides state-by-state resources at: AmericansForSafeAccess.org/state_by_state_recommending_cannabis.

Under federal law, cannabis may not be prescribed, but its therapeutic use can be recommended without any legal jeopardy. The court rulings that protect medical professionals stem from a lawsuit brought by a group of doctors and patients led by AIDS specialist Dr. Marcus Conant. The suit was filed in response to federal officials who, within weeks of California voters legalizing medical cannabis in 1996, had threatened to revoke the prescribing privileges of any physicians who recommended cannabis to their patients for medical use.¹ Dr. Conant contended that such a policy would violate the First Amendment, and the federal courts agreed.^{2,3}



Angel Raich & Dr. Frank Lucido

What doctors may and may not do. In *Conant v. Walters*,⁴ the Ninth Circuit Court of Appeals held that the federal government could neither punish nor threaten a doctor merely for recommending the use of cannabis to a patient.⁵ But it remains illegal for a doctor to "aid and abet" a patient in obtaining cannabis.⁶ This means physicians and other medical professionals may discuss the pros and cons of medical cannabis with any patient, and recommend its use whenever appropriate. They may put that in writing or otherwise participate in state medical cannabis programs without fear of legal reprisal.⁷ This is true even when the recommending medical professional knows the patient will use the recommendation to obtain cannabis through a state program.⁸ What physicians may not do is prescribe or provide cannabis directly to a patient⁹ or say where or how to obtain it.¹⁰

Patients protected under state law, not federal. As of July 2014, 23 states and the District of Columbia provide legal protections for qualified individuals participating in their state medical cannabis program. However, all use of cannabis remains illegal under federal law, and in June 2005, the U.S. Supreme Court in *Gonzales v. Raich* ruled that state medical cannabis laws do not provide protections for patients and providers from federal prosecution.¹¹ Under the Obama Administration, the Department of Justice has

issued three memos providing guidance to federal prosecutors, each indicating that individual patients and caregivers should not be federal enforcement priorities. The latest memo indicates enforcement should be left to states so long as they have effective regulations in place for use and distribution. An analysis by ASA of existing state laws and local regulations found that all reflect the same general enforcement priorities as the 2013 federal guidelines.¹²

For assistance with determining how best to write or obtain a legal recommendation for cannabis, please contact ASA at 1-888-929-4367.

Medical Professionals Say Cannabis is Medicine

Thousands of studies published in peer-reviewed journals indicate cannabis has medical value in treating patients with such serious conditions as AIDS, glaucoma, cancer, epilepsy, and chronic pain, as well as a variety of such neurological disorders as multiple sclerosis, Parkinsonism, and ALS.

A 2013 poll conducted by the *New England Journal of Medicine* found that three out of four clinicians would recommend the use of medical cannabis for a hypothetical cancer patient.¹³ The use of medical cannabis has been endorsed by numerous professional organizations, including the American Academy of Family Physicians, the American Public Health Association, and the American Nurses Association. Its use is supported by such leading medical publications as *The New England Journal of Medicine* and *The Lancet*. The International Cannabinoid Research Society was formally incorporated as a scientific research organization in 1991 with 50 members; as of 2014, there are nearly 500 around the world. The International Association for Cannabinoid Medicines (IACM), founded in 2000, publishes a bi-weekly bulletin and holds international symposia to highlight emerging research in cannabis therapeutics.

The safety and efficacy of cannabis has been attested to by numerous government studies and reports issued over the past 70 years. These include the 1944 LaGuardia Report, the Schafer Commission Report in 1972, a review commissioned by the British House of Lords in 1998, the Institutes of Medicine report of 1999, research sponsored by Health Canada, and numerous studies conducted in the Netherlands, where cannabis has been quasi-legal since 1976 and is currently available from pharmacies by prescription.

Scientific Research Advances

While modern research has until recently been sharply limited by federal prohibition, the last few decades have seen rapid change. More than 15,000 modern peer-reviewed scientific articles on the chemistry and pharmacology of cannabis and cannabinoids have been published, as well as more than 2,000 articles on the body's natural cannabinoids and the receptors they attach to.¹⁴ The discovery of the endocannabinoid system (ECS) opened a door to new understandings of how the body regulates internal systems and how the phytocannabinoids found in the cannabis plant interact with it.

Endocannabinoids are crucial to bioregulation, and evidence suggests they play a role in inflammation, insulin sensitivity, and fat and energy metabolism, as well as chronic neurologic and immune conditions. The cannabinoid receptors CB1 and CB2 are identified targets for treating a remarkable variety of serious medical conditions.¹⁵⁻¹⁸

A 2009 review of controlled clinical studies with medical cannabis conducted over a 38-year period found that “nearly all of the 33 published controlled clinical trials conducted in the United States have shown significant and measurable benefits in subjects receiving the treatment.”¹⁹ The review's authors note that the more than 100 different cannabinoids in cannabis have the capacity for analgesia through neuromodulation in ascending and descending pain pathways, neuroprotection, and anti-inflammatory mechanisms. Research into the therapeutic potential of cannabis and cannabinoids has expanded considerably in the past decade. As of May 2014, the Center for Medicinal Cannabis Research, a state-funded \$8.7-million research effort at University of California campuses, had completed 13 approved studies. Of those, seven published double-blind, placebo-controlled studies examined pain relief, and each showed cannabis to be effective.²⁰



T4 Immune Cells

No adverse health effects related to medical cannabis use have been reported, even among the most seriously ill and immune-compromised patients. Research on CD4 immunity in AIDS patients found no negative effects to the immune systems of patients undergoing cannabis therapy in clinical trials.²¹ A complete health assessment in 2002 of four of the patients enrolled in the U.S. Investigational New Drug program who had used cannabis daily for between 11 and 27 years found cannabis to be clinically effective for each with no negative health consequences.²²

In the United Kingdom, GW Pharmaceuticals has been conducting clinical trials for more than a decade with its cannabis medicine, Sativex® Oromucosal Spray, a controlled-dose whole-plant extract. GW's Phase II and Phase III trials show positive results for the relief of neurological pain related to: multiple sclerosis (MS), spinal cord injury, peripheral nerve injury (including peripheral neuropathy secondary to diabetes mellitus or AIDS), central nervous system damage, neuroinvasive cancer, dystonias, cerebral vascular accident, and spina bifida. They have also shown cannabinoids to be effective in clinical trials for the relief of pain and inflammation in rheumatoid arthritis and also pain relief in brachial plexus injury.²³⁻²⁶

Sativex® was approved in Canada for symptomatic relief of neuropathic pain in 2005, in 2007 for patients with advanced cancer whose pain is not fully alleviated by opiates, and in 2010 for spasticity related to multiple sclerosis. As of 2014, Sativex has been made available or approved for named patient prescription use in 24 countries, including the UK, Spain, Italy and Germany.

In the US, GW was granted an import license for Sativex® by the DEA fol-

lowing meetings in 2005 with the FDA, DEA, the Office for National Drug Control Policy, and the National Institute for Drug Abuse. Sativex® is currently an investigational drug in FDA-approved clinical trials as an adjunctive analgesic treatment for patients with advanced cancer whose pain is not relieved by opioids. In 2013, GW Pharmaceuticals received FDA approval to test a highly purified cannabinoid extract (cannabidiol or CBD) named Epidiolex® on a limited number of US children with seizure disorders. As of January 2014, seven US pediatric epilepsy specialists have been approved to treat 125 children with Dravet syndrome, Lennox-Gastaut syndrome, and other pediatric epilepsy syndromes.

CANNABIS AND CHRONIC PAIN

People can experience persistent and disabling pain as the result of numerous and sometimes multiple causes. Among them are injuries to the back, neck and spinal cord; cancer; AIDS; sickle cell anemia; multiple sclerosis; defects or injuries to the back, neck and spinal cord; arthritis and other rheumatic and degenerative hip, joint and connective tissue disorders; and severe burns.

Pain is not a primary condition or injury, but rather a severe, frequently intolerable symptom that varies in frequency, duration, and severity according to the individual. The underlying condition determines the appropriate curative approach, but does not determine the proper symptom management. It is the character, severity, location and duration of the pain that determines the range of appropriate therapies.

Chronic pain is a widespread public health issue. Epidemiological statistics are alarming: In Europe, it is estimated that one in four adults has a chronic pain condition. In the US, it is estimated that at least 38 million adults suffer from chronic pain, and at least 12 million have used cannabis as a treatment.²⁸

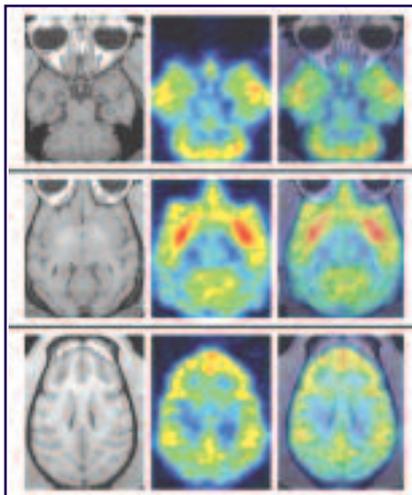
For people in pain, the goal is to function as fully as possible by reducing their pain as much as possible, while minimizing the often debilitating side effects of the pain therapies. Failure to adequately treat severe and/or chronic pain can have tragic consequences. Not infrequently, people in unrelieved pain want to die. Despair can also cause patients to discontinue potentially life-saving procedures (e.g., chemotherapy or surgery), which themselves cause severe suffering. In such dire cases, anything that helps to alleviate the pain will prolong and improve their lives.

Cannabis can serve at least two important roles in safe, effective pain management. It can provide relief from the pain itself (either alone or in combination with other analgesics), and it can control the nausea associated with taking opioid drugs, as well as the nausea, vomiting and dizziness that often accompany severe, prolonged pain. In addition, cannabis significantly enhances the effectiveness of opioid therapies.

Opioid therapy is often an effective treatment for severe pain, but all opiates

have the potential to induce nausea. The intensity and duration of this nausea can cause discomfort and additional suffering that can lead to malnourishment, anorexia, wasting, and a severe decline in a patient's health. Some people find the nausea so intolerable that they are inclined to discontinue the primary pain treatment, rather than endure the nausea.

Inhaled cannabis provides almost immediate relief for nausea with significantly fewer adverse side effects than orally ingested Marinol. Inhalation allows the active compounds in cannabis to be absorbed into the blood stream with greater speed and efficiency. It is for this reason that inhalation is an increasingly common, and often preferable, route of administration for many medications. Cannabis may also be more effective than Marinol because it contains many more cannabinoids than just the THC that is Marinol's active ingredient. The additional cannabinoids may well have additional and complementary antiemetic qualities. They have been conclusively shown to have better pain-control properties when taken in combination than THC alone, and mitigate anxiety and other side-effects of THC.



Cannabinoid receptors in the brain

Research on cannabis and pain management

Cannabis has been used as an analgesic for at least 5,000 years,²⁹⁻³¹ and patients often report significant pain relief from cannabis, even in cases where conventional pain therapies have failed.³²⁻³⁷ Research has even shown that the natural endocannabinoid system has a role in regulating migraines.³⁸⁻⁴⁰

After reviewing a series of trials in 1997, the U.S. Society for Neuroscience concluded that “substances similar to or derived from marijuana could benefit the more than 97 million Americans who experience some form of pain each year.”⁴¹ A 1999 study commissioned by the White House and conducted by the Institute of Medicine also recognized the role that cannabis can play in treating chronic pain: “After nausea and vomiting, chronic pain was the condition cited most often to the IOM study team as a medicinal use for marijuana.”⁴² Between 1975 and 2009, there were more than 300 studies showing that cannabinoids and cannabis can help patients experiencing chronic pain.⁴³

Orthopedic injuries including loss of limbs can result in chronic pain that is very difficult to treat. Military operations just in Iraq and Afghanistan have resulted in 1,715 amputations as of December 2012.⁴⁴ Amputations com-

monly result in phantom limb pain, a serious neuropathic pain condition affecting 50-80 percent of amputees, sometimes for many years. Phantom limb pain may occur during the first year after amputation and often remains chronic over months or years, either with no improvement or an increase in pain.⁴⁵⁻⁵⁸

Among U.S. veterans with current significant phantom limb pain, 27 percent had pain for more than 20 days per month, 10 percent for 11 to 20 days, 14 percent for 6 to 10 days, and 49 percent for 5 days or less per month.⁵⁹ Phantom limb pain is often poorly understood and difficult to manage. Current treatments include physical, behavioral, and medical approaches, including opioids and adjunct medications.⁶⁰

A 1984 survey of 5,000 US veterans with amputations related to military service found that 78 percent had current phantom limb pain and only 1 percent had experienced relief from any treatment.⁶¹ A small study of 48 British veterans with phantom limb pain found that 56 percent reported no relief from any pain medications.⁶² That difficulty in relieving pain is common to other types of chronic neuropathic pain, such as may result from cancer, HIV/AIDS, or diabetes.

Cannabinoids may provide relief; some of the most encouraging clinical data on effects of cannabinoids on chronic pain are from studies of neuropathic pain.⁶³⁻⁶⁸ The effectiveness of cannabis and cannabinoids in relieving neuropathic pain has been demonstrated in more than three dozen preclinical and clinical trials.⁶⁹ It is often effective when opioid painkillers have failed to provide relief.⁷⁰ A trial of smoked cannabis to treat HIV-associated daily neuropathic pain in 50 patients showed an average reduction of pain by 30 percent over a treatment course of only five days.⁷¹ Cannabis can be effective for neuropathic pain even at low doses.⁷² Multiple trials indicate that a whole-plant cannabis extract (Sativex®) is effective in reducing pain in patients suffering intractable neuropathic pain.^{72,73} A review of over 20 clinical trials on cannabis and cannabinoids found that whole plant cannabis and extracts are superior to oral THC for the treatment of pain. Health Canada approved Sativex® for prescription in the treatment of HIV-associated neuropathic pain in 2005 and cancer pain in 2007. The mechanism for that analgesic action involves both the body's cannabinoid receptors and direct action on the neurons that transmit pain.⁷⁴⁻⁷⁵

The activity of the more than 100 cannabinoids and other components on the plant may explain its superiority in reducing pain when comparing whole plant cannabis and extracts to THC alone. For instance, the cannabinoids cannabidiol (CBD) and cannabichromene (CBC), the second and third most common active compounds on the plant, exhibit anti-inflammatory and analgesic actions, although weaker than THC. Similarly, beta-sitosterol, a non-cannabinoid ingredient found in cannabis, was able to decrease inflammation and edema in skin treatment.⁷⁶ And a unique flavanoid found only in cannabis, cannafavin A, inhibits the inflammatory molecule PGE-2, thirty

times more potently than aspirin.⁷⁷ Lastly beta-caryophyllene, a cannabinoid found in many plants besides cannabis, has strong anti-inflammatory properties but no noticeable side effects.⁷⁸ Beta-caryophyllen is the most commonly consumed FDA-approved cannabinoid in food.

The IOM report found that “basic biology indicates a role for cannabinoids in pain and control of movement, which is consistent with a possible therapeutic role in these areas. The evidence is relatively strong for the treatment of pain and intriguingly, although less well established, for movement disorder.” According to the IOM Report and numerous independent research articles, a number of areas in the brain that have an established role in sensing and processing pain respond to the analgesic effect of cannabis, adding that cannabinoids have been used successfully to treat cancer pain, which is often resistant to treatment with opiates. The effectiveness of cannabinoids in treating intractable cancer pain has been demonstrated in several subsequent clinical trials of a dosage-controlled sublingual spray.



Several studies have found that cannabinoids have analgesic effects in animal models, sometimes equivalent to codeine.⁷⁹⁻⁸³ Cannabinoids also seem to synergize with opioids, which often lose their effectiveness as patients build up tolerance. One study found morphine was 15 times more active in rats with the addition of a small dose of THC. Codeine was enhanced on the order of 900 fold.⁸⁴ In 1990, researchers conducted a double-blind study comparing the antispasmodic and analgesic effects of THC, oral Codeine, and a placebo on a single patient suffering from a spinal cord injury.⁸⁵ Their findings confirmed the analgesic effects of THC being “equivalent to codeine.” A 1997 study made similar findings related to morphine.⁸⁶

A 1999 article reviewing the body of scientific animal research concerning the analgesic effects of marijuana concludes that “[t]here is now unequivocal evidence that cannabinoids are antinociceptive [capable of blocking the appreciation or transmission of pain] in animal models of acute pain.”⁸⁷

The report further notes that multiple cannabinoids and noncannabinoid components can serve as anti-inflammatory agents, and so have potential in preventing and reducing pain caused by swelling (such as arthritis).

In short, the research community recognizes the potential benefits of cannabis for certain patients, including:

- Chemotherapy patients, especially those being treated for mucositis, nausea, and anorexia.

- Postoperative pain patients (using cannabinoids as an opioid adjunct to reduce the nausea and vomiting).
- Patients with spinal cord injury, peripheral neuropathic pain, or central post-stroke pain.
- Patients with chronic pain and insomnia.
- AIDS patients with cachexia, AIDS neuropathy, or any significant pain.

Britain's House of Lords reached similar conclusions and called for making cannabis available by prescription.⁸⁸

HOW CANNABIS COMPARES TO OTHER TREATMENTS

Chronic Pain Medications

According to the Institute of Medicine, "All of the currently available analgesic (pain-relieving) drugs have limited efficacy for some types of pain. Some are limited by dose-related side effects and some by the development of tolerance or dependence."

The opioid analgesics commonly used to combat pain include **codeine** (Dolacet, Hydrocet, Lorcet, Lortab); **morphine** (Avinza, Oramorph); **oxycodone** (Vicodin, Oxycontin, Roxicodone, Percocet, Roxicet); **propoxyphene** (Darvon, Darvocet) and **tramadol** (Ultram, Ultracet). These medicines can cause psychological and physical dependence, as well as constipation, dizziness, light-headedness, mood changes, nausea, sedation, shortness of breath and vomiting. Taking high doses or mixing with alcohol can slow down breathing, a potentially fatal condition.

In addition, patients in pain are often prescribed muscle relaxants such as Robaxin and Flexeril; anti-anxiety agents such as Valium, Sinequan, Vistaril, Ativan and Xanax; hypnotics such as Halcion, Restoril, Chloralhydrate, Dalmane and Doral and anti-emetics such as Zofran, Compazine, Phenergan, Tigan and Marinol.

Robaxin's side effects include abnormal taste, amnesia, blurred vision, confusion, dizziness, drop in blood pressure and fainting, drowsiness, fever, flushing, headache, hives, indigestion, insomnia, itching, light-headedness, nasal congestion, nausea, pinkeye, poor coordination, rash, seizures, slowed heart-beat, uncontrolled eye movement, vertigo, vomiting and yellow eyes and skin.

Flexeril can cause abnormal heartbeats, aggressive behavior, agitation, anxiety, bloated feeling, blurred vision, confusion, constipation, convulsions, decreased appetite, depressed mood, diarrhea, difficulty falling or staying asleep, difficulty speaking, disorientation, double vision, excitement, fainting, fatigue, fluid retention, gas, hallucinations, headache, heartburn, hepatitis, hives, increased heart rate, indigestion, inflammation of the stomach, itching, lack of coordination, liver diseases, loss of sense of taste, low blood pressure, muscle twitching, nausea, nervousness, palpitations, paranoia, rash, ringing in the ears, severe allergic reaction, stomach and intestinal pain, sweating, swelling of the tongue or face, thirst, tingling in hands or feet,

tremors, unpleasant taste in the mouth, urinating more or less than usual, vague feeling of bodily discomfort, vertigo, vomiting, weakness, and yellow eyes and skin.

The newer antiemetics, **Anzamet**, **Kytril** and **Zofran**, are serotonin antagonists, blocking the neurotransmitter that sends a vomiting signal to the brain. Rare side effects of these drugs include fever, fatigue, bone pain, muscle aches, constipation, loss of appetite, inflammation of the pancreas, changes in electrical activity of heart, vivid dreams, sleep problems, confusion, anxiety and facial swelling.

Reglan, a substituted benzamide, increases emptying of the stomach, thus decreasing the chance of developing nausea and vomiting due to food remaining in the stomach. When given at high doses, it blocks the messages to the part of the brain responsible for nausea and vomiting. Side effects include sleepiness, restlessness, diarrhea and dry mouth. Rarer side effects are rash, hives and decreased blood pressure

Haldol and **Inapsine** are tranquilizers that block messages to the part of the brain responsible for nausea and vomiting. Possible side effects include decreased breathing rate, increased heart rate, decrease in blood pressure when changing position and, rarely, change in electrical activity of the heart.

Compazine and **Torecan** are phenothiazines, the first major anti-nausea drugs. Both have tranquilizing effects. Common side effects include dry mouth and constipation. Less common effects are blurred vision, restlessness, involuntary muscle movements, tremors, increased appetite, weight gain, increased heart rate and changes in electrical activity of heart. Rare side effects include jaundice, rash, hives and increased sensitivity to sunlight.

Benadryl, an antihistamine, is given along with Reglan, Haldol, Inapsine, Compazine and Torecan to counter side effects of restlessness, tongue protrusion and involuntary movements. Its side effects include sedation, drowsiness, dry mouth, dizziness, confusion, excitability and decreased blood pressure.

Benzodiazepine drugs **Ativan** and **Xanax** are prescribed to combat the anxiety associated with chronic pain. Ativan causes amnesia. Abruptly stopping the drug can cause anxiety, dizziness, nausea and vomiting, and tiredness. It can cause drowsiness, confusion, weakness and headache when first starting the drug. Nausea, vomiting, dry mouth, changes in heart rate and blood pressure and palpitations are possible side effects.

INSTITUTE OF MEDICINE

"Nausea, appetite loss, pain and anxiety . . . all can be mitigated by marijuana.... For patients, such as those with AIDS or undergoing chemotherapy, who suffer simultaneously from severe pain, nausea, and appetite loss, cannabinoid drugs might offer broad spectrum relief not found in any other single medication."

**Marijuana and Medicine:
Assessing the Science Base, 1999**

Cannabis vs. Other Medications

Cannabis: By comparison, the side effects associated with cannabis are typically mild and are classified as “low risk.” Euphoric mood changes are among the most frequent side effects. Cannabinoids can exacerbate schizophrenic psychosis in predisposed persons, though it can also provide symptomatic relief in refractory schizophrenia. Cannabinoids impede cognitive and psychomotor performance, resulting in temporary impairment. Chronic use can lead to the development of tolerance. Tachycardia and hypotension are frequently documented as potentially adverse events in the cardiovascular system. A few cases of myocardial ischemia have been reported in young and previously healthy patients. Inhaling the smoke of cannabis cigarettes induces side effects on the respiratory system. Cannabinoids are contraindicated for patients with a history of cardiac ischemias. In summary, a low risk profile is evident from the literature available. Serious complications are extremely rare and are not usually reported during the use of cannabinoids for medical indications.

Why cannabis is safe to recommend

“The smoking of cannabis, even long term, is not harmful to health....” So began a 1995 editorial statement of Great Britain's leading medical journal, *The Lancet*. The long history of human use of cannabis also attests to its safety—nearly 5,000 years of documented use without a single death. In the same year as the *Lancet* editorial, Dr. Lester Grinspoon, a professor emeritus at Harvard Medical School who has published many influential books and articles on medical use of cannabis, had this to say in a 1995 article in the *Journal of the American Medical Association*:

One of marihuana's greatest advantages as a medicine is its remarkable safety. It has little effect on major physiological functions. There is no known case of a lethal overdose; on the basis of animal models, the ratio of lethal to effective dose is estimated as 40,000 to 1. By comparison, the ratio is between 3 and 50 to 1 for secobarbital and between 4 and 10 to 1 for ethanol. Marihuana is also far less addictive and far less subject to abuse than many drugs now used as muscle relaxants, hypnotics, and analgesics. The chief legitimate concern is the effect of smoking on the lungs. Cannabis smoke carries even more tars and other particulate matter than tobacco smoke. But the amount smoked is much less, especially in medical use, and once marihuana is an openly recognized medicine, solutions may be found; ultimately a technology for the inhalation of cannabinoid vapors could be developed.⁹⁰

The technology Dr. Grinspoon imagined in 1995 now exists in the form of “vaporizers,” (which are widely available through stores and by mail-order) and recent research attests to their efficacy and safety.⁹¹ Additionally, pharmaceutical companies have developed sublingual sprays and capsule forms of the drug. Patients and doctors have found other ways to avoid the potential problems associated with smoking, though long-term studies of even the

heaviest users in Jamaica, Turkey and the U.S. have not found increased incidence of lung disease or other respiratory problems. A decade-long study of 65,000 Kaiser-Permanente patients comparing cancer rates among non-smokers, tobacco smokers, and cannabis smokers found that those who used only cannabis had a slightly lower risk of lung and other cancers as compared to non-smokers.⁹² Similarly, a study comparing 1,200 patients with lung, head and neck cancers to a matched group with no cancer found that even those cannabis smokers who had consumed in excess of 20,000 joints had no increased risk of cancer.⁹³

Dr. Grinspoon notes, “the greatest danger in medical use of marihuana is its illegality, which imposes much anxiety and expense on suffering people, forces them to bargain with illicit drug dealers, and exposes them to the threat of criminal prosecution.” This was also the conclusion reached by the House of Lords, which recommended rescheduling and decriminalization.

In January 2013, the American Herbal Products Association (AHPA), which has a 30-year history of developing standards for the herbal products industry, issued recommendations for effectively regulating all aspects of cannabis distribution for patients. The regulatory recommendations, developed over two years by the AHPA Cannabis Committee address guidelines for cultivation, quality-assurance, analytics, cannabis product manufacture and labeling, storefront and delivery services, and personnel training.

In December 2013, the American Herbal Pharmacopeia released a monograph identifying cannabis as a botanical medicine. Written and reviewed by the world’s leading experts on cannabis, the monograph provides a full scientific understanding of the plant, its constituent components, and its biologic effects. It also establishes comprehensive standards for the plant’s identity, purity, quality, and botanical properties.

Following the release of the monograph, ASA launched Patient Focused Certification, the first non-profit, third-party certification program based on the AHPA regulatory recommendations and the AHP standards. Patient Focused Certification (PFC) audits cultivators, distributors, manufacturers and laboratories to verify compliance with best-practice standards. PFC includes employee training, compliance inspections, ongoing monitoring, and an independent complaint process for customers, as well as comprehensive reviews of formulations and materials, independent testing, and facility inspections.

Cannabis or Marinol?

Those committed to the prohibition on cannabis frequently cite Marinol, a Schedule III drug, as the legal means to obtain the benefits of cannabis. However, Marinol, which is a synthetic form of THC, does not deliver the same therapeutic benefits as the natural herb, which contains more than 100 cannabinoids in addition to THC, as well as biologically active terpenes. Recent research conducted by GW Pharmaceuticals in Great Britain has shown that Marinol is simply not as effective for pain management as the whole plant; a

balance of cannabinoids, specifically CBC and CBD with THC, is what helps patients most. In fact, Marinol is not labeled as a treatment for pain, only appetite stimulation and nausea control. THC and other cannabinoids have been shown to be effective in controlling nausea.⁹⁴⁻¹⁰⁰

Clinical research on Marinol vs. cannabis has been limited by federal restrictions, but a review of state clinical trials conducted in the 70's and 80's published in 2001 reports that "...the data reviewed here suggested that the inhalation of THC appears to be more effective than the oral route... Patients who smoked marijuana experienced 70-100 percent relief from nausea and vomiting, while those who used THC capsules experienced 76-88 percent relief."¹⁰¹ Additionally, patients frequently have difficulty getting the right dose with Marinol, while inhaled cannabis allows for easier titration and avoids the negative side effects many report with Marinol.^{102,103} As the House of Lords states, "Some users of both find cannabis itself more effective."¹⁰⁴ That is at least in part because the various cannabinoids and terpenes found in cannabis work in concert with one another to create an "entourage effect" that provides enhanced therapeutic efficacy.¹⁰⁵

THE EXPERIENCE OF PATIENTS

Dorothy Gibbs

In 1911, at the age of one, I contracted the polio virus. . . The early onset of polio caused permanent damage in my legs, spine, and back, resulting in significant weakness and atrophy in my legs. As a result, I have never been able to walk without the assistance of crutches and braces or a wheelchair. Approximately 30 years ago, my condition began to deteriorate. I began to suffer from increasing levels Angel Raich using a vaporizer in the hospital of pain and weakness in my legs and back as well as severe osteoarthritis in my hands, arms, and joints. Over time, my deteriorating medical condition has been exacerbated by my pain, leaving me increasingly immobilized....

By May, 1996, my physician [Dr. Arnold Leff, M.D.] had tried various prescription medications to relieve my pain, including: Tylenol #3, Ultram, Daypro, Tegretol, Soma, Valium, steroid injections into the trigger point, Dilantin, Duragesic, Zofran and Comapazine for the nausea caused by the opioid pain relievers, and Doloboid and Lodine as nonsteroids. Nothing seemed to work, and the pain persisted. I was growing increasingly depressed by the inability of anything to relieve my pain....

During this period it was clear to me, my caretaker, and my physician that nothing was working to combat my pain. My caretaker, Pat, had heard of the success some people experience with the medicinal use of marijuana for pain management. Sometime during the end of 1997, she obtained a sample for me. Although I had never used marijuana in my previous eighty-seven years of life, I was willing to try anything that could alleviate even part of the pain.

The relief I experienced from medical marijuana was almost immediate. I was so pleased with the result that I wrote to Dr. Leff about my use of medical marijuana and we talked about the benefits of the medicine. Dr. Leff examined me and noted that medical marijuana helped me experience less chronic pain and nausea, leading him to recommend medical marijuana as part of my daily pain care regimen....

I strongly feel that I should have the right to use anything that may relieve any or some of my pain, and my last days should not be spent suffering. In 1998, around the time that I had to stop using the Duragesic patch, Dr. Leff prescribed 5 milligram tablets of Marinol, to be taken as needed, for pain management. He explained that Marinol was like marijuana, which I was already using on occasion. Although Marinol provided me with some minor relief from muscle spasms and bodily pains, its effect was slow and unpredictable.... At times, however, I am stricken with severe spasms of pain, and medical marijuana is the only medication that provides quick and effective relief.... Medical marijuana also combats the nausea that accompanies many of the oral medications I am prescribed, including anti-inflammatory medications such as Motrin.

Ever since trying medical marijuana, my life has drastically improved. Although chronic pain, related to my post-polio syndrome will always be a part of my life, medical marijuana had helped me manage this pain by providing fast and effective relief for my muscle spasms, acute pains, and arthritis....

Since I began using medical marijuana, my pain is no longer persistent or debilitating. When I do suffer from pain, I am usually able to "get ahead of it" by using medical marijuana and make it manageable....⁵⁵

James Daniel Baehr

In 1994, I was diagnosed with inoperable prostate cancer.... the cancer had metastasized to my spine, hips, and ribcage. The neuropathic back pain was excruciating, emanating from my spine to my hips and ribcage. I also experienced an overall loss of strength that substantially limited my ability to work. Employment in the transportation industry involves a considerable amount of carrying, lifting, and other manual labor that requires flexibility and mobility. The performance of these requirements exacerbated the magnitude and amount of pain I experienced on a daily basis and depleted any energy that had not already been beaten down by the disease itself.

I began taking numerous medications to treat the cancer, the excruciating pain that it caused, and the depression I felt as a result of my prognosis and the profound restrictions on my life. My medications included a daily dosage of 7.5 mg of Lortab (a painkiller), .25 mg of Xanax (which combats depression and anxiety), 40 mg of Paxil (an anti-depressant), and 250 mg of Eulexin (which treats the cancer by reducing the testosterone emitted from adrenal glands), and monthly shots of 7.5 mg of Lupron Depot (a testos-

terone blocker/hormonal therapy). I suffered various side effects from these medications, including persistent exhaustion, general pain, a lack of mental focus, and overall body tenderness. In combination, these side effects were quite debilitating....

FEDERATION OF AMERICAN SCIENTISTS

"Based on much evidence, from patients and doctors alike, on the superior effectiveness and safety of whole cannabis compared to other medications,... the President should instruct the NIH and the FDA to make efforts to enroll seriously ill patients whose physicians believe that whole cannabis would be helpful to their conditions in clinical trials"

FAS Petition on Medical Marijuana, 1994

From September through December of 1995, I endured nine weeks of radiation. The treatment left me with continued back pain, intense nausea, loss of appetite, diverticulitis, sleep abnormalities, and digestive and intestinal complications. It also left me increasingly depressed.

In late 1994 or 1995, a physician at the Radiology Department at Stanford University Hospital prescribed

Marinol to alleviate my pain and nausea from the radiation. I tried the Marinol but did not respond well to it. Not only did Marinol make me feel drugged and not in control of my thoughts or body, but it failed to relieve my painful symptoms. In fact, Marinol just made me feel sicker, upsetting my stomach, disrupting my mental acuity, and causing me to hallucinate. During this period, I was also taking 7.5 mg of Lortab, an opioid analgesic, several times a day and Ambien to help me sleep. These drugs alleviated the pain somewhat, but also made me disoriented, constipated, and caused me to lose my short-term memory and fine motor skills.

Perhaps sensing that my hope was receding as my misery was increasing, a nurse at Stanford Hospital suggested that medical marijuana could alleviate my nausea, restore my appetite, and even help me manage my pain - all potentially without the negative side effects I experienced with Marinol and other medications..

I decided to try a small amount of medical marijuana, and when I did I found that it provided significant relief from the side effects of the cancer medications and the radiation treatment. In addition, it helped reduce the pain I was experiencing from the cancer itself. This new combination of therapies, which included medical marijuana, turned my health around. Where before I had been doubled over with nausea, couldn't eat, or sleep, I was now not only able to handle my medications, but could sleep, eat and manage my pain. I found that a small amount of medical marijuana taken in the evening enabled me to sleep through the entire night so that I no longer needed to take Ambien.

Over time, the pain got progressively worse. In February 1997 I began to

take morphine to help with the pain. The amount of morphine that I need to take to adequately control my pain leaves me utterly incapacitated, mentally and physically. Medical marijuana helps me manage my pain, while limiting my dependence on more powerful narcotics.

When I smoke medical marijuana, I can achieve the same degree of pain relief with a much smaller amount of morphine and with far fewer and less harsh side effects. The coupling of medical marijuana with my prescription analgesics has been one of the most significant and successful aspects of my medical treatment.

Jim Champion

As a member of the 502nd infantry, 101st airborne, my unit was deployed to the kingdom of Jordan in the late 1980's. Soon after, I found myself diagnosed with MS awaiting a medical discharge instead of starting my second enlistment.

I've presently had MS for over 25 years, but I first tried cannabis for my condition about 11 years ago. Each time I went to the doctor with spasms or atrophy that was bending my body into painful and unnatural positions, I'd walk out with a new muscle relaxer or pain pill. By 2003 I found myself taking a cocktail of approximately 59 pills a day, which did little for the pain and spasms and instead turned me into what felt like a sleeping zombie. I'd literally fall asleep in the middle of a conversation! I was a prisoner in my own body.

Later that year I had a muscle spasm which lasted for days. Nothing I did or took would stop it. My cousin came over and convinced me to try cannabis. By the time we finished my body had stopped twitching, and I felt relaxed for the first time in a long time. I was also experiencing another strange sensation—I was hungry!

At first, my wife didn't like my smoking on top of all the pills I was taking, but cannabis was providing unparalleled relief from the painful spasms and atrophy. No spasms or atrophy, no pain! After discussing it with her, we took inventory of my pills and began tapering down the ones I no longer needed thanks to the relief provided by one cannabis cigarette a day. We not only reduced the overall number of my pills to just 24 per day, we were able to eliminate some intoxicating medicines all together. By the time we were finished I no longer took Valium, Xanax for tremors, Gabapentin, morphine and Vicodin for breakthrough pain, and several others. Also, I reduced the number of methadone I take per day.

Since that time I have literally been a new man. I used to lay in bed for weeks at a time. I neither had the energy nor desire to ever leave my house. The pills were making me sicker and weaker. Now I only stay in bed at night and I go out often (when it's warmer outside) and do the things I love. If I'm not going to a Bears/Blackhawks/Bulls/Cubs game, I'm going to Springfield to help pass

our bill. Cannabis has allowed me to enjoy an active life that I thought had long passed me by. Eleven years later, and I still only smoke between one and two cannabis cigarettes per day. If smoking is not for you, they have edibles, vaporizers, tinctures and other ways of dispensing the product.

Michael Krawitz

I am a disabled United States Air Force Veteran. I joined through the delayed enlistment program in high school and served from November 1981 thru January 1986 as an avionics [onboard aircraft] Electronic Warfare Systems Technician.

I was serving with the 52nd Avionics Maintenance Squadron in Guam, USA when I was injured in a motorcycle accident on my way home from dinner. My last Friday night on Guam, I talked my buddy into letting me ride his shiny new motorcycle home from our celebratory dinner and in my zeal to be careful on his new bike I was traveling in the far right lane which, much to my surprise, became a turning lane with no sign for warning. The right lane of the road I was on suddenly ended in a curb and I hit it, launching me over the bars into a stop sign pole that was intended for the entering traffic and to which I was only able to see in profile. That injured my spleen, nicked my pancreas, and broke my leg badly enough that I needed an artificial hip. A secondary infection meant they had to leave my abdomen open for a month and a half after they removed part of my intestine and performed an end to end bowel resection. I was in the hospital in Hawaii that I was medi-evaced to for 85 days recovering and battling pain.

My first medical marijuana: I wasn't in very good condition even after I was finally released from the general surgery ward into a private room in the orthopedics ward. I was still segregated because of my infection. The nurse wheeled me into a common bay so I could be near other troops and see the TV, I guess to cheer me up a bit. While watching TV one of the other injured soldiers in the ward with me offered me a butt end of a joint. I figured I wasn't going back to my unit, and I could see no reason why not to indulge. I really didn't see this as a medicine but recreation sounded pretty darn good at that moment. I wheeled into my bathroom in my wheelchair to smoke it and what I found from the cannabis was not a giddy feeling of getting high that I would have expected but more of a release from the tension and pain that had gripped my body as my stomach slowly healed. Over the coming days I would smoke the cannabis whenever I could, and in just a few days I was able to lower my bed flat enough that all at once every bone in my back seemed to pop back into its rightful place. My mother and father had visited me just weeks before and they hoped to hear progress but were shocked when the nurse told them I had ambulated off the ward on my own. At first a Ranger in a walking cast would push me out to the parking lot to smoke a joint and later I had fashioned a cane to my long arm cast on the left and with my cast covering my whole right leg I had crutch walked out of the hospital on my own so that I could smoke freely. Cannabis definitely helped me get me out of the hospital faster than

they expected. Those trips to the parking lot were my work-outs. It took me a long time to put together that I was getting therapeutic benefit from it though. Back in my duty station I was relegated to a desk job while they figured out what to do with me and they kept me comfortable with pain pills. It wasn't until after that duty station at Offutt AFB in Omaha, after my service ended, that I started seeing myself as a medical cannabis user.

By then I was dealing with long-term chronic pain issues. My treatment at the VA was trial and error. They had all this treatment, all these options, and they put me through them all: kinesio therapy, hydro therapy, heat, steroids etc. Some of it was pretty cruel stuff with little potential gain but lots of down side. Until the mid 1990's, I never even asked twice. I tried everything, all with the same effect – very little. I was given significant amounts of Tylenol with everything, 300mg times 2 in my pain meds plus, 1,500-2,000mg separately per day. When the Internet became available Tylenol's bad history of kidney damage in chronic users was one of my first discoveries. I requested and received from that point on only Tylenol free pain treatment. If I have the need I now take Tylenol very rarely.

Ultram was the very last drug I took on faith. It really messed me up. I couldn't pee, couldn't walk, and had vicious headaches. Suddenly, I now empathized with someone beating his head on the floor because it hurt so much that I had seen previously on a TV Migraine documentary.

After that, I decided I'm not going to take anything without checking. A VA doctor tried to prescribe me Amitriptyline, Next one tried Nortriptyline. Gabapentin was the third I turned down.

Around that time is when I discovered the history of cannabis. I grew up in the antiques business, so I knew antiques but had never run into a cannabis antique and if you looked up information before the Internet you were caught up in propaganda under the word marijuana.. I quickly found that the pharmaceutical companies Parke Davis and Eli Lilly in the 1920's had cannabis text book references in all the key doctors' teaching manual's expressly mentioning it as key therapy for patients who have stomach issues and pain. They presented cannabis as a first-line medicine if the patient can't tolerate opiates. That really got to me and made me mad. A hundred years ago my doctor would have been trained in this, but today I had to go find it out for myself and then go teach my own doctor.

Because of the bowel resection, I can only take a small amount of opiate painkillers before I have serious GI issues. But a little cannabis, just one to two grams a day, helps the opiates work better. Now I only take the smallest Oxycodone pill, 5mg, twice a day -- a dose so low most doctors don't even know they make it. I've found a regimen that works, and I'm grateful. A couple of times I've had gaps, and that's been tough. With chronic pain, if you take my pain treatment away and force me to suffer, I have a real hard time getting back to stable. The last time I was without cannabis during a very stressful time it had negative consequences I am still working to recov-

er from.

Overall, I receive great care at the VA, particularly for my hip, but the administrative side of the VA has been a big problem. When I was told I must sign a pain contract to continue my care, I said I wanted to take the contract to consult with my lawyer. My lawyer said a contract is only a contract if both sides get something. Since I am a Veteran, the VA is already supposed to provide care, so it didn't seem like I was getting anything in exchange for signing it, so I told them I wouldn't sign it. Because of that, they cut me off from all opiate pain management and tried to switch me to the lesser-controlled gabapentin medicine. They were punishing me by cutting off my previously successfully prescribed medicine. But that's unethical. You can't deny medication as punishment, even with prisoners or drug addicts!. Taking a stand helped get the VHA to create a policy so that now using medical cannabis no longer seems to automatically disqualify you from pain management care. To this day I'm still working with the VHA to get fully back into their system.

THE EXPERIENCE OF DOCTORS

Harvey L. Rose, M.D.

Both my research and my many years as a clinician have convinced me that marijuana can serve at least two important roles in safe and effective pain management. Ample anecdotal evidence and clinical observations, as well as significant research findings, strongly indicate that marijuana, for whatever reason, is often effective in relieving pain. This is true across a range of patient populations, including the elderly, the terminally ill seeking comfort in their final days, young adults stricken with life-threatening conditions, and cancer patients unable to tolerate the devastating effects of potentially life-saving therapies. Marijuana is also widely recognized as an antiemetic that reduces the nausea and vomiting often induced by powerful opioid analgesics prescribed for chronic, severe pain, as well as the nausea, vomiting and dizziness which often accompany severe and/or prolonged pain. I have had the benefit of consultations on this subject over many years with a range of treatment providers, including physicians, oncologists, pharmacologists, family practitioners, hospice workers, and pain specialists..

Specifically, I have found that cannabis can have an important opioid-sparing effect for pain patients. That is to say, that patients who are prescribed high doses of opioid analgesics can significantly reduce their reliance on these medications and improve their daily functioning by incorporating cannabis into their pain care regimen.

Marijuana not only has important analgesic properties but it also is an effective and important adjuvant therapy for patients suffering acute and/or chronic pain. No experienced and respected physician will deny that for such patients opioid therapy is central to palliative care. By the same token, the same experienced physicians will readily acknowledge that opioids often induce nausea and vomiting. For a number of pain patients, standard pre-

scription antiemetics (e.g., Compazine, Zofran and Reglan) simply do not substantially reduce their nausea. For many, those medications are substantially less effective, or produce more debilitating side effects, than marijuana.

Quite simply, marijuana can serve much the same function for pain patients undergoing opiate therapy that it does for cancer patients undergoing chemotherapy: it suppresses the nausea and vomiting associated with treatment, and reduces the pain associated with prolonged nausea and retching, thereby increasing the chances that the patient will remain compliant with the primary treatment. With both chemotherapy and long-term pain management, failure to obtain and continue proper palliative and adjunct care can have dire, even fatal, consequences..

Finally, it is important to note that in my clinical experience observing patients who ingest cannabis for relief from pain and nausea and/or to stimulate appetite, I have witnessed no adverse complications. By contrast, many of the first-line pharmaceuticals used to combat cancer, HIV/AIDS, and pain associated with these and other illnesses can induce a variety of iatrogenic effects, including, in some instances, death. While patients may face serious legal implications related to their use of medical marijuana, as a physician I have yet to encounter a medical downside to their cannabinoid therapy. . . .

[A]gainst the backdrop of a growing body of scientific research, the reports of myriad pain patients, and the burgeoning clinical experience of physicians like myself, it is my considered opinion that cannabis can constitute an acceptable and sometimes necessary medicine to alleviate the immediate suffering of certain patients.

Dr. Rose has served as a medical officer in the Air Force, taught at UC Davis School of Medicine, and consulted with state legislative bodies.

Richard I. Gracer, M.D.

For a small number of patients, even aggressive opiate therapies are not sufficient. Unless alternative pain treatments are found for such patients, they will continue to suffer. For those individuals, their daily lives are often tortuous. As a physician, I am acutely aware of the disturbing connection between intractable pain, overwhelming despair, and suicide.

I can state confidently, as a physician with an extensive practice and specialized expertise in pain management, that marijuana can prove (and has proven) medically useful to at least some chronic pain patients. Accordingly, I believe that physicians should be able to recommend and/or prescribe marijuana to patients for whom it is medically appropriate. Absent that authority, my ability to treat my patients and provide relief from horrific pain is undermined, as is the trust essential to therapeutic relationship.

—Dr. Gracer is Director of Orthopedic Medicine for ChiroView. He is a Fellow of the American Academy of Family Physicians and a Diplomate of the American Academy of Pain Management.

Robert V. Brody, M.D.

As a physician responsible for the care and treatment of those who live in horrible pain, I believe that these patients need, above all else, the broadest possible range of therapeutic options and as full and accurate information as possible regarding those options as they relate to the individual patient. In recent years, I have noted that the public and the government have become increasingly aware of these needs, and one hopes that measures have been taken to promote adequate pain care for the seriously ill and injured. Several states, including California, have adopted laws and/or guidelines for the prescribing of controlled substances, which seem to permit physicians to treat pain patients without fear of sanction or interference from state authorities.

Insofar as The Compassionate Use Act passed in 1996 expressly provides that chronic pain is a condition for which physicians are authorized to recommend marijuana without threat or fear of punishment, the Act appears to be an additional assurance for physicians like myself that we can rely upon a full range of treatment modalities to care for patients in pain. The IOM Report provides still further support for doctors insofar as it recognizes the potential medical benefits of marijuana.... Marijuana has a place in any pain physician's armamentarium.

—Dr. Brody is Chief of the Pain Consultation Clinic at San Francisco General Hospital. He is a peer reviewer for the Western Journal of Medicine, Journal of General Internal Medicine, Annals of Internal Medicine, and the Journal of Law, Medicine and Ethics.

Lester Grinspoon, M.D.

There are many case reports of marijuana smokers using the drug to reduce pain: post-surgery pain, headache, migraine, menstrual cramps, and so on. Ironically, the best alternative analgesics are the potentially addictive and lethal opioids. In particular, marijuana is becoming increasingly recognized as a drug of choice for the pain that accompanies muscle spasm, which is often chronic and debilitating, especially in paraplegics, quadriplegics, other victims of traumatic nerve injury, and people suffering from multiple sclerosis or cerebral palsy. Many of them have discovered that cannabis not only allows them to avoid the risks of other drugs, but also reduces muscle spasms and tremors; sometimes they can even leave their wheelchairs.

The years of effort devoted to showing that marijuana is exceedingly dangerous have proved the opposite. It is safer, with fewer serious side effects, than most prescription medicines, and far less addictive or subject to abuse than many drugs now used as muscle relaxants, hypnotics, and analgesics.

Thus cannabis should be made available even if only a few patients could get relief from it, because the risks would be so small. For example, as I mentioned, many patients with multiple sclerosis find that cannabis reduces their

muscle spasms and pain. A physician may not be sure that such a patient will get more relief from marijuana than from the standard drugs baclofen, dantrolene, and diazepam—all of which are potentially dangerous or addictive—but it is almost certain that a serious toxic reaction to marijuana will not occur. Therefore the potential benefit is much greater than any potential risk.

—Dr. Grinspoon is professor emeritus at Harvard University School of Medicine, and the author of numerous publications.

THE HISTORY OF CANNABIS AS MEDICINE

While the federal government has resisted restoring cannabis to its place in the US Pharmacopeia, its own research studies acknowledge that the “use of cannabis for purposes of healing predates recorded history” and that it was included in “the 15th century BC Chinese Pharmacopeia, the Rh-Ya.” Ancient Egypt, India and Persia all made medical use of it more than 2,000 years ago. British herbalists in the 17th century noted its medicinal properties, but it did not become widely used in British medicine until the mid-nineteenth century. In 1890, Queen Victoria’s personal physician, Sir Russell Reynolds, wrote in the first issue of *The Lancet*, “When pure and administered carefully, [it is] one of the most valuable medicines we possess.”¹⁰⁶

William O’Shaughnessy, a British East Indian Company surgeon who studied its use while posted in India, expanded western understanding of its range of applications and championed its use upon his return to Britain in 1841 and election to the Royal Society, the scientific advisory body to the British government. Between 1840 and 1900, European and American medical journals published more than 100 articles on the therapeutic applications of cannabis, known then as Cannabis Indica or Indian hemp. Common indications for its use in the nineteenth century included “muscle spasms, menstrual cramps, rheumatism, and the convulsions of tetanus, rabies and epilepsy; it was also used to promote uterine contractions in childbirth, and as a sedative to induce sleep.”¹⁰⁷

The American Medical Association in an article on the first federal law restricting legal access to cannabis noted that “No evidence has been produced to show the existence of addiction to cannabis arising out of the medicinal use of the drug.”¹⁰⁸ The AMA’s lobbyist, Dr. William C. Woodward, testified to Congress that “The American Medical Association knows of no evidence that marijuana is a dangerous drug,” and that any prohibition “loses sight of the fact that future investigation may show that there are substantial medical uses for Cannabis.”

The first state medical cannabis law was passed in 1996 by California voter initiative. Since then, 23 states and the District of Columbia have removed criminal penalties for their citizens who use cannabis on the advice of a physician and established legal means of obtaining it. Ten of those states plus the District of Columbia established their medical cannabis laws through voter

ballot initiative, while the legislatures in 13 others have enacted similar bills. Currently, nearly 50 percent of the U.S. population resides in a state that permits medical use, and medical cannabis legislation is introduced in more states every year.

Federal Policy is Contradictory

Federal policy on medical cannabis is filled with contradictions. Cannabis was widely prescribed until the turn of the century, and an estimated one million Americans currently use it under medical supervision. Congress in 1970 classified cannabis as a Schedule I drug, defined as having no medicinal value and a high potential for abuse, yet its most psychoactive component, THC, is legally available as Marinol and is classified as Schedule III. The U.S. federal government also grows and provides free cannabis for a small number of patients today as part of an Investigational New Drug (IND) compassionate access research program created by court order in 1976. Though the program provided up to nine pounds of cannabis a year to these patients, and all reported being substantially helped by it, the application process was extremely complicated, and few physicians became involved. In the first twelve years, the government accepted only a handful of patients. But in 1989 the FDA was deluged with new applications from people living with AIDS, and 34 patients were approved within a year. In June 1991, the Public Health Service announced that the program would be suspended because it undercut the administration's opposition to the use of illegal drugs. The program was discontinued in March 1992 and the remaining patients had to sue the federal government on the basis of medical necessity to retain access to their medicine. Today, four surviving patients still receive medical cannabis from the federal government.

Despite this successful federal program, thousands of scientific articles, and dozens of successful clinical trials, as well as an unparalleled safety record, cannabis remains classified as a Schedule I substance. Healthcare advocates have tried to resolve this contradiction through legal and administrative channels. In 1972, a petition was submitted to reschedule cannabis in order to remove barriers to medical research and patient access. The DEA stalled hearings for 16 years, but after exhaustive hearings in 1988 their chief administrative law judge, Francis L. Young, ruled that "marijuana, in its natural form, is one of the safest therapeutically active substances known... It would be unreasonable, arbitrary and capricious for the DEA to continue to stand between those sufferers and the benefits of this substance." The DEA refused to implement this ruling based on a procedural technicality and continues to insist cannabis is a substance with no medical use. In 2009 the American Medical Association, the nation's largest organization for physicians with a quarter million members, joined the chorus of professional medical groups calling on the federal government to reconsider the classification of cannabis and urging comprehensive clinical trials.

Widespread support, state laws passed, new policy issued

Public opinion is strongly in favor of ending the prohibition of medical cannabis and has been for some time, with every national poll conducted over the past two decades showing a substantial majority in support. A CBS News national poll in January 2014 found that 86 percent of Americans think doctors should be allowed to prescribe cannabis for patients suffering from serious illnesses. In 2004, the 35 million-member American Association of Retired Persons (AARP) released a national poll of older Americans showing 72 percent of seniors agreed that “adults should be allowed to legally use marijuana for medical purposes if a physician recommends it.” Every national poll for more than a decade has found similar super-majorities of support.

The refusal of the federal government to act on this widespread public support has meant that advocates have had to turn to the states for action. Currently, laws that effectively remove state-level criminal penalties for growing and/or possessing medical cannabis are in place in: Alaska, Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Illinois, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, Washington, the District of Columbia, and Guam. Another 15 states have established limited laws that allow the legal medical use of a cannabis plant extract. Thirty-six states have symbolic medical cannabis laws (laws that support access to medical cannabis but do not provide patients with legal protection under state law).

On August 29, 2013, the U.S. Department of Justice issued new guidance to federal prosecutors, telling them medical cannabis dispensaries should no longer automatically be considered targets for prosecution. The memo from Deputy Attorney General James M. Cole to all U.S. Attorneys reverses previous federal policy on prosecuting medical cannabis providers and businesses. The new guidance says state and local officials can avoid federal interference in their medical cannabis programs if they “implement strong and effective regulatory and enforcement systems” that reflect eight federal enforcement priorities. The memo does not change federal law, nor does it preclude prosecution of any individual or business, as the U.S. Attorneys’ offices are autonomous, and federal prosecutors make independent decisions about which cases to pursue.

AMERICAN NURSES ASSOCIATION

In 2003 the American Nurses Association passed a resolution that supports those health care providers who recommend medicinal use, recognizes "the right of patients to have safe access to therapeutic marijuana/cannabis," and calls for more research and education, as well as a rescheduling of marijuana for medical use.

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5. *Id.* at 634-36.
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DEA CHIEF ADMINISTRATIVE LAW JUDGE

Marijuana, in its natural form, is one of the safest therapeutically active substances known... It would be unreasonable, arbitrary and capricious for the DEA to continue to stand between those sufferers and the benefits of this substance.

The Honorable Francis L. Young,
Ruling on DEA rescheduling hearings, 1988

ADDITIONAL RESOURCES

Americans for Safe Access maintains a website with additional resources for doctors and patients. There you will find the latest information on legal and legislative developments, new medical research, and what you can do to help protect the rights of patients and doctors.

With more than 45,000 active members and chapters and affiliates in all 50 states, ASA is the largest national member-based organization of patients, medical professionals, scientists, and concerned citizens promoting safe and legal access to cannabis for therapeutic uses and research.



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