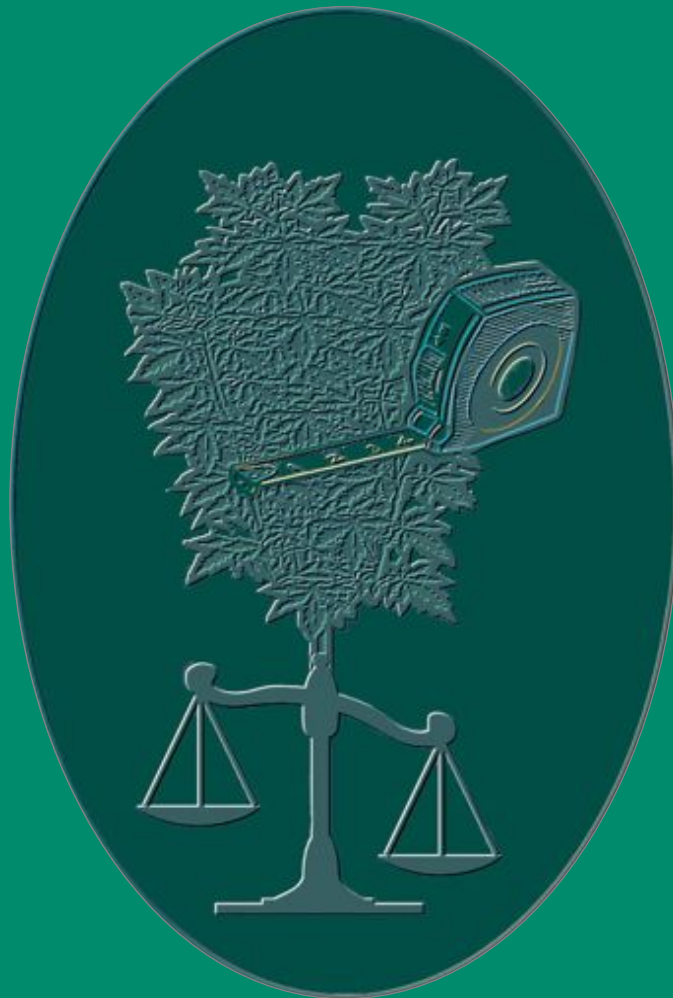


CANNABIS YIELDS AND DOSAGE



A Guide to the Production and Use of Medical Marijuana

— **CHRIS CONRAD** —

Safe Access Now • Court-qualified cannabis expert

CANNABIS YIELDS AND DOSAGE

CONTENTS

Introduction	Page i
PART I: THE SCIENCE	
Federal Medical Marijuana	Page 1
History and usage	2
Effect on the body	3
Systemic effect, symptomatic relief	4
Daily therapeutic dosages	6
Usable medical marijuana and conversions	7
Federal cannabis yield study	8
Garden adversity and how it affects yields	9
Indoor and outdoor gardens	10
Measuring canopy to estimate yield potential	11
PART II: STATE OF THE LAW	
Federal laws and rulings	12
California voter initiative Prop 215 and rulings	13
Senate Bill 420 basics of California statutory law	14
Patients, caregivers, cities and counties	15
Coops and collectives	16
Legal proceedings and challenges	17
PART III: THE SAFE HARBOR	
Safe Access Now sample guidelines ordinance	18
PART IV: APPENDICES	
Medical marijuana laws outside of California	20
California statutory laws	20
Resources and reference material	21
About the author	21
More quotes	Back cover

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A Guide to the Production and Use of Medical Marijuana



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Court-qualified cannabis expert
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CREATIVE XPRESSIONS

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INTRODUCTION

A common understanding of cannabis could prevent needless arrests and prosecutions, free up law enforcement to focus on serious crime, and save California's communities millions of dollars. This booklet explains the basics of medical marijuana. Part I gives scientific facts about its uses, dosage and yields. Part II explains the legal setting. Part III offers a model *Safe Access Now* ordinance for guidelines, and Part IV gives details of several States' laws. It also includes references and websites for the reader's use.

The United States government has garnered some very useful research during its decades of experience in producing and providing medical marijuana. Its compassionate IND program has demonstrated that about six pounds of cannabis per year is a safe and effective dosage to alleviate chronic health problems, and also how to estimate garden yields. Ironically, federal law denies medical marijuana as a defense in court.

State law is a separate jurisdiction, however, and a laboratory for medical and legal reforms. Since California voters passed Proposition 215, the 1996 law giving qualified people a legal right to cultivate and possess cannabis for medicine, courts have grappled with an issue left unresolved by the ballot mandate: How much medical marijuana is a reasonable supply?

In 2003, Senate Bill 420 sought to reduce arrests and provide better access by creating a voluntary ID card program, adding new legal protections for collective activities and distribution, and carving out a minimal safe harbor from arrest for qualified people. The amount protected is inadequate for many — **eight ounces of dried mature processed flowers of female cannabis plant or the plant conversion plus six mature or 12 immature plants per patient.** However, it also empowers doctors, cities, counties and the courts to protect greater amounts. Case law reiterates that those amounts are "a threshold, not a ceiling" and preserves the Prop 215 right to a reasonable supply of cannabis.

It is safest for patients and caregivers to stay within those quantities. Unfortunately, this is not always possible or practical. California patients with chronic ill health and safe access to high quality cannabis strains often smoke three pounds or more of "sinsemilla bud" per patient year, amid a broad range of dosages. Patients who eat cannabis or ingest it in other forms require several times as much raw material as the smoked dosage. Outdoor and indoor growers cultivate with very different garden techniques ranging from a few large plants to scores of much smaller plants.

Data in the federal Drug Enforcement Administration's *Cannabis Yields* provides a scientific method that lets patients grow indoors or out in any format they wish, yet makes it easy to gauge the output. *Safe Access Now* proposes a compromise based on half the IND dosage plus a proportionate canopy area. That equates to a safe harbor per qualified patient of up to three pounds of bud and as many plants as fit within 100 square feet of garden canopy. Be they large or small, if the plants cumulative canopy covers less than that area, the garden is a reasonable size.

This system is simple, yet it works. It eliminates the need to train police to assess complicated medical needs, calculate yields, distinguish male plants from female or immature from mature flowering, determine what part of a crop is usable, or understand consumption, processing or storage. Counting plants is never required. To check compliance, all an officer needs is a scale and tape measure.

This booklet shows how and why those safe harbor guidelines can and should be expanded by localities, doctors, and by the legislature. You can help advance this process. Whether a patient, physician, policy maker, prosecutor, police officer, or concerned citizen, please take a stand for the principles of reason, compassion and the rule of law.

Special thanks to doctors Michael Alcalay MD, David Bearman MD, Philip Denney MD, Jeffrey Hergenrather MD, Claudia Jensen MD, Frank Lucido MD, Tod Mikuriya MD, Ethan Russo MD, and other physicians for review of medical issues; to Eric Sterling and attorneys Joe Elford, Omar Figueroa, William Logan, David Nick, Robert Raich and others for review of legal issues; and to Dr. Michael Baldwin, Andrew Glazier, Richard Muller, my wife Mikki Norris, SAN co-founder Ralph Sherrow, DrugSense, MPP, NORML and others for their help in researching, preparing and publishing this document. For more information on what you can do to help, visit these websites: safeaccessnow.net and chrisconrad.com. Thank you.



Chris Conrad, Court-qualified cannabis expert

NOTICE: This booklet is not a substitute for medical care or legal counsel. It cannot list every law or court decision, but care has been taken to select and characterize key cases. This information is current as of August, 2007. Laws and rulings cited are subject to change or reinterpretation at any time.

Cannabis: Legally grown and provided in daily smoked dosages

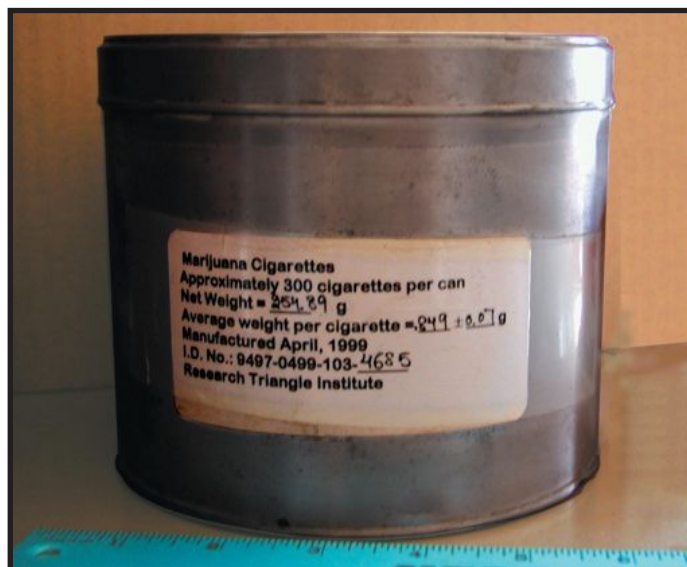
Marijuana (*Cannabis sativa*) is a treatment for pain and other symptoms of many diseases; its medical use goes back some 5,000 years. Sometimes cannabis can halt the development of a condition. It is medicine with a safe and effective dosage demonstrated by United States government research. The National Institute on Drug Abuse provides by prescription a standard dose of smoked cannabis to patients in the Compassionate Investigational New Drug (IND) program. This is about two ounces per week — a half-pound per month — mailed in canisters of 300 pre-rolled cigarettes consumed at a rate of 10 or more per day.

“Marijuana, in its natural form, is one of the safest therapeutically active substances known to man.”

— DEA Administrative Law Judge Francis Young

Docket No. 86-22. 1988.

This long-term dosage has proven to be safe and effective, with no unacceptable side effects. As seen below in Table 1, from the *Journal of Cannabis Therapeutics*,



This six-inch diameter canister held 254.89 grams, about nine ounces, of federal medical marijuana for an IND patient. This is a typical monthly supply mailed from the federal cannabis research garden in Oxford, Mississippi.

the annual dose comes to between 5.6 and 7.23 pounds of cannabis. The documented federal single patient dosage averages 8.24 grams per day — that’s more than 1/4 ounce per day, two ounces per week or 6.63 pounds smoked per year.

Table 1: Chronic cannabis IND* patient demographics

* The Investigational New Drug (IND) program is overseen by National Institute on Drug Abuse: NIDA



Patient	Age / Gender	Qualifying Condition	IND Approval / Cannabis Usage	Daily Cannabis / THC Content	Current Status
A	62 F	Glaucoma	1988 25 years	8 grams (0.28 oz) 3.80%	Disabled operator / singer / activist / vision stable
B	52 M	Nail-Patella Syndrome	1989 27 years	7 grams (0.25 oz) 3.75%	Disabled laborer / factotum / ambulatory
C	48 M	Multiple Congenital Cartilaginous Exostoses	1982 26 years	9 grams (0.32 oz) 2.75%	Full time stockbroker / disabled sailor / ambulatory
D	45 F	Multiple Sclerosis	1991 11 years	9 grams (0.32 oz) 3.5%	Disabled clothier / visual impairment / ambulatory aids

Source: Russo, Mathre, Byrne, Velin, Bach, Sanchez-Ramos and Kirlin. *Journal of Cannabis Therapeutics*, Vol. 2(1) 2002. p. 9

LONG HISTORY, MANY THERAPEUTIC USES

Cannabis brings relief to a wide variety of body systems and ills

For over 3,500 years, various strains of the green herb *Cannabis sativa*, or true hemp, have been among the most widely used of medicinal plants. This includes civilizations in China, India, Europe, Africa and the Middle East. Cannabis was used in the USA from 1850 to 1937 to treat more than 100 distinct diseases or conditions.

The *Journal of the American Medical Association* ran a 1995 commentary supporting the medical use of marijuana and calling for increased research. Soon thereafter, the National Academy of Science / Institute of Medicine reported to the Office of National Drug Control Policy that "The accumulated data indicate a potential therapeutic value for cannabinoid drugs, particularly for symptoms such as pain relief, control of nausea and vomiting, and appetite stimulation." (*Marijuana and Medicine*. National Academy Press, 1999. p. 3). Today, scientists hold annual medical conferences to discuss recent research and study naturally occurring human endocannabinoids. Tens of thousands of patients in ten states use cannabis with state-level legal protections for approved medicinal use.

Modern medical uses of cannabis include conjunctive treatments for physical and mental illness (see list in box). Symptoms of numerous ills can be controlled, bringing effective relief and significantly improving the quality of life and functionality. It is also a stress reducer, an expectorant, and a topical antibiotic. It can be a safe and effective alternative to pharmaceuticals such as Demoral, Valium and morphine. Herbal cannabis and its derivatives are eaten, smoked or used as tinctures, topical salves and herbal packs, depending on

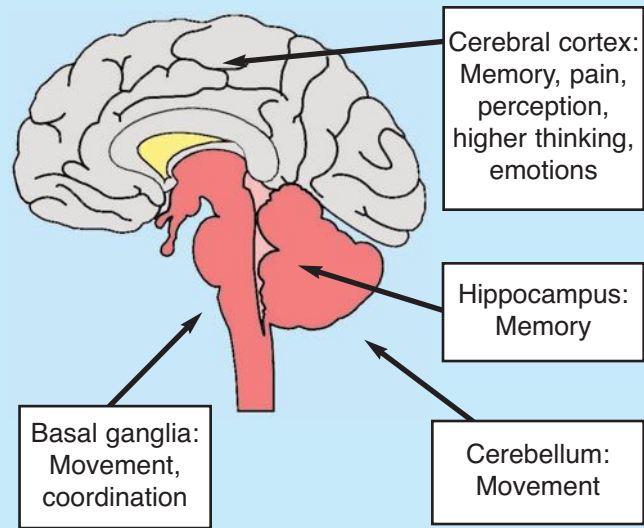
Partial list of health conditions for which medical marijuana is used

Cannabis resin and its derivatives have long been used to treat symptoms of many health conditions or to synergize or control the side effects of other drugs, particularly in chemotherapy.

Among these maladies are:

ADD / ADHD, AIDS, anorexia, anxiety, arthritis, asthma, ataxia, bipolar, cachexia, cancer, chronic fatigue, chronic pain, cramps, Crohn's, depression, epilepsy, fever, glaucoma (progressive blindness), HIV, insomnia, migraine, MS, nausea, neuralgia, neuropathy, PMS, PTSD, rheumatism, sickle cell anemia, spasms, spinal injury, stress, vomiting, wasting syndrome.

THC receptors in the human brain affect mood, movement, pain



the condition being treated. Furthermore, hemp seeds are nutritious and work as a gentle laxative.

In general, cannabis is used to treat symptoms rather than to cure disease. Since many health problems cause similar symptoms, however, this means that people with a wide variety of diseases, injuries and congenital maladies all benefit at a basic level: Relief from physical or mental suffering. The intensity and duration of the symptom often dictates the pattern of use.

Of course, no drug works equally well for all people in all circumstances. For some people cannabis is like a miracle drug, while for others it may offer no benefit. Effectiveness is linked to dosage. Some patients find that small amounts suffice, while others need heavy, ongoing dosages to function.

Cannabis bud has a combination of special compounds called cannabinoids that affect various body systems simultaneously at allopathic and homeopathic doses. Not all strains work equally well in treating specific problems. For example, a variety that reduces nausea and stimulates appetite may not be as effective at controlling aches, pains or insomnia. Only certain strains of cannabis plants produce THC at sufficient levels to be used for medical marijuana.

Hempseed has no drug effect. It is a nut-like fruit that contains eight proteins in excellent nutritional balance plus essential fatty acids that bolster the immune system and may even reduce "bad" cholesterol levels. There are many ways to prepare hempseed, especially now that it is available in a dehulled form. Its oil is used in many foods, salves, lotions, hygiene, health and body care and other products that are already on the commercial market.

SUMMARY MEDICAL EFFECTS OF RESINOUS CANNABIS HEMP (MEDICAL MARIJUANA)

1. Cannabinoids stimulate special receptor sites on the **brain** that affect body systems, triggering a chain of temporary psychological and physiological effects. Initially it has a stimulant effect, followed by relaxation and overall reduction in stress. Analgesic effect. Blocks migraine or seizures. Helps mitigate or control symptoms of multiple sclerosis (MS), spinal injury, epilepsy. Enhances sense of humor and of well-being. Cannabis has synergistic effects with opiates and other drugs. Not all cannabis has the same potency or effect. May cause drowsiness, distraction, paranoia or anxiety.

2. Cannabis reddens and dehydrates the **eyes**, lowers intra-ocular pressure.

3. Stills ringing in **ears** (tinnitus).

4. Dehydrates the **mouth**, stimulates appetite, enhances flavors and taste.

5. Smoked or vaporized, cannabis has anti-phlegmatic and expectorant effects to clear the **throat and lungs**. Its bronchodilator effect improves oxygen intake for asthma. Smoke can irritate the mouth, throat and respiratory system, but vaporization, oral ingestion and other precautions can mitigate this.

6. Accelerates **heart** beat and pulse. Dilates bronchia, alveoli and blood vessels. When cannabinoids are inhaled, the lungs and cardiovascular system add them to the bloodstream flowing directly to the brain. This is an extremely fast and effective delivery system.

7. Stimulates appetite. Settles the gastrointestinal tract. Calms **stomach**. Reduces nausea and vomiting (antiemetic). Soothes motion sickness and various side effects of radiation and chemotherapy.

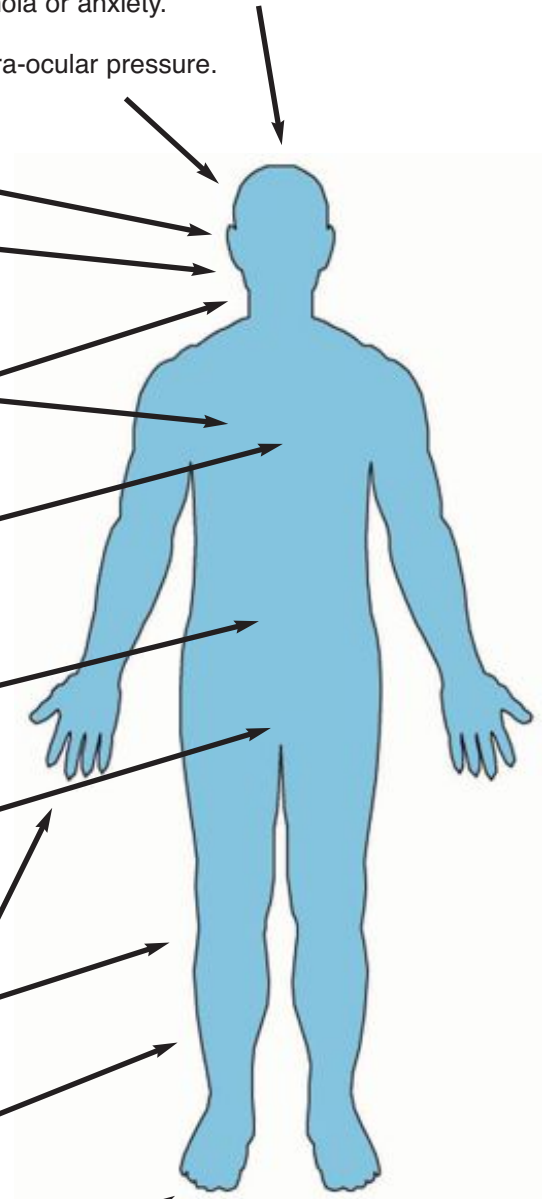
8. Little or no effect on **reproductive** system. Cannabinoids cross the placenta without mutagenic effect. Used as a mild aphrodisiac and to enhance the sensual experience.

9. Soothes **joints**. Analgesic effect reduces pain. Anti-inflammatory, helps arthritis and rheumatism when taken orally or applied topically.

10. Relaxes **muscles**. Reduces muscle cramps, convulsions, spasms, ataxia and other neurological or movement disorders.

11. Vasodilation carries blood more quickly from the extremities, lowering overall body temperature. Helps reduce fever.

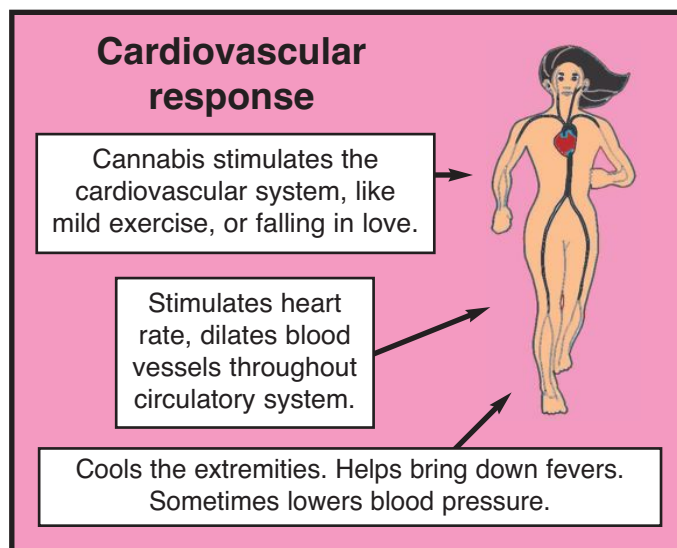
12. The body's **fatty tissues** collect inert cannabinoids for harmless disposal through urine or feces.



SYSTEMIC EFFECTS, SYMPTOMATIC RELIEF

The cannabinoids attach to special receptor sites in the brain and other parts of the body. While much is known about how they affect the body in general, some of the mechanisms remain unknown, and their effect on the individual can vary greatly. The general scope of effect on body systems and symptom mitigations make cannabis therapeutics beneficial for many diseases, some of which are specified in state laws. California allows its use for listed health problems plus “any other condition” that a physician approves.

Personal research with the approval of a physician is the safest way for any given patient to determine its potential. How does one know where to start? First look at what specific symptoms need to be treated, then see if there are any negative effects that contraindicate its use. That will help a patient to identify the appropriate form, dosage and means of ingestion. Cannabis is exceptionally safe, physically. Not one single death due to cannabis overdose has ever been reliably reported in medical history. Its smoke does not cause cancer, but patients with emphysema, lung cancer or personal preference may choose a different means of ingestion.



Here are some common uses for medical marijuana:

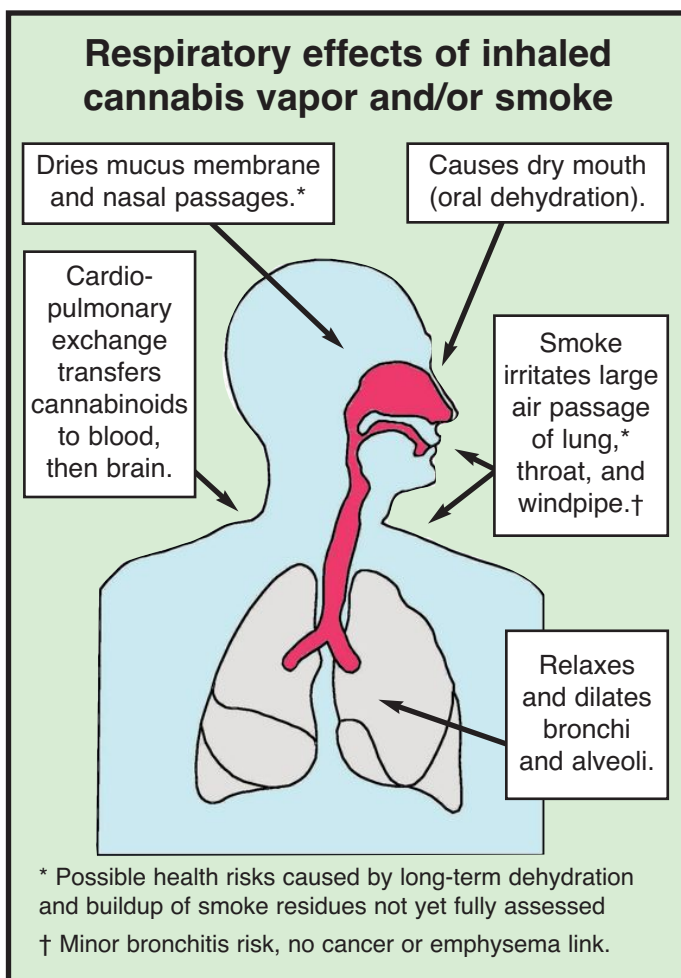
CANCER, AIDS / HIV: Cannabis reduces the gut-wrenching nausea caused by chemotherapy (and radiation therapy), while it stimulates the appetite to help patients eat and combat excessive weight loss (the wasting syndrome) and cachexia. It reduces pain and helps cancer patients sleep and rest. It often raises the patients’ spirits and mood, improving their will to live and chance of recovery. Direct application of THC *in vitro* shows promise as a tumor-killing or reducing agent and also kills the herpes virus.

PAIN: Pain control is possible not only by consuming cannabis flowers, but possibly even the leaves, because, along with THC, cannabidiol (CBD) seems to have a major analgesic (pain lowering) effect. Not all pain responds to cannabinoids, but some of the most troublesome ones do. Neuropathy and neuralgia both respond well, while acute injury pain gets less immediate relief but eventually feels diminished. Cannabis has synergistic effects with opiates and other drugs, so pain patients can reduce their dosages of prescription drugs that have adverse side effects.

MIGRAINE: Cannabis is frequently used to treat migraine headaches. It helps reduce light sensitivity, nausea, vomiting, and pain, and can be consumed regularly to prevent attacks from occurring or to as needed to reduce the severity of an acute headache. Stress-induced headaches can also be mitigated.

MS: Multiple Sclerosis is characterized by increasing neuropathic pain and degenerative loss of muscle control in two forms: involuntary movements (spasms) and the inability to move (ataxia). Cannabis helps improve movement affected by each of these, while reducing or stopping the pain and related depression.

GLAUCOMA: Most sufferers of glaucoma, one of the world’s leading causes of tunnel vision and blindness, could benefit from cannabis, which reduces pressure in



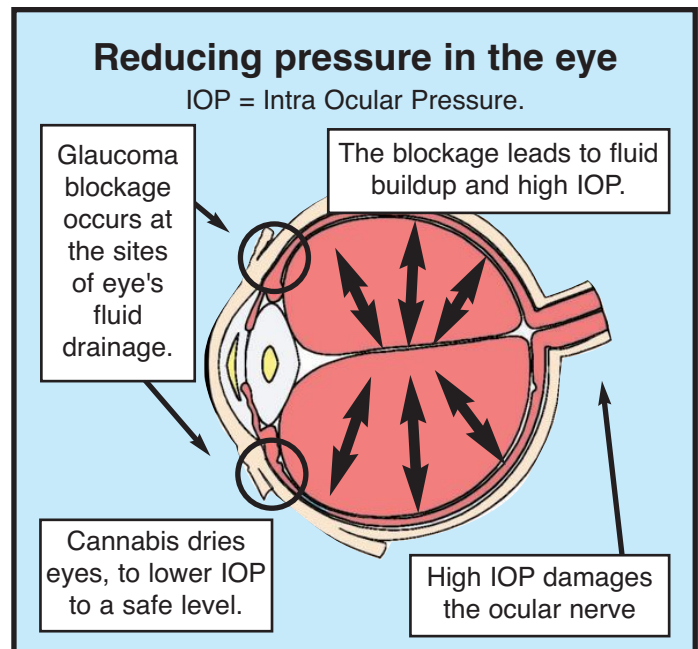
the eye caused by ocular fluid buildup. Its exact mechanism is unknown. Surgery poses severe risk to the eyes and pharmaceuticals hold dangerous side effects, such as liver damage. Regular cannabis use can often halt this painful progressive vision loss by lowering the fluid pressure within the eye. When symptoms appear, smoking can stop an acute attack.

EPILEPSY / SEIZURES: Cannabis can calm down overactive nerves, alleviating seizures that may be caused by a deficiency of natural endocannabinoids.

“One of marijuana’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; ... Marijuana is also far less addictive and far less subject to abuse than many drugs now used as muscle relaxants, hypnotics, and analgesics. ... The ostensible indifference of physicians should no longer be used as a justification for keeping this medicine in the shadows.”

— *Journal of the American Medical Association*
June 21, 1995. Commentary. p. 1874-1875

ANXIETY, HEART DISEASE: As a major contributor to heart disease, anxiety-induced stress may be the number one killer in America. Cannabis promotes relaxation, reduces mental agitation, anger and anxiety and



lends a sense of humor. It can lower blood pressure. Contraindication: When fast heartbeat poses risk.

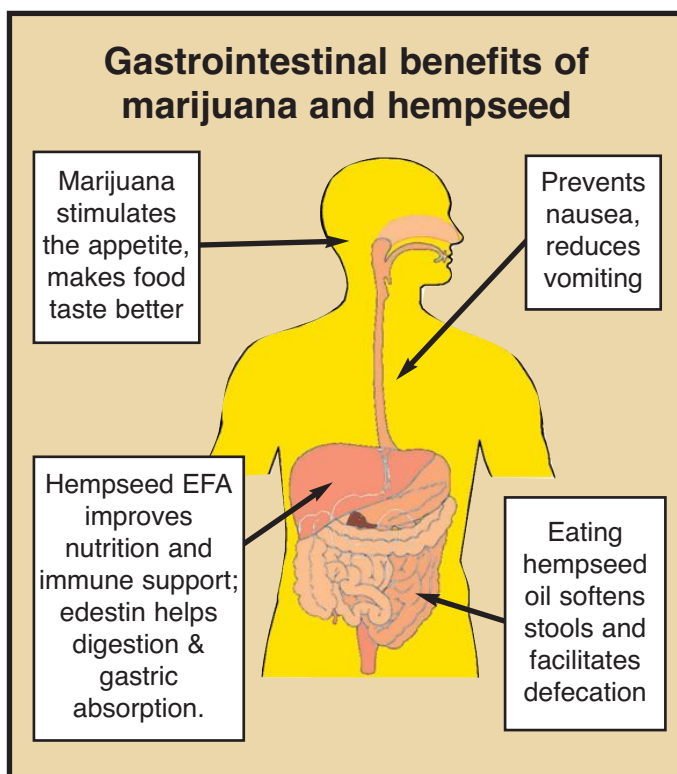
ARTHRITIS: Eating or smoking cannabis helps control joint pain, reduce inflammation and improve mobility. A traditional treatment for rheumatism and arthritis is to soak cannabis leaves in rubbing alcohol and wrap them around the sore joints to reduce swelling and pain, and ease movement. A general use topical antibiotic is made by straining the plant matter out and using the cannabinoids suspended in alcohol.

MENTAL HEALTH: Cannabis enhances sensory experiences such as enjoyment of music and art, and has long been regarded as a mild aphrodisiac. It can stimulate inspiration and critical thinking, increase motivation and reduce malaise such as chronic fatigue syndrome. It is anti-depressant and helps people with attention deficit (ADD / ADHD) to better focus and concentrate. It can stabilize bipolar mood swings and may also help with memory, such as with Alzheimer’s and senility. Studies on veterans show it helps reduce nightmares and rage caused by PTSD. Contraindication: Possibly schizophrenia. May cause paranoia or panic attack.

ABLE-BODIED YOUNG MAN SYNDROME: When an apparently able-bodied young person has a doctor’s note, people may assume that they don’t use cannabis as medicine and “just want to get high.” However:

- A person does not have to look sick to be sick.
- You can’t see pain, and patients may try to hide it.
- Mental illness is not visible to the naked eye.
- If cannabis is working, a patient may appear healthy; in fact, one should hope that they feel well as can be.

For these and other reasons, it is up to the patient to make the determination with a physician as to whether cannabis is the right medicine for them.



DAILY THERAPEUTIC USE

Titrating medical marijuana dosages

Most people are familiar with the use of smoked marijuana for symptomatic relief of chronic and acute health disorders, but there is much more to know about this traditional herbal remedy.

“Its margin of safety is immense and underscores the lack of any meaningful danger in using not only daily doses in the 3.5 – 9 gram range, but also considerably higher doses.”

— **David Bearman, M.D.**

Physician, researcher, court-qualified cannabis expert

The phrase “medical marijuana,” as commonly used, refers to the cured, mature female flowers of high-potency strains of cannabis or a conversion thereof. Since cannabis is an annual plant, it is logical to measure its use as an annual dosage. Many patients need three pounds of bud or more per year. A smaller number of daily use patients smoke six, nine, 12 pounds or more per year for chronic conditions, but dosage varies with each person and how they consume it.

Potency is one factor, but other concerns affect titration, as well. “Whether a one gram marijuana cigarette contains 2% or 8% THC, the cigarette will generally be smoked so as to deliver the smoker’s desired cannabinoid dose,” NIDA researcher Dr. Reese Jones noted in the UC San Francisco CME class syllabus *Cannabis Therapy* (June 10, 2000, p. 315).

Chronic pain patients tend to use larger amounts, while

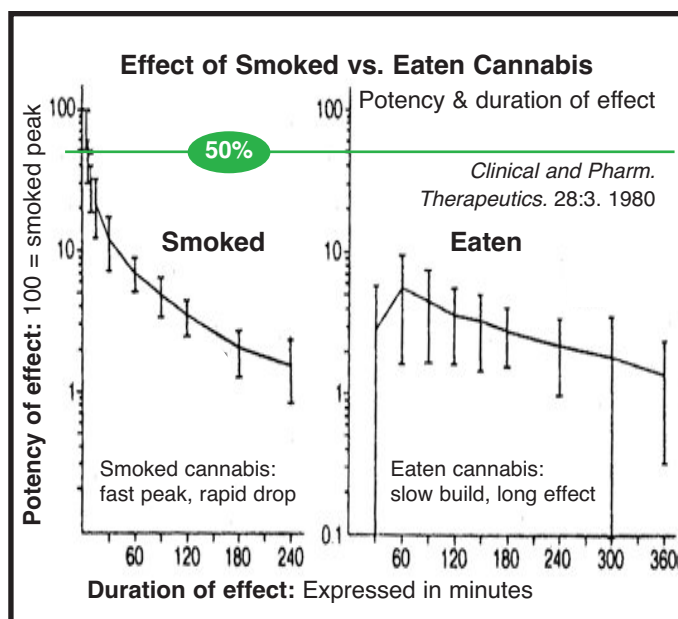
Table 2: Daily smoked dosages

A single cigarette per day weighing less than one gram equates to roughly one ounce per month, or 12 ounces per year.

The national average weight of a cannabis cigarette ranges from 0.5 to one gram each, according to NIDA, the federal National Institute on Drug Abuse.

Some patients consume small cigarettes to conserve their medicine, but for a patient who consumes one gram cigarettes, an ounce (28.3 grams) offers less than one cigarette per day for a month. Furthermore, stem and possibly seeds must be cleaned out of cannabis before it is used. A patient who gets 24 cleaned grams per ounce can roll 30 cigarettes at 0.8 grams each, one per day for a month. However, many patients must smoke cannabis throughout the day.

Three to five average-size cannabis cigarettes per day comes to about one ounce a week, or 3.25 pounds in a year.



acute and terminal patients may use less. Conditions like glaucoma or MS may require continuous use to prevent attacks. Health conditions may periodically or cyclically improve or get worse, causing usage to fall or rise. Some require daily and multiple-daily dosages.

The means of ingestion also affects patient dosage. Smoked cannabis provides rapid and efficient delivery. Most patients consume it this way, but some wish to avoid the smoke. “Vaporizing” it (heat without combustion) may require twice as much. NIDA estimates that eating requires three to five times the smoked dosage. This means that a patient who smokes a pound per year needs about four pounds for the same effect if they eat it, although often they prefer a combination of the two. When eaten, cannabis’ effects are spread out over a longer period of time (see graph). This may be particularly good for sleep or situations where smoking is impractical or impossible, but due to its delayed onset and varied metabolic activity, eaten is hard to titrate. Consumable goods spoil over time, there is a learning curve to prepare recipes, and not every attempt produces usable medicine. Making keif, hash, tinctures, oil, extracts, topical salves and liniment all require ample amounts of cannabis. Patients need an accurate scale to measure, track and titrate their own personal dosage and supply of cannabis.

All patients have the need to obtain and possess an adequate supply for some period of future need. Since patients can’t simply go to the pharmacy to get this medicine, they are forced to stockpile. From three to six pounds is reasonable as a personal supply. Potency diminishes with age, but cannabis can be stored in a cool, dry, dark place for years on end without significant loss of effect.

USABLE MEDICAL MARIJUANA & CONVERSIONS

Plant, tend, harvest, prepare and store

Cannabis takes root as either seedlings or cuttings (clones). Later, male plants are cut out of the garden to prevent pollination. Female plants grow to full maturity before being cut and harvested. About 75% of the fresh weight is moisture that is lost in the drying process.

“[T]he quantity possessed by the patient or the primary caregiver, and the form and manner in which it is possessed, should be reasonably related to the patient’s current medical needs.”

— *California Court of Appeals,
People v. Trippet (1997)*

Almost half of the dried plant matter is stem; only about a quarter (18% to 28%) remains after the herb is cured and manicured into medical-grade bud. This bud portion of the plant has a coating of resin glands that contain cannabinoids, the active compounds.

Since different kinds of cannabis have distinct medicinal benefits, genetics are critical. Breeding is preferably done through selection from among very large numbers — hundreds or even thousands — of individual plants. The list below shows just a few of the ways cannabis is prepared or converted and utilized by patients, caregivers, collectives and cooperatives.

Inhaled cannabis: smoked, vaporized, converted

- Bud: the dried, manicured mature female cannabis flower
- Sinsemilla: seedless cannabis bud
- Kef: (keif, kif, kief): powdery resin glands (trichome)
- Hashish: compressed resin glands
- Oil: (Hash or grass) liquefied resin glands

Eaten: oral ingestion

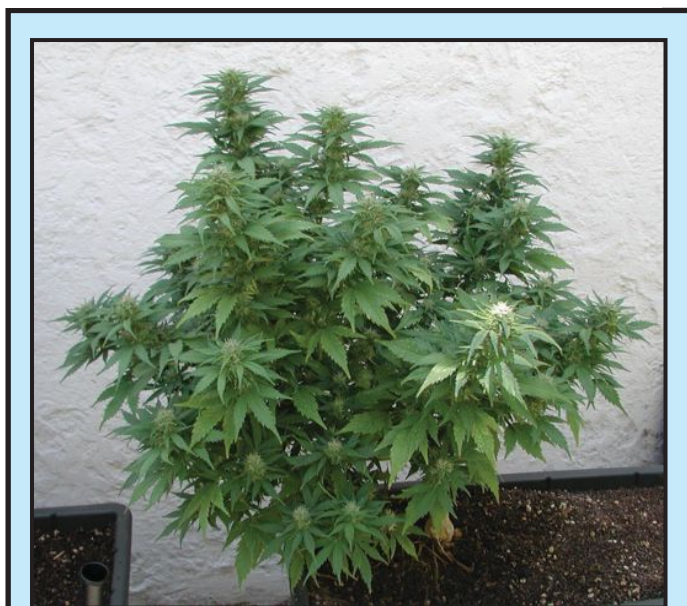
- All the various forms listed above can be heated and eaten
- Butter: used for cooking or baking edibles
- Tinctures: ethyl alcohol (liquor)-based, by the dropper
- Food: Pastries, candies, sauce using any of the above
- Mari-pills: encapsulated cannabis in oil
- Marinol: Dronabinol, synthetic THC sold by prescription

Topical use: external, transdermal application

- Salve: cream or oil-based compounds or suspensions
- Tincture: ethyl alcohol (liquor)-based suspensions
- Liniment: isopropyl (rubbing) alcohol-based or DMSO-based suspensions

Pending means of ingestion

- Sativex: cannabinoid inhalers (similar to asthma inhalers)
- GW Pharmaceuticals product (not available in USA)



Mature female cannabis plants, like the one shown above, produce buds with the concentrated medicinal compounds. Male plants are unusable, and so are promptly removed and destroyed unless pollen is desired for seeds. After the first appearance of their flowers, it typically takes months for female bud to fully mature. According to the federal *Cannabis Yields* study, only about 7% of the freshly cut mature plant weight becomes dried, manicured medical-grade bud.



“Only the dried mature processed flowers of female cannabis plant or the plant conversion shall be considered when determining allowable quantities of marijuana under this section.”

— California Health and Safety Code 11362.77(d)



Patients often roll cigarettes well over 1.0 grams. In this case, a single dosage unit weighed 1.6 grams.

FEDERAL CANNABIS GARDEN AND YIELD STUDY

Table 3: Average leaf plus flower yields at maturity for high planting densities

Sponsor	Year	Density	Yield*	Seed Stock
Univ of MS	1985	9 ft. sq.	222 grams	Mexico
Univ of MS	1986	9 ft. sq.	274 grams	Mexico
DEA	1990	18 ft. sq.	233 grams	Colombia
DEA	1991	9 ft. sq.	215 grams	Mexico



*Yield: Oven dry weight of usable **leaf and bud** from mature 120 day or older plants.

Source: *Cannabis Yields*. US Department of Justice (DOJ), Drug Enforcement Administration (DEA), 1992. Table 1, page 3.

The canopy size predicts yield

The US Drug Enforcement Administration (DEA) conducted scientific research with the National Institute on Drug Abuse (NIDA) at the University of Mississippi, published in the 1992 DOJ report, *Cannabis Yields*. Both seeded and sinsemilla plants of several seed varieties were measured. The NIDA data in Table 3 includes leaf with the bud, and therefore requires an additional adjustment to arrive at the true garden yield below.

Canopy is a term used in agriculture to describe the foliage of growing plants. The area shaded by foliage is called the canopy cover. The data on this page are based on the higher yielding, more potent seedless buds, sinsemilla. The federal field data show that, on average, each square foot of mature, female outdoor canopy yields less than a half-ounce of dried and manicured bud (Table 4), consistent with growers' reports and gardens that have been seized by police as evidence and I have later weighed and examined.

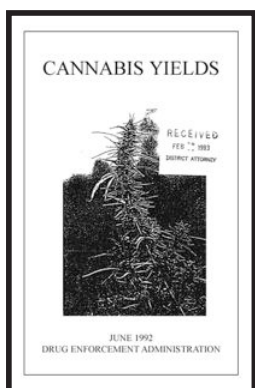
All other things being equal, a large garden will always yield more than a small one, no matter how many plants it contains. This is true for skilled and unskilled gardener alike. Restricting canopy will therefore limit any garden's total bud yield, no matter which growing technique is used or how many plants make up the combined canopy cover. Most patients can meet their medical need with 100 square feet of garden canopy.

SINSEMILLA CANOPY

52% LEAF
Low potency /
Waste matter

48% BUD
Medical grade
Source: DEA

Ratio of sinsemilla bud to leaf, excluding stems and branches.



Dry Sinsemilla Cannabis Components

Source: *Cannabis Yields*. US DOJ/DEA. 1992. Figure 2, page 5.

LEAF 30%

BUD 28%

STEM / BRANCHES 42%

Percent oven dry weight for 90 day or older plants which did not have any seed development

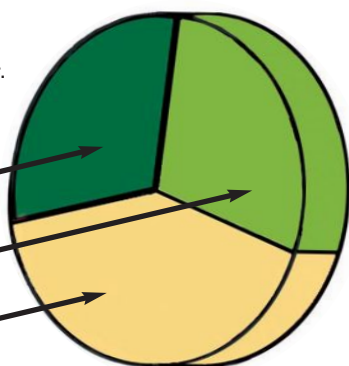


Table 4: Sinsemilla bud yields, per square foot of garden canopy

(Oven dry. calculated from the DEA data above.)

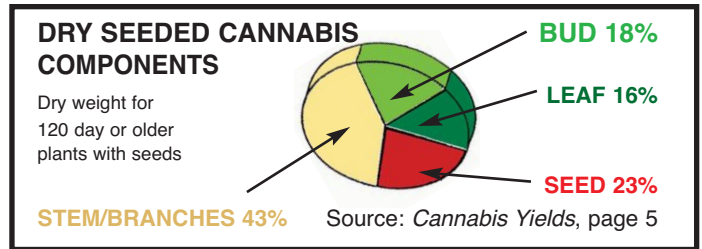
222 grams x 0.48 = 106.56 g	
(3.76 oz) ÷ 9 square feet =	0.41 ounce
274 grams x 0.48 = 131.52 g	
(4.64 oz) ÷ 9 square feet =	0.51 ounce
233 grams x 0.48 = 111.84 g	
(3.95 oz) ÷ 18 square feet =	0.21 ounce
215 grams x 0.48 = 103.2 g	
(3.64 oz) ÷ 9 square feet =	0.40 ounce
Average plant canopy size:	11.25 square feet
Average oven-dry bud yield per plant:	4 ounces
Average oven-dry bud per square foot:	0.38 ounce
Average air-dry bud* per square foot:	0.41 ounce
(* Adds 10% moisture, per the IND suggestion)	

GARDEN ADVERSITY

Pollen, pests and plant problems

Contrary to cannabis' reputation as a weed, it is not so easy to grow quality medicine. Not all gardens have ideal conditions and few patients are trained botanists. The NIDA field data has a solid scientific basis, but it does not reflect all the realities a patient or caregiver faces in obtaining medical-grade cannabis. It is reliable for a mature female garden grown in optimum conditions, but several key factors must be clarified:

- The NIDA Mississippi garden was grown in ideal conditions with full sunlight and fertile, loose, well-drained soil. Many patient gardens are partially shaded or rely on soils of uncertain pH and quality.
- Trained scientists maintain the NIDA garden. Most patients and caregivers are self-taught from books, may overlook serious problems until too late, and seldom have access to expert advice when needed.
- Only mature female plants were considered in the study. Male plants were removed before NIDA made its



calculations. Statistically, half of all cannabis plants grown from seed are males with no medical value.

- Only healthy plants were considered. Plants that were sick or died were excluded from the study, but in a real garden this can be a very serious problem.
- NIDA had no loss to theft, pests or law enforcement.
- Unreliable police estimates were listed in the back.

Some gardens yield less than average. Some patients need to grow or store more than a year supply at a time for security issues or as a hedge against crop failure.

When seedless (sinsemilla) cannabis goes to seed, the quality drops and net yield of bud goes down by a third (see chart). Female plants may suddenly become hermaphrodite and grow male flowers. Deer, rodents and snails snack on young plants and can destroy an entire garden. White fly, spider mites, mealy bugs, thrips, aphids and scores of other insects feed on cannabis. A power failure can wipe out an indoor crop light cycle. Molds, fungus and mildew may attack a crop at any time, but are most common just before harvest and can make an entire crop unusable. Floods, frost and other bad weather can destroy an entire garden.

Table 5 on the left, using data from the DEA study, shows that even big plants may produce less than an eighth of an ounce per square foot. After you remove seeds, that leaves a tenth of an ounce — 1/5 as much as its projected yield, and requiring 500 square feet to obtain three pounds of bud and 1000 square feet for six pounds.

Despite its variables and shortcomings, the best way to estimate crop yields is still measured by the acre — or, in the case of cannabis bud, by the square foot.

Table 5: Big plants can have reduced canopy yields

Source: Cannabis Yields. US DOJ / DEA. 1992. Table 2, page 3

Average Cannabis Yields at Maturity for Low Planting Densities

Sponsor	Year	Density	Gross Yield*	Seed Stock
DEA-A	1990	81 ft.sq.	777 grams (27.3 ounces)	Mexico
DEA-B	1990	81 ft.sq.	936 grams (32.8 ounces)	Mexico
DEA-C	1990	81 ft.sq.	640 grams (22.5 ounces)	Mexico
DEA	1991	72 ft.sq.	1015 grams (35.6 ounces)	Mexico
DEA	1991	36 ft.sq.	860 grams (30.2 ounces)	Mexico

* Yield = Dry usable leaf and bud from mature 120 day or older plants.

Calculations using the DEA canopy yield formulae*

* Whereas 48% of gross sinsemilla yield is bud, only 32% of seeded yield is bud.

NIDA leaf plus bud yields	Sinsemilla bud net	Clean seeded bud
A: 27.3 ounces foliage	x 0.48 = 13.1oz	x 0.32 = 8.7oz net
B: 32.8 ounces foliage	x 0.48 = 15.7oz	x 0.32 = 10.4oz net
C: 22.5 ounces foliage	x 0.48 = 10.8oz	x 0.32 = 7.2oz net
DEA: 35.6 ounces	x 0.48 = 17.0oz	x 0.32 = 11.4oz net
DEA: 30.2 ounces	x 0.48 = 14.5oz	x 0.32 = 9.7oz net

Cannabis bud yields per square foot based on low density field data

NIDA leaf and bud yields	Sinsemilla bud net	Clean seeded bud
27.3 ÷ 81 sq' = 0.34oz/sq'	x 0.48 = 0.16oz/sq.ft.	x 0.32 = 0.11oz/sq.ft.
32.8 ÷ 81 sq' = 0.40oz/sq'	x 0.48 = 0.19oz/sq.ft.	x 0.32 = 0.13oz/sq.ft.
22.5 ÷ 81 sq' = 0.27oz/sq'	x 0.48 = 0.13oz/sq.ft.	x 0.32 = 0.09oz/sq.ft.
35.6 ÷ 72 sq' = 0.49oz/sq'	x 0.48 = 0.24oz/sq.ft.	x 0.32 = 0.16oz/sq.ft.
30.2 ÷ 36 sq' = 0.83oz/sq'	x 0.48 = 0.40oz/sq.ft.	x 0.32 = 0.27oz/sq.ft.

INDOORS / OUTDOORS

Different methods, similar yields

Depending on their interest and abilities, individuals may plant a medicine garden outdoors or inside, under electric lamps. Most patients have difficulty gauging their future yield, so barring clear evidence of sales or diversion, even seemingly large gardens may be honest efforts to comply. California Narcotics Officers Association trainer and Bureau of Narcotics Enforcement expert Earl "Mick" Mollica, testified on December 15, 2000 (*People v. Urziceanu*, Sacramento), "I have seen plants that produce a quarter gram per plant, 900 of them." (900 plants times 0.25 grams equals 225 grams, just less than eight ounces.)

Some harvests are better or worse for each grower. Some growers get better yields than others, but most fall in the middle, so using the average is the most reasonable basis to make projections. Outdoor plants typically yield more bud at one harvest per year. Indoor plants each yield less, but allow multiple harvests. Either way, it takes about 200 square feet of garden canopy to obtain six pounds of bud per year.

Outdoors: With a typical growing season that lasts from March or April into September or October, outdoor plants have a long time to grow and usually much more space to spread out, so they tend to be larger.

Half the plants grown from cannabis seed are males that are worthless for marijuana. That's why outdoor canopy should not be evaluated until flowering is fully underway, usually in August. After that, males are eliminated, leaving gaps in the canopy and giving a better sense of the useable canopy size. Plant canopy need not be continuous. A backyard garden often has plants

Outdoors: All plants mature together

Plants grow together throughout the season. When flowering begins, the male plants are destroyed.

100 square feet of mature female canopy from seed or clone is harvested at one time, with a total yield of ± 50 ounces (3.1 pounds) of bud to last the entire year.

of different sizes scattered over a wide area. Measure and calculate each plant's individual canopy then add the total to find the actual area of a garden; e.g., 11 round plants each having a 42" diameter (9 square feet) totals 99 square feet of canopy cover.

The remaining plants are killed with only one harvest per year. To obtain three pounds of sinsemilla bud from 100 square feet of canopy requires a yield of 0.48 ounces per square feet. While the DEA data show an oven-dried average of 0.38 ounces per square foot, by



More harvests, smaller plants: Indoor gardens often grow many small plants rather than a few big ones. This dry, mature female plant weighed nine grams including stem, leaf and roots, yielding less than three grams of finished bud: 1/10 ounce. It takes 80 plants this size to yield eight ounces of finished sinsemilla bud.

WARNING: Electrical overloads and lamp heat can cause fires. Be sure your wiring is up to code. Most homes cannot support more than 3500 extra watts. Also beware of flooding, mold and odors.

using better genetics, a good grower often harvest a half-ounce of air-cured bud per square foot outdoors.

Indoors: A personal indoor garden typically fits into one or two average size rooms using electric lamps, fans and basic garden supplies. While an indoor garden is typically harvested three times a year, its annual yield is often about the same as outdoors.

Only part of an indoor garden is used for flowering at any given time. The rest is nursery and vegetative area that does not produce bud. Cannabis is light sensitive, so a barrier must separate vegetative from flowering areas. If half a 100 square foot area is used to obtain flowers three times a year, a total of 150 square feet of bud canopy is harvested. The typical indoor yield range is 0.25 to 0.5 ounces per square foot, averaging 0.38 ounces, so those 150 square feet should yield 56.25 ounces (3.5 pounds), just over one ounce per week.

Once a patient has an adequate supply, they can periodically shut down an indoor flowering area but keep the nursery going for future use. Any supply of cannabis or garden canopy that is larger than the local guidelines or statewide default amounts should be accompanied by a physician's written authorization whenever possible. This allows for a small buffer against adversity and crop loss and lets law enforcement know that the supply is legitimate for the patient's current needs.

Indoors: Two distinct stages of growth

About half of the area is used for flowering females and harvested three times per year, for a total of 56.25 ounces.

The other half is for mothers, seedlings, clones and young plants that are used to refill the flowering area as needed.

MEASURING CANOPY

Larger gardens give bigger yields

Some people can grow bushy plants outdoors, others need to grow small "Sea of Green" gardens with tiny plants indoors. Safe Access Now garden guidelines are easy to use and follow for either circumstance. All you need is a tape measure to calculate the canopy size.

Consider the overall plant and garden configuration, layout and density, then do the math:

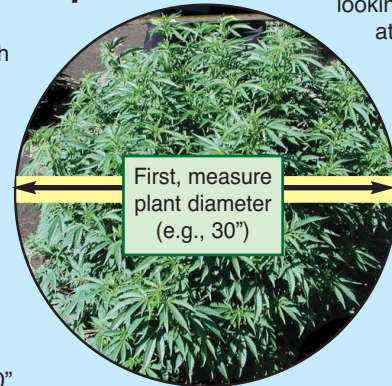
- 1) If a garden is rectangular and densely filled-in (no gaps or open areas), measure the length and width and multiply to find square footage. Some examples: 4'x8' bed = 32 square feet. 4'x25' = 100 sq. ft. 8'x12.5' = 100 sq. ft.
- 2) If a garden is rectangular and mostly filled-in, but has pathways or gaps between plants, calculate the overall area in square feet then subtract open spaces to find the garden's net square footage. Example: 12'x12' greenhouse = 144 sq. ft minus 44 sq. ft open space = 100 sq. ft actual canopy area.
- 3) If a garden is irregular in shape or isolated plants are scattered throughout an open area, measure individual plant canopies or patches of filled-in area that the plants occupy, not the open space between them. Calculate for each plant or patch and repeat; add to find the garden total.

Remember that indoors or out, only the mature flowering area provides usable cannabis bud. After they are ripe, the plants must still be cut, dried, manicured, cured and processed before they are ready to use.

Outdoor Example

Aerial view, looking down at a plant

A single plant with rounded canopy 30" in diameter covers almost 5 square feet of area



Example:

Plant diameter 30"
 Area = π (pi) radius squared
 Find radius: $30 \div 2 = 15$ "
 Area = π (pi) x (15 x 15)
 $A = 3.14 \times 225 = 706.5$ sq. in.
 $706.5 \div 144$ sq. in* = 4.9 sq. ft
 Result: Canopy = 4.9 sq. ft.

Short cut:

Area = diameter sq. x 0.7854
 Diameter sq. = $30 \times 30 = 900$
 $900 \times 0.7854 = 706.86$ sq. in.
 $706.86 \div 144^* = 4.9$ sq. ft.
 *1 square foot = 144 square inches

Many small plants or a few big ones

The following reference chart shows how many rounded plants of similar size can fit within 100 square feet of total garden canopy:

	Individual plant size
1 plant at 9-11' diameter each	64 to 95 sq'
2 at 7-8' diameter	38 to 50 sq'
3 at 6' diameter	28 sq'
5 at 5' diameter	20 sq'
7 at 4' diameter	12.6 sq'
14 at 3' diameter (typical outdoor girth)	7 sq'
33 plants at 2' diameter	3 sq'
99 plants at 1.25' diameter	1 sq'
125 plants at 1' diameter.	0.7854 sq'

Most gardens naturally produce an assortment of plants of different sizes. A typical mature outdoor garden might hold two plants at 4' diameter, six at 3', four at 2' and 12 at 1' diameter for a total of 24 plants in 92 square feet. A typical indoor garden might include 12 flowering plants in 32 sq' area, 24 vegetative in 32 sq', 4 mothers in 24 sq', and 48 starters in 8 sq', for a garden total of 88 plants in 96 square feet.

How many are too many? It depends. Since a few large cannabis plants can out-produce hundreds of small ones, the number of plants in a garden cannot accurately predict yield. Canopy indicates a garden's likely yield without counting plants, knowing if they are seedlings or clones, etc. A 99-plant cap fits below the federal five year mandatory sentence and ensures that state jurisdiction applies. The California default guidelines in SB 420 protect from arrest only eight ounces of bud and six mature or 12 immature cannabis plants per patient.

Indoor Example

8 + 24 + 32 + 32 = 96 sq. ft.



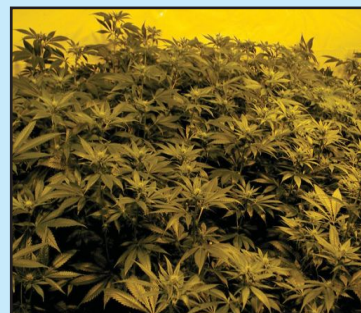
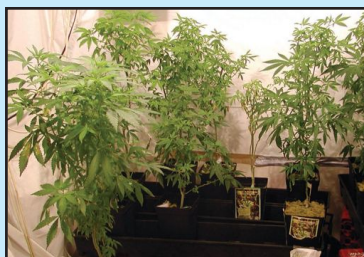
Nursery: Starter plants (seedlings or clones) in a 4'x2' tray = 8 square feet

Vegetative plants in a 4'x8' tray = 32 square feet



Flowering female plants in a 4'x8' tray = 32 square feet

Mother plants growing in a 6'x4' area = 24 square feet



FEDERAL LAW

Citing the Commerce Clause of the US Constitution, in 1970 Congress passed the *Controlled Substances Act* setting up five *Schedules* to place classified drugs under different levels of control. The DEA prohibits cultivation of cannabis and manufacture and dispensing of natural derivatives by placing them in Schedule I. Doctors are forbidden to *prescribe* cannabis, but they can *recommend* or *approve* its use. They cannot help patients obtain it. *Marinol™* — synthetic THC in gel capsules — is available by prescription in Schedule III.

Penalties for possessing a federal controlled substance may include up to a year in prison, a fine, or both. Subsequent violations: 90 days to three years plus a fine. Action or conspiracy to cultivate up to 50 plants or distribute up to 50 kilograms of cannabis, 10 kilos of hash, or one kilo of hash oil draw fines and a sentence up to five years. More than 100 kilos or 100 plants: a mandatory five-year sentence. For 1000 kilos or 1000 plants, a mandatory 10 years, plus fines. Property including real estate, money, vehicles, securities or other things of value that can be connected to violations of federal drug law are subject to confiscation by the US government (21USC 841, 844, 844a, 881).

There is currently no medical marijuana exception.

Conant: Doctors can approve cannabis

The Ninth Circuit affirmed a physician's First Amendment right to speak to a patient without fear of arrest in 2002. *Conant v. Walters* was appealed, but the US Supreme Court denied cert, confirming its validity.

The order enjoins the federal government from either revoking a physician's license to prescribe controlled substances or conducting an investigation of a physician that might lead to such revocation, where the basis for the government's action is solely the physician's professional 'recommendation' of the use of medical marijuana. ... The government has not provided any empirical evidence to demonstrate that this injunction interferes with or threatens to interfere with any legitimate law enforcement activities. Nor is there any evidence that the similarly phrased preliminary injunction that preceded this injunction, *Conant v. McCaffrey*, which the government did not appeal, interfered with law enforcement. The district court, on the other hand, explained convincingly when it entered both the earlier

Controlled Substances Act of 1970

Criteria for the highest [prohibited] drug schedule in US Code Title 21 Section 812(b):

Schedule I (includes heroin, cannabis) requirements:

- A. The substance has a high potential for abuse.
- B. The substance has no currently accepted medical use in treatment in the United States, AND
- C. There is a lack of accepted safety for use of the drug or other substance under medical supervision.



Left to Right: David Michael, Diane Monson, Randy Barnett, Angel McClary Raich and Robert Raich argued for patients' medical rights at the Ninth Circuit Court of Appeals in San Francisco on Oct. 7, 2003, and won a brief reprieve.

preliminary injunction and this permanent injunction, how the government's professed enforcement policy threatens to interfere with expression protected by the First Amendment.

— *Conant v. Walters* (9th Cir 2002) 309 F.3d 629, Cert denied Oct. 14, 2003

OCBC: Sales subject to federal ban

The Supreme Court held in *US v. Oakland Cannabis Buyers' Coop.* that the doctrine of "medical necessity" does not give marijuana providers a defense against federal distribution charges, even within state borders to seriously ill patients who have tried all other alternatives. It did not rule on individual necessity.

[T]he Controlled Substances Act ... reflects a determination that marijuana has no medical benefits worthy of an exception (outside the confines of a Government-approved research project).

— *US v. OCBC*, 532 U.S. S.Ct. 483, 491 (2001).

Raich: Feds can prosecute patients

The Ninth Circuit's historic *Raich v. Ashcroft* ruling held that the Interstate Commerce clause cannot ban non-commercial cannabis in a state where it is legal. However, a divided US Supreme Court reversed *Raich* on June 6, 2005 in a blow to patients and States Rights. It did not address substantive due process or medical necessity. It urged Congress to reform federal laws.

The question before us, however, is not whether it is wise to enforce the statute in these circumstances; rather, it is whether Congress' power to regulate interstate markets for medicinal substances encompasses ... drugs produced and consumed locally. ... The authority to grant permission whenever the doctor determines that a patient is afflicted with 'any other illness for which marijuana provides relief,' Cal. H&S §11362.5 is broad enough to allow even the most scrupulous doctor to conclude that some recreational uses would be therapeutic. ... [T]he [CSA] statute authorizes procedures for the reclassification of Schedule I Drugs. Perhaps even more important than these legal avenues is the democratic process, in which the voices of voters allied with these respondents may one day be heard in the halls of Congress. Under the present state of the law, however, the judgment of the Court of Appeals must be vacated.

— *Gonzales v. Raich*, 125 U.S. S.Ct. 2195 (2005)

Jurors can acquit without penalty

It is reasonable for anyone to doubt government "facts" about cannabis and its use. American jurors who reject any case put forth by a prosecutor, and vote to acquit, are not subject to any punishment for doing so.

CALIFORNIA VOTERS PASSED AN INITIATIVE

Proposition 215: The law of the land

In the California Constitution, when a state law conflicts with federal statute, state officials must enforce and follow state law and leave federal law to federal agencies.

An administrative agency, including an administrative agency created by the Constitution or an initiative statute, has no power: ... (c) To declare a statute unenforceable, or to refuse to enforce a statute on the basis that federal law or federal regulations prohibit the enforcement of such statute unless an appellate court has made a determination that the enforcement of such statute is prohibited by federal law or federal regulations.

— California State Constitution Amendment III, Section 3.5

State Attorney General Bill Lockyer announced that the *Raich* “ruling does not overturn California law permitting the use of medical marijuana, but it does uphold a federal regulatory scheme that contradicts the will of California voters and limits the right of states to provide appropriate medical care for its citizens.”

A qualified right to cultivate and use

Proposition 215, *The Compassionate Use Act of 1996*, passed by more than 56% of the vote, allowing doctors to authorize patients and primary caregivers to grow or use cannabis legally. The measure does not limit personal amounts of cannabis that can be grown or possessed, nor did it authorize the legislature or any other entity to set such a limit. It did not legalize sales.

HS 11362.5(c): Notwithstanding any other provision of law, no physician in this state shall be punished, or denied any right or privilege, for having recommended marijuana to a patient for medical purposes.

(d) Section 11357, relating to the possession of marijuana, and Section 11358, relating to the cultivation of marijuana, shall not apply to a patient, or to a patient's primary caregiver, who possesses or cultivates marijuana for the personal medical purposes of the patient upon the written or oral recommendation or approval of a physician.— *California Health and Safety Code*

A qualified individual charged with any amount of cannabis can file a demurrer. They can also assert their immunity in court to get charges dismissed at a preliminary or evidentiary hearing or seek acquittal at trial.

The Appeals Court in *People v. Tilehkooh* (2003) 113 Cal.App.4th 1433, held that a trial court erred in refusing to allow a defendant to present a compassionate use defense at a probation revocation hearing.

CA Appeals Court Trippet Decision

Any amount of cannabis cultivated, possessed or transported must be reasonably related to its current use.

The rule should be that the quantity possessed by the patient or the primary caregiver, and the form and manner in which it is possessed, should be reasonably related to the patient's current medical needs. ... [T]ransportation may be allowed if quantity transported and method, time and distance of transportation are reasonably related to patient's current medical needs.

— CA Court of Appeals, *People v. Trippet* (1997) 56 Cal.App. 4th 1532, 57 Cal.App.4th 754A

CA Supreme Court Mower Decision

Once an approval is shown, the burden shifts to the prosecutor to prove that any cannabis so cultivated or possessed is beyond the scope of Proposition 215.

[A] defendant moving to set aside an indictment or information prior to trial based on his or her status as a qualified patient or primary caregiver may proceed under Penal Code section 995. ... [I]n the absence of reasonable or probable cause to believe that a defendant is guilty of possession or cultivation of marijuana, in view of his or her status as a qualified patient or primary caregiver, the grand jury or the magistrate should not indict or commit the defendant in the first place, but instead should bring the prosecution to an end at that point. ... [I]n light of its language and purpose, section 11362.5(d) must be interpreted to allow a defense at trial. ...

As a result of the enactment of section 11362.5(d), the possession and cultivation of marijuana is no more criminal — so long as its conditions are satisfied — than the possession and acquisition of any prescription drug with a physician's prescription. ... the provision renders possession and cultivation of marijuana noncriminal under the conditions specified.

— CA Supreme Court, *People v. Mower* (2002) 28Cal.4th 457.

CA Appeals Court Spark decision

The Court held in *People v. Spark* that a qualified patient's condition need not be “serious” and that the physician's medical opinion is not on trial.

[A]lthough the prefatory language of subdivision (b)(1)(A) of section 11362.5 contains a reference to “seriously ill Californians,” that subdivision also contains a list of specified illnesses or conditions for which the medical use of marijuana might be “deemed appropriate” and “recommended by a physician who has determined that the person's health would benefit from the use of marijuana in ... treatment.” (Ibid.) The list ends with a catchall phrase “or any other illness for which marijuana provides relief.” (Ibid.) From the foregoing observations, and bearing in mind that we must construe and harmonize, so far as possible, all parts of a statute (*People v. Moroney*, supra, 24 Cal.2d at p. 642), we conclude that the voters of California did not intend to limit the compassionate use defense to those patients deemed by a jury to be “seriously ill.” ...

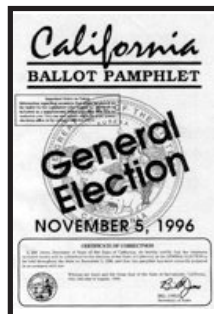
A physician's determination on this medical issue is not to be second-guessed by jurors who might not deem the patient's condition to be sufficiently “serious.”

— CA Court of Appeals, *People v. Spark* (2004) C.A.5th 08-02-2004 F042331. Cite 04 C.D.O.S. 6972

In *Bearman v. Joseph* (2004) 117 Cal.App.4th 463 the Court affirmed that the medical records are confidential.



Patient Myron Mower took his case to the California Supreme Court — and won.

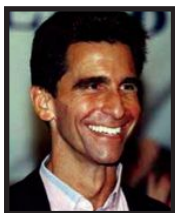


CALIFORNIA STATUTE



Authors John Vasconcellos

Mark Leno



SB 420: State legislature provides new protections

Assemblyman Mark Leno and Senator John Vasconcellos introduced SB 420, signed into law in 2003 as Health and Safety Code section 11362.7, et seq. It expands the activities protected under Prop 215 and provides for patient collectives. It created a voluntary identification card system to protect against arrest but at the last minute inserted low, non-scientific guideline amounts as a safe harbor from arrest. They explained its legislative intent in an open letter.

Fully appreciating that Proposition 215 cannot be amended by the Legislature, we have resisted all efforts to make the new identification card system created by SB 420 mandatory – at least two times our SB 420 contains specific language declaring our intent that the program is wholly voluntary. ... We tried to incorporate NIDA guidelines, but learned that they do not really exist in any form we could incorporate; ... We chose guidelines we believe best meet our search for balance between patient's needs and *practical results in getting SB 420 signed into law*; (emphasis added). In addition we allow localities with higher possession or cultivation amounts to retain them, and other localities to establish new guidelines which exceed what is set forth in this bill. No jurisdiction may establish guidelines lower than those set forth in SB 420; In addition we provided individuals the option to get in excess of the guidelines upon a doctor's recommendation for amounts exceeding the cultivation and possession guidelines set in this bill. Our letter in the Assembly and Senate Journals expresses legislative intent that these guidelines are intended to be the threshold, and not a ceiling. ...

— Sen. John Vasconcellos, Assemblyman Mark Leno,

Some of these points were put into the introduction to SB 420 but not the resulting Health and Safety code.

SB 420 SECTION 1. (b) It is the intent of the Legislature, therefore, to do all of the following:

- (1) Clarify the scope of the application of the act and facilitate the prompt identification of qualified patients and their designated primary caregivers in order to avoid unnecessary arrest and prosecution of these individuals and provide needed guidance to law enforcement officers.
- (2) Promote uniform and consistent application of the act among the counties within the state.
- (3) Enhance the access of patients and caregivers to medical marijuana through collective, cooperative cultivation projects.

Local implementation is mandatory

To ensure that qualified patients, caregivers and collectives are protected all over the state, every county is required to implement the voluntary ID card system.

HS 11362.71.(b) Every county health department, or the county's designee, shall do all of the following:

- (1) Provide applications upon request to individuals seeking to

- join the identification card program. (2) Receive and process completed applications in accordance with Section 11362.72.
 - (3) Maintain records of identification card programs.
 - (4) Utilize protocols developed by the department pursuant to paragraph (1) of subdivision (d).
 - (5) Issue identification cards developed by the department to approved applicants and designated primary caregivers.
- (c) The county board of supervisors may designate another health-related governmental or non-governmental entity or organization to perform the functions described in subdivision (b), except for an entity or organization that cultivates or distributes marijuana. ...

Creates limited immunity for sales

SB 420 includes sections immunizing activities not listed in Prop 215, such as intent to distribute, transportation, processing, sales and maintaining a place where cannabis is used or produced.

HS 11362.765. (a) Subject to the requirements of this article, the individuals specified in subdivision (b) shall not be subject, on that sole basis, to criminal liability under Section 11357, 11358, 11359, 11360, 11366, 11366.5, or 11570. However, nothing in this section shall authorize the individual to smoke or otherwise consume marijuana unless otherwise authorized by this article, nor shall anything in this section authorize any individual or group to cultivate or distribute marijuana for profit. ... (b) ...

(c) A primary caregiver who receives compensation for actual expenses, including reasonable compensation incurred for services provided to an eligible qualified patient or person with an identification card to enable that person to use marijuana under this article, or for payment for out-of-pocket expenses incurred in providing those services, or both, shall not, on the sole basis of that fact, be subject to prosecution or punishment under Section 11359 or 11360. ...

HS 11362.775. Qualified patients, persons with valid identification cards, and the designated primary caregivers of qualified patients and persons with identification cards, who associate within the State of California in order collectively or cooperatively to cultivate marijuana for medical purposes, shall not solely on the basis of that fact be subject to state criminal sanctions under § 11357, 11358, 11359, 11360, 11366, 11366.5, or 11570.

CA Appeals Court *Urziceanu* Decision

The *People v Urziceanu* case established that patient collectives can, in certain circumstances, distribute cannabis for cash. The state Supreme Court is now considering similar issues in *People v. Mentch*.

[T]he Legislature also exempted those qualifying patients and primary caregivers who collectively or cooperatively cultivate marijuana for medical purposes from criminal sanctions for possession for sale, transportation or furnishing marijuana, maintaining a location for unlawfully selling, giving away, or using controlled substances, managing a location for the storage, distribution of any controlled substance for sale, and the laws declaring the use of property for these purposes a nuisance. This new law represents a dramatic change in the prohibitions on the use, distribution, and cultivation of marijuana for persons who are qualified patients or primary caregivers and fits the defense defendant attempted to present at trial. Its specific itemization of the marijuana sales law indicates it contemplates the formation and operation of medicinal marijuana cooperatives that would receive reimbursement for marijuana and the services provided in conjunction with the provision of that marijuana.

— CA Court of Appeals, *People v. Urziceanu* (2005) 132 Cal.App.4th

PATIENT, CAREGIVER, AND CARDHOLDER

SB 420 preserves all Prop 215 rights and protects cardholders from arrest

Proposition 215 was a California voter initiative creating our state medical marijuana law, HS 11362.5, so the legislature cannot modify it directly.

Article 2 Section 10(c) The Legislature. . . May amend or repeal an initiative statute by another statute that becomes effective only when approved by the electors unless the initiative statute permits amendment or repeal without their approval.

— California State Constitution, Art. 2 sec 10(c)

Senate Bill 420 created a law subject to future legislative modification, for example to increase the guidelines. It established a voluntary, confidential patient ID card program to be administered by the Department of Health Services. Among other things, this law:

- Creates two categories: “qualified patients” under Prop 215 and “persons with an identification card”
- Sets criminal penalties for abuse of the card system
- Allows cardholder-caregivers to have more than one patient in their home county, but only one out of county
- Defines medical marijuana as dried, processed mature female cannabis flowers or conversion
- Sets a default threshold of **six mature plants and eight ounces of bud or conversion** as a safe harbor from arrest for people with valid ID cards.

HS 11362.71(e) No person or designated primary caregiver in possession of a valid identification card shall be subject to arrest for possession, transportation, delivery, or cultivation of medical marijuana in an amount established pursuant to this article, unless there is reasonable cause to believe that the information contained in the card is false or falsified, the card has been obtained by means of fraud, or the person is otherwise in violation of the provisions of this article.

(f) It shall not be necessary for a person to obtain an identification card in order to claim the protections of Section 11362.5. ...

HS 11362.77. (a) A qualified patient or primary caregiver may possess no more than eight ounces of dried marijuana per qualified patient. In addition, a qualified patient or primary caregiver may also maintain no more than six mature or 12 immature marijuana plants per qualified patient.

All state law enforcement officers must respect the voluntary ID cards

Police are required to respect the state ID card and to not arrest patients who possess or cultivate an amount consistent with the floor amounts, the local guideline, or the physician’s note.

11362.78. A state or local law enforcement agency or officer shall not refuse to accept an identification card issued by the department unless the state or local law enforcement agency or officer has reasonable cause to believe that the information contained in the card is false or fraudulent, or the card is being used fraudulently.

The ID card is a voluntary program

Prop 215 did not protect people from arrest, nor did it set any limits on gardens or dosages, other than its being a reasonable amount. A person with a valid ID card, on the other hand, is immune from arrest for small amounts of medicine. For many patients, this is not enough, and the more cannabis a patient needs, the more vulnerable they are to arrest and prosecution. There are two immediate remedies to this problem.

Wright: Guidelines are not a ceiling

Any such guidelines cannot override Prop 215 and are unconstitutional if construed as limits. In any case, the Supreme Court *Wright* decision held that patients have a right to a jury instruction to defend greater quantities.

[S]ponsors of Senate Bill No. 420 made clear that, although couched in mandatory terms, the amounts set forth in section 11362.77, subdivision (a) were intended “to be the threshold, not the ceiling.” ... In this case, defendant presented testimony at trial by his doctor that the amount of marijuana found in his possession at the time of his arrest was appropriate in light of his medical needs and the manner in which he used the marijuana, e.g., eating it for the most part, rather than smoking it.

— CA Supreme Court, *People v. Wright* (2006) S.Ct. 128442

Doctors can expand base protection

First, a physician may authorize amounts greater than the state and local guidelines.

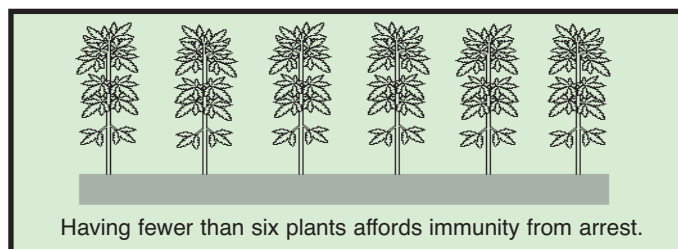
HS 11362.77(b) If a qualified patient or primary caregiver has a doctor’s recommendation that this quantity does not meet the qualified patient’s medical needs, the qualified patient or primary caregiver may possess an amount of marijuana consistent with the patient’s needs.

Cities and Counties are empowered

Localities are empowered to adopt new guidelines, as long as the amounts are no lower than the state floor. They can expand these guidelines, such as Sonoma and Humboldt Counties allowing up to three pounds and 100 square feet of canopy.

HS 11362.77(c) Counties and cities may retain or enact medical marijuana guidelines allowing qualified patients or primary caregivers to exceed the state limits set forth in subdivision (a).

Why do localities expand the SB 420 floor guidelines? Because it is a cost effective, fair and compassionate policy that saves law enforcement resources, court time and expense. The default floor amount is not scientific or adequate for many patients. Adopting the Safe Access Now guidelines would stop many arrests of qualified patients, leave their medicine and not ruin them financially by causing prohibitive legal costs.



CANNABIS COOPS AND COLLECTIVES

Where to get California's medicine: The Appeals Court *Peron* Decision

Obtaining cannabis is one thing, and many patients grow their own supply. Buying and selling is a different matter. The problem is in receiving payment. Shortly after passage of Prop 215, the initiative's chief proponent, Dennis Peron, argued in Appeals Court that he had a right to sell it at his San Francisco dispensary.

[B]ona fide primary caregivers for section 11362.5 patients should not be precluded from receiving bona fide reimbursement for their actual expense of cultivating and furnishing marijuana for the patient's approved medical treatment. ...



Dennis Peron

Assuming responsibility for housing, health, or safety does not preclude the caregiver from charging the patient [59 Cal.App.4th 1400] for those services. A primary caregiver who consistently grows and supplies physician-approved or -prescribed medicinal marijuana for a section 11362.5 patient is serving a health need of the patient, and may seek reimbursement... .

We find no support in section 11362.5 for respondents' argument that sales of marijuana on an allegedly nonprofit basis do not violate state laws against marijuana sales. No provision in section 11362.5 so states. Sections 11359 and 11360 explicitly forbid both the sale and the "giv[ing] away" of marijuana. Section 11362.5(d) exempts "a patient" and "a patient's primary caregiver" from prosecution for two specific offenses only: possession of marijuana (§ 11357) and cultivation of marijuana (§ 11358). It does not preclude prosecution under sections 11359 (possession of marijuana for sale) or 11360(a), which makes it a crime for anyone to "sell, furnish, administer, or give away" marijuana (italics added).

— (1997) 59 Cal.App.4th 1383, 70 Cal.Rptr.2d 20 [No. A077630. First Dist., Div. Five. Dec 12, 1997.]

The "right to obtain" marijuana is, of course, meaningless if it cannot legally be satisfied. ... Local governments in California are now exploring ways in which to responsibly implement the new law (as, for example, through licensing ordinances) so as to relieve those medically in need of marijuana but unable to cultivate it from the need to do so. I do not think we should make gratuitous blanket determinations which might prematurely interfere with those efforts. (Concurring opinion, *Ibid.*)

Based on that decision, cities like Oakland, Berkeley, West Hollywood, San Francisco, and Arcata cautiously allowed caregiver- and patient-run dispensaries to operate within their jurisdictions.

Rx for access: Over-the-counter culture

The turning point came with HS 11362.7, which is even more clear in authorizing certain kinds of production, sales and distribution of medical marijuana. It also protects real estate from seizure by the state. Oakland City Council has authorized four dispensaries to operate, San Francisco has dozens of outlets, and even Los

Angeles has a zoning ordinance, although this has not prevented federal or state law enforcement raids. Likewise, federal law is often cited as a rationalization when other communities try to restrict safe access to medical marijuana.

Things remain in flux. The WAMM cooperative in Santa Cruz is pursuing an injunction against federal DEA raids at the time of this writing, with the support of its City Council. The OCBC case is also on appeal in federal court. While Congress has again refused to carve out a medical exception to the ban on cannabis (or one for hemp, for that matter) all the Presidential candidates in the Democratic Party said in 2007 that, if elected, they would end DEA raids on medical marijuana in states where it is legal.

Variations on a collective or coop

While SB 420 recognized patient collectives, there is no clear definition in the law as to what it means to "associate within the State of California in order collectively or cooperatively to cultivate marijuana for medical purposes," but courts and communities are recognizing a broad array of arrangements. In general terms it constitutes a group of qualified patients and caregivers working within a mutually agreed relationship as property holder, workers and patients who obtain cannabis. In some groups everything is voluntary, some have mandatory participation in the garden itself, and some have paid support staff. Some operate with no cash exchange while others operate as retail store front shops. Some provide delivery services. All require that the physician's authorization be verified. Most require written, rather than oral, approvals and prefer the state ID card. Most keep documents at garden and supply sites. Some seek the approval of a government agency, but more prefer to "fly under the radar" and only provide member information as an affirmative defense.

Every qualified patient or arrangement thereof has a right to argue any quantity or arrangement under state law, but they still might lose in court. People with valid identification cards are protected to the minimal extent in HS 11362.77(a) eight ounces, 12 immature or six mature plants per patient, (b) a physician's exemption or (c) a local policy. Collectives might follow pro-rata amounts, like 36 mature plants for six cardholders. In theory that means no arrest and no destruction of medicine, but law enforcement does not always comply.

Unfortunately, the same patient records that may help to defend a collective under state law can add greater risk of conspiracy charges under federal law.

Zoning, permits and taxes

Some cities have zoning and permitting laws that ban dispensaries or impose fees. Cannabis is regarded as an over-the-counter medication in California, so the Board of Equalization requires retail sales tax to be collected on transactions and paid to the state.

NAVIGATING THE LEGAL PROCESS

Living within acceptable risks

This booklet is not a substitute for legal counsel. The issues discussed in it are either factual or subject to legal interpretation and changes in law. Before undertaking the cultivation or provision of medicinal cannabis, it is always a good idea to spend the time and money to talk with a knowledgeable attorney. Even if what a person is doing is legal under state law, there is risk. A patient can still be prosecuted in state court. Primary caregivers are especially at risk because supplying medicine may be charged as distribution. Anyone should be aware how serious the offense could be, how likely they are to be held criminal, and whether they can handle its consequences. In any “drug” case, the presence of a gun can often be used to add charges and increase sentences. If a case goes federal, a five-year mandatory sentence begins at 100 plants, and 10-years at 1000 plants, so it is important to balance legal rights against the ability to endure persecution.

In the end, you make the choice and take the risks.

Many layers make up the legal process

What follows is not a comprehensive listing, but serves merely as a general outline of what might occur at some point if you are involved with medical marijuana. Not everything here applies to every circumstance.

It may never happen, but here is a glimpse of the entanglements that may await.

Talk to a knowledgeable attorney. If you don't already have an attorney, ask some questions. What do they offer? Do they know about the sections of law in this booklet? What is it going to cost? You need to balance money against freedom. Remember you can also educate your lawyer, but you have much more on the line than they do — so choose well and be ready to do some of your own leg work. If you can't afford an attorney, after arraignment you are entitled to a public defender.

Contact with law enforcement is often triggered by some minor incident, such as an officer thinking they smell cannabis during a routine traffic pullover or cannabis left out in plain sight. This is the time to exercise your right to remain silent (until you have an attorney on hand) other than to refuse to consent to a search. If the officer locates medicine, the defense should be asserted immediately, such as to say “that medicine is legal under Health and Safety Code 11362.5” and showing a medical approval or card. This is not the time to make spontaneous statements or argue your case. What you say might be different than what the officers hear or write down. The police are not there to help you, they are there to build a case against you and send you to prison if possible. Ask if you are under arrest or if you can leave. If you can leave, do so. If you are under arrest, ask to see an attorney at once, then be silent.

Booking is when the police transport and process a suspect after an arrest and put them in a holding cell.

Consider getting an investigator or an expert witness. If your case involves more than a very small amount of cannabis, their participation can make a big difference. An expert can consult with your attorney, analyze evidence, prepare reports and testify on your behalf at a hearing or a trial. If you can't afford to pay for one, ask your attorney to file an Evidence Code section 730 *ex parte* motion for the court to pay the cost.

Plea negotiations occur when your attorney and the DA argue between getting your charges dismissed or altered and them throwing the book at you. If you can have them talking before charges are filed, so much the better. It's never too soon to bring in legal counsel to resolve the issues.

Reading of charges and bail hearing. An opportunity to make a record that it was legal medical marijuana, ask for dismissal of charges, return of property and release on your own recognizance, known as “O.R.”

Arraignment is the defendant's first hearing, to enter the plea. A demurrer is an alternative to entering a plea. Continue the arraignment and tell the judge you need to review the police reports and may be filing a demurrer.

Preparations. During the discovery process, you learn the prosecutor's evidence against you and glean what areas need to be addressed. You may wish to consult with an expert witness or investigator. Plea bargaining, phase two: Ask the DA to reconsider and dismiss, think about what they want you to plead guilty to and all the consequences of your plea. Can you comply with the requirements, or is it creating future problems for you?

Mower Hearing, a PC 995 hearing or common law (speaking) motion to dismiss, is a proceeding before a judge prior to trial in which a person gets to wage a medical defense with the burden of proof beyond reasonable doubt placed upon the prosecution.

Williamson Hearing is a PC section 1000 pre-trial process for growers who are not medical users or whose approvals are invalid, allowing them to refute charges of commercial intent and get diversion based on a preponderance of the evidence.

Preliminary Hearing is where a prosecution presents to a judge witnesses and other evidence of guilt, and the defendant is able to present a defense and attempt to win a dismissal. The court only requires the prosecutor to show probable cause. This means something gives the court a strong suspicion of guilt, so it usually holds the accused over for trial. This is an opportunity to hear the government's case and have the option of whether or not to respond. If the judge dismisses the charges, a prosecutor may be able to refile them, anyway.

Evidentiary Hearing is for a judge to decide what evidence to admit and what to suppress. Sometimes the decisions help the defense, other times they hurt it. In any case, these decisions shape the case and can form the basis for an appeal in case of conviction.

Jury Trial is when a jury of 12 (plus several alternates) hears evidence, testimony and arguments, then renders a verdict of either guilty or not-proved-guilty-beyond-reasonable-doubt. At this point the burden of proof again favors the defendant and the defense goal is full acquittal. There may also be a hung jury, meaning that it cannot come to a unanimous decision and the charges may or may not be retried. If there is a conviction, there may be basis for an appeal.

Return of Property Hearing after dismissal or acquittal seeks to clarify that your legal property is not contraband and have the court order the return of medicine, equipment, etc.

Sentencing is after a conviction when evidence is considered and points argued to determine your sentence. Mitigating circumstances are considered in both state and federal courts.

Appeals Process seeks a judicial review of the lower court decision. Only published decisions can be cited as case law.



BOARD OF SUPERVISORS

COUNTY OF _____

ORDINANCE NO. 2004 - _____

AN ORDINANCE ENACTING MEDICAL MARIJUANA GUIDELINES FOR THE IMPLEMENTATION OF PROPOSITION 215 [HS 11362.5] AND SB 420 [HS 11362.7]

WHEREAS, in 1996 the voters of the State of California approved Proposition 215, also known as the Compassionate Use Act of 1996, creating Health and Safety Code 11362.5; and

WHEREAS, HS 11362.5(d) states, “Section 11357, relating to the possession of marijuana [cannabis], and Section 11358, relating to the cultivation of marijuana, shall not apply to a patient, or to a patient’s primary caregiver, who possesses or cultivates marijuana for the personal medical purposes of the patient upon the written or oral recommendation or approval of a physician”; and

WHEREAS, since the 1970s, medical marijuana patients in the federal IND program have received and smoked approximately 6.5 pounds of dried cannabis per year, thereby establishing a safe and effective dosage for a chronic daily use patient to possess and consume; and

WHEREAS, some patients require more than that amount of cannabis bud per year, especially when it is eaten, used in tincture, used topically or by methods other than being smoked; and

WHEREAS, 3 pounds of dried cannabis bud per year is a reasonable compromise safe harbor amount that allows most compliant individuals to cultivate, possess and consume their medicine; and

WHEREAS, a 100 square foot canopy of mature female cannabis plants, typically will yield 3 pounds of dried and processed cannabis bud per year outdoor; regardless of the number of plants; and

WHEREAS, successful propagation, breeding and cultivation of cannabis may require large numbers of plants in various stages of growth, especially when grown in the indoor “Sea of Green” method which typically produces lower yields than outdoor gardens but affords multiple harvests per year; and

WHEREAS, in 2003, Senate Bill 420 created HS 11362.7 that, among other things, sets forth in HS 11362.77(a) an impractical default threshold for immunity from arrest at 8 ounces of dried female cannabis flowers in addition to 6 mature or 12 immature plants per qualified patient; and

WHEREAS, HS 11362.77(c) empowers this jurisdiction when it states that “Counties and cities may retain or enact medical marijuana guidelines allowing qualified patients or primary caregivers to exceed the state limits set forth in subdivision (a)”;

WHEREAS, other counties and cities throughout the State of California have enacted or retained guidelines for the implementation and enforcement of HS 11362.5 in amounts that are significantly greater than the threshold amounts set forth in HS 11362.77(a); and

WHEREAS, failure to enact a community standard for presumed compliance with HS 11362.77 may effectively limit local patients and caregivers to the arbitrary and unreasonable amounts as set forth in HS 11362.77(a), thereby causing undue pain, suffering and legal risks; and

WHEREAS, pursuant to HS 11362.775, qualified patients and caregivers “who associate within the State of California in order collectively or cooperatively to cultivate marijuana for medical purposes, shall not solely on the basis of that fact be subject to state criminal sanctions under Section 11357, 11358, 11359, 11360, 11366, 11366.5, or 11570”; and

WHEREAS, law enforcement officers require a simple, reasonable and efficient guideline to use in evaluating individual and collective patient medical marijuana gardens and on-hand supplies; and

WHEREAS, this resolution does not address the enforcement of federal law.

THEREFORE, BE IT NOW RESOLVED that this County Board of Supervisors does hereby enact the following medical marijuana guidelines within its jurisdiction per HS 11362.77(c):

A) A qualified patient, a person holding a valid identification card, or the designated primary caregiver of that qualified patient or person may possess and cultivate any amount of marijuana consistent with the patient’s current medical needs.

B) Possession of up to 3 pounds of dried cannabis bud or conversion per patient shall not constitute probable cause for arrest or prosecution of any person listed in (A).

C) To obtain that amount, any person listed in (A) may also cultivate any number of cannabis plants per patient with up to 100 square feet of total garden canopy, measured by the combined vegetative growth area. Gardens that are consistent with this provision shall not constitute probable cause for arrest or prosecution.

D) Qualified patients, caregivers and providers who collectively or cooperatively cultivate marijuana for medical purposes shall not exceed the standards set forth in (B) and (C).

E) Any person listed in (A) and having a physician’s assent that this guideline is not adequate for the qualified patient’s medical needs may possess and cultivate an amount of cannabis up to six pounds of bud or conversion and up to 200 square feet of canopy.

F) As defined in HS 11362.5, “Primary caregiver means the individual designated by the person exempted under this act that has consistently assumed responsibility for the housing, health or safety of that person.” For purposes of this policy, a primary caregiver shall include any adult designated as such in writing by a qualified or card-holding patient, in the interests of their personal health and safety.

G) For purposes of identification, such designation shall be posted at the garden site or in the possession of the caregiver, along with a copy of the physician’s document.

H) Law enforcement shall not arrest persons who are compliant with these provisions, and shall leave them, their medical marijuana supply and their garden unmolested. Amounts in excess of those above shall be preserved in usable form in case it need be returned.

PASSED AND ADOPTED

This _____th day of _____, 20_____ at a regular meeting of the

_____ County Board of Supervisors by the following vote:

Part IV: Appendices

SUMMARIZED STATE LAWS

Alaska: Measure 8 protects patients diagnosed with cachexia; cancer; chronic pain; epilepsy and other disorders characterized by seizures; glaucoma; HIV or AIDS; multiple sclerosis and other disorders characterized by muscle spasticity; and nausea. Other conditions subject to approval by the Department of Health and Social Services. Patients (or caregivers) may possess no more than one ounce of usable cannabis and cultivate no more than six plants, no more than three mature. Senate Bill 94 mandates that all patients must enroll the confidential state-run registry and possess a valid ID card or they cannot argue “affirmative defense of medical necessity.”

Arizona: Prop. 200 attempted to allow doctors to “prescribe” schedule I controlled drugs. However, federal law forbids physicians from “prescribing” cannabis, so this statute offers no legal benefits whatsoever.

Colorado: Amendment 20 protects patients with cachexia; cancer; chronic pain; chronic nervous system disorders; epilepsy and other disorders characterized by seizures; glaucoma; HIV or AIDS; multiple sclerosis and other disorders characterized by muscle spasticity; and nausea. Other conditions may be approved by the Board of Health. Patients (or caregivers) may have no more than two ounces of cannabis and cultivate no more than six plants. A confidential state-run registry issues ID cards to patients. Patients must possess documentation prior to arrest. Patients who do not join the registry or who possess greater amounts may argue “affirmative defense of medical necessity.”

Hawaii: Senate Bill 862 protects patients having a statement from their physician affirming a debilitating condition and that “potential benefits of medical use of marijuana would likely outweigh the health risks.” It covers cachexia; cancer; chronic pain; Crohn’s disease; epilepsy and other disorders characterized by seizures; glaucoma; HIV or AIDS; multiple sclerosis and other disorders characterized by muscle spasticity; and nausea. Other conditions approved by the Dept of Health. Patients (or caregivers) may possess no more than one ounce of usable cannabis, and cultivate no more than seven plants, no more than three mature. A mandatory, confidential state-run registry issues ID cards.

Maine: Question 2 protects patients with an oral or written “professional opinion” from their physician authorizing cannabis for epilepsy and other disorders characterized by seizures; glaucoma; multiple sclerosis and other disorders characterized by muscle spasticity; and nausea or vomiting as a result of AIDS or cancer chemotherapy. Patients (or caregivers) may possess no more than two and one-half ounces of usable cannabis (Senate Bill 611), and cultivate no more than six plants, no more than three mature. Patients with greater amounts have a “simple defense” to a possession charge. No state-run patient registry.

Maryland: The affirmative defense law requires the court to consider a defendant’s medical use of cannabis as a factor in marijuana prosecutions. If the patient successfully makes the medical necessity case at trial, the maximum penalty would be a \$100 fine.

Montana: Initiative 148 protects patients with their physician’s written authorization for cachexia or wasting syndrome; severe or chronic pain; severe nausea; seizures, including but not limited to seizures caused by epilepsy; or severe or persistent muscle spasms, including but not limited to spasms caused by multiple sclerosis or Crohn’s disease. Patients (or primary caregivers) may possess no more than six plants. A confidential state-run patient registry issues ID cards.

Nevada: Question 9 protects patients with their physician’s written authorization for AIDS; cancer; glaucoma; and any medical condition or treatment to a medical condition that produces cachexia, persistent muscle spasms or seizures, severe nausea or pain. Other conditions may be approved by the Dept of Human Resources. Patients (or caregivers) may possess no more than one ounce of usable marijuana, and cultivate no more than seven marijuana plants, no more than three mature. A confidential registry issues patient ID cards. Patients who do not join the registry or who possess greater amounts than allowed may argue “affirmative defense of medical necessity”

New Mexico has one of the most regulated state medical marijuana laws passed in the US to date. Only 7 debilitating medical conditions are

listed in the law: HIV/AIDS, cancer, epilepsy, glaucoma, multiple sclerosis, spinal cord injury with intractable spasticity, admittance into hospice care. A patient who does not have one of these conditions is not currently eligible for the Medical Cannabis Program in NM. For information visit www.nmhealth.org/marijuana.html

Oregon: Marijuana is legal to use, possess, cultivate, and deliver for patients who have a doctor’s prescription and are registered under the auspices of the Oregon Medical Marijuana Program, a confidential state-run registry that issues patient ID cards. Measure 67 protects patients with cachexia; cancer; chronic pain; epilepsy and other disorders characterized by seizures; glaucoma; HIV or AIDS; multiple sclerosis and other disorders characterized by muscle spasticity; and nausea. Other conditions have been added by the Dept of Human Resources. House Bill 3052 limits patients (or caregivers) to cultivate in only one location, requires patients be diagnosed by their physician at least 12 months prior to arrest for the “affirmative defense” and states that law enforcement does not have to keep seized plants alive. In 2001, administrators added temporary procedures defining the attending physician protocols. Caregivers or patients may possess up to 24 ounces of usable marijuana and up to 6 mature and 18 immature plants at any time. There is no longer an affirmative defense for larger quantities. The citizen advisory committee on medical marijuana created by SB 1085 has now been seated.

Rhode Island: The General Assembly directed the Department of Health to create a medical marijuana program (MMP), Public Laws 05-442 and 05-443. To see the law visit www.rilin.state.ri.us/PublicLaws/law05/law05443.htm. The MMP permits people with debilitating medical conditions to use marijuana if a physician certifies in writing that cannabis may mitigate symptoms and that the potential medical benefits would likely outweigh any health risks to the patients. Registered patients and caregivers may, under certain circumstances, possess a limited amount of marijuana without violating state law. To access the proposed Rules and Regulations for registration please visit www2.sec.state.ri.us/rules/released/pdf/DOH/DOH_3902.pdf

Vermont: Senate Bill 76 protects patients diagnosed with a “debilitating medical condition” including HIV or AIDS, cancer and Multiple Sclerosis. Patients (or caregivers) may possess no more than two ounces of usable cannabis, and cultivate no more than three plants, only one mature. A mandatory, confidential registry issues ID cards.

Washington: Measure 692 protects patients with authorization from their physician for cachexia; cancer; HIV or AIDS; epilepsy; glaucoma; multiple sclerosis; and intractable pain (i.e., pain unrelieved by standard treatment or medications). The Board of Health may approve other conditions. Patients or caregivers may legally possess or cultivate up to a 60-day supply of marijuana. No state-run patient registry. The Medical Quality Assurance Commission added Crohn’s disease, Hepatitis C, and “any disease, including anorexia, which results in nausea, vomiting, wasting, appetite loss, cramping, seizures, muscle spasms, and/or spasticity, when these symptoms are unrelieved by standard treatments.”

CALIFORNIA LEGAL CODE

State laws may change during the legislative session or at any time in the courts. For the full text of any California statutory law or status of pending state legislation see: <http://www.leginfo.ca.gov/>

Health & Safety Code 11018: Marijuana means all parts of the plant *Cannabis sativa* L., whether growing or not; the seeds thereof; the resin extracted from any part of the plant; and every compound, manufacture, salt, derivative, mixture, or preparation of the plant, its seeds, or resin. It does not include the mature stalks of the plant, fiber produced from the stalks, oil or cake made from the seeds of the plant, any other compound, manufacture, salt, derivative, mixture, or preparation of the mature stalks (except the resin extracted therefrom), fiber, oil, or cake, or the sterilized seed of the plant which is incapable of germination.

HS 11006.5: Concentrated cannabis means the separated resin, whether crude or purified, obtained from marijuana.

HS 11362.77(d): Only the dried mature processed flowers of female cannabis plant or the plant conversion shall be considered when determining allowable quantities of [medical] marijuana under this section.

Transportation of Cannabis: (Also see HS 11360, transportation of more than one ounce.) **Vehicle Code 23222.** (b) Except as authorized by law, every person who possesses, while driving a motor vehicle upon a

highway or on lands, as described in subdivision (b) of Section 23220, not more than one *avoirdupois* ounce of marijuana, other than concentrated cannabis as defined by § 11006.5 of the Health and Safety Code, is guilty of a misdemeanor and shall be punished by a fine of not more than one hundred dollars (\$100).

Possession of Cannabis: Health & Safety Code 11357 (a) Except as authorized by law, every person who possesses any concentrated cannabis shall be punished by imprisonment in the county jail for a period of not more than one year or by a fine of not more than five hundred dollars (\$500), or by both such fine and imprisonment, or shall be punished by imprisonment in the state prison.

(b) Except as authorized by law, every person who possesses not more than 28.5 grams of marijuana, other than concentrated cannabis, is guilty of a misdemeanor and shall be punished by a fine of not more than one hundred dollars (\$100). Notwithstanding other provisions of law, if such person has been previously convicted three or more times of an offense described in this subdivision during the two-year period immediately preceding the date of commission of the violation to be charged, the previous convictions shall also be charged in the accusatory pleading and, if found to be true by the jury upon a jury trial or by the court upon a court trial or if admitted by the person, the provisions of §§ 1000.1 and 1000.2 of the Penal Code shall be applicable to him, and the court shall divert and refer him for education, treatment, or rehabilitation, without a court hearing or determination or the concurrence of the district attorney, to an appropriate community program which will accept him. If the person is so diverted and referred he shall not be subject to the fine specified in this subdivision. If no community program will accept him, the person shall be subject to the fine specified in this subdivision. In any case in which a person is arrested for a violation of this subdivision and does not demand to be taken before a magistrate, such person shall be released by the arresting officer upon presentation of satisfactory evidence of identity and giving his written promise to appear in court, as provided in § 853.6 of the Penal Code, and shall not be subjected to booking.

(c) Except as authorized by law, every person who possesses more than 28.5 grams of marijuana, other than concentrated cannabis, shall be punished by imprisonment in the county jail for a period of not more than six months or by a fine of not more than five hundred dollars (\$500), or by both such fine and imprisonment. ...

Cultivation of Cannabis: Health & Safety Code 11358. Every person who plants, cultivates, harvests, dries, or processes any marijuana or any part thereof, except as otherwise provided by law, shall be punished by imprisonment in the state prison.

Possession for sales: HS 11359. Every person who possesses for sale any marijuana, except as otherwise provided by law, shall be punished by imprisonment in the state prison.

Processing, transportation and sales: HS 11360. (a) Except as otherwise provided by this section or as authorized by law, every person who transports, imports into this state, sells, furnishes, administers, or gives away, or offers to transport, import into this state, sell, furnish, administer, or give away, or attempts to import into this state or transport any marijuana shall be punished by imprisonment in the state prison for a period of two, three or four years.

(b) Except as authorized by law, every person who gives away, offers to give away, transports, offers to transport, or attempts to transport not more than 28.5 grams of marijuana, other than concentrated cannabis, is guilty of a misdemeanor and shall be punished by a fine of not more than one hundred dollars (\$100). In any case in which a person is arrested for a violation of this subdivision and does not demand to be taken before a magistrate, such person shall be released by the arresting officer upon presentation of satisfactory evidence of identity and giving his written promise to appear in court, as provided in § 853.6 of the Penal Code, and shall not be subjected to booking.

Medical marijuana: Prop 215, HS 11362.5 (a) This section shall be known and may be cited as the Compassionate Use Act of 1996.

(b) (1) The people of the State of California hereby find and declare that the purposes of the Compassionate Use Act of 1996 are as follows:

(A) To ensure that seriously ill Californians have the right to obtain and use marijuana for medical purposes where that medical use is deemed appropriate and has been recommended by a physician who has determined that the persons health would benefit from the use of marijuana in the treatment of cancer, anorexia, AIDS, chronic pain, spasticity, glaucoma,

arthritis, migraine or any other illness for which marijuana provides relief.

(B) To ensure that patients and their primary caregivers who obtain and use marijuana for medical purposes upon the recommendation of a physician are not subject to criminal prosecution or sanction.

(C) To encourage the federal and state governments to implement a plan for the safe and affordable distribution of marijuana to all patients in medical need of marijuana.

(2) Nothing in this act shall be construed to supersede legislation prohibiting persons from engaging in conduct that endangers others, nor to condone the diversion of marijuana for non-medical purposes.

(c) Notwithstanding any other provision of law, no physician in this state shall be punished, or denied any right or privilege, for having recommended marijuana to a patient for medical purposes.

(d) Section 11357, relating to the possession of marijuana, and § 11358, relating to the cultivation of marijuana, shall not apply to a patient, or to a patient's primary caregiver, who possesses or cultivates marijuana for the personal medical purposes of the patient upon the written or oral recommendation or approval of a physician.

(e) For purposes of this section, Primary caregiver means the individual designated by the person exempted under this act who has consistently assumed responsibility for the housing, health or safety of that person.

Voluntary ID card: SB 420, HS 11362.715(a) A person who seeks an identification card shall pay the fee, as provided in § 11362.755, and provide all of the following to the county health department or the county's designee on a form developed and provided by the department:

(1) The name of the person, and proof of residency within the county.

(2) Written documentation by the attending physician in the person's medical records stating that the person has been diagnosed with a serious medical condition and that medical use of marijuana is appropriate.

(3) The name, office address, office telephone number, and California medical license number of the person's attending physician.

(4) The name and the duties of the primary caregiver.

(5) A government-issued photo identification card of the person and of the designated primary caregiver, if any. If the applicant is a person under 18 years of age, a certified copy of a birth certificate shall be deemed sufficient proof of identity.

HS 11362.74. (a) The county health department or the county's designee may deny an application only for any of the following reasons:

(1) The applicant did not provide the information required by § 11362.715, and upon notice of the deficiency pursuant to subdivision (d) of § 11362.72, did not provide the information within 30 days.

(2) The county health department or the county's designee determines that the information provided was false.

(3) The applicant does not meet the criteria set forth in this article.

(b) Any person whose application has been denied pursuant to subdivision (a) may not reapply for six months from the date of denial unless otherwise authorized by the county health department or the county's designee or by a court of competent jurisdiction.

(c) Any person whose application has been denied pursuant to subdivision (a) may appeal that decision to the department. The county health department or the county's designee shall make available a telephone number or address to which the denied applicant can direct an appeal.

HS 11362.745. (a) An ID card shall be valid for a period of one year....

HS 11362.76. (a) A person who possesses an identification card shall:

(1) Within seven days, notify the county health department or the county's designee of any change in the person's attending physician or designated primary caregiver, if any.

(2) Annually submit to the county health department or the county's designee the following:

(A) Updated written documentation of the serious medical condition.

(B) The name and duties of the person's designated primary caregiver, if any, for the forthcoming year.

(b) If a person who possesses an identification card fails to comply with this section, the card shall be deemed expired. If an identification card expires, the identification card of any designated primary caregiver of the person shall also expire.

(c) If the designated primary caregiver has been changed, the previous

primary caregiver shall return his or her identification card to the department or to the county health department or the county's designee.

(d) If the owner or operator or an employee of the owner or operator of a provider has been designated as a primary caregiver pursuant to paragraph (1) of subdivision (d) of § 11362.7, of the qualified patient or person with an identification card, the owner or operator shall notify the county health department or the county's designee, pursuant to § 11362.715, if a change in designated primary caregiver has occurred.

Health & Safety Code 11362.765.(a) Subject to the requirements of this article, the individuals specified in subdivision (b) shall not be subject, on that sole basis, to criminal liability under § 11357, 11358, 11359, 11360, 11366, 11366.5 or 11570. However, nothing in this section shall authorize the individual to smoke or otherwise consume marijuana unless otherwise authorized by this article, nor shall anything in this section authorize any individual or group to cultivate or distribute marijuana for profit.

(b) Subdivision (a) shall apply to all of the following:

(1) A qualified patient or a person with an identification card who transports or processes marijuana for his or her own personal medical use.

(2) A designated primary caregiver who transports, processes, administers, delivers, or gives away marijuana for medical purposes, in amounts not exceeding those established in subdivision (a) of § 11362.77, only to the qualified patient of the primary caregiver, or to the person with an identification card who has designated the individual as a primary caregiver.

(3) Any individual who provides assistance to a qualified patient or a person with an identification card, or his or her designated primary caregiver, in administering medical marijuana to the qualified patient or person or acquiring the skills necessary to cultivate or administer marijuana for medical purposes to the qualified patient or person.

(c) A primary caregiver who receives compensation for actual expenses, including reasonable compensation incurred for services provided to an eligible qualified patient or person with an identification card to enable that person to use marijuana under this article, or for payment for out-of-pocket expenses incurred in providing those services, or both, shall not, on the sole basis of that fact, be subject to prosecution or punishment under § 11359 or 11360.

HS 11362.77(a) A qualified patient or primary caregiver may possess no more than eight ounces of dried marijuana per qualified patient. In addition, a qualified patient or primary caregiver may also maintain no more than six mature or 12 immature marijuana plants per qualified patient.

(b) If a qualified patient or primary caregiver has a doctor's recommendation that this quantity does not meet the qualified patient's medical needs, the qualified patient or primary caregiver may possess an amount of marijuana consistent with the patient's needs.

(c) Counties and cities may retain or enact medical marijuana guidelines allowing qualified patients or primary caregivers to exceed the state limits set forth in subdivision (a).

(d) Only the dried mature processed flowers of female cannabis plant or the plant conversion shall be considered when determining allowable quantities of marijuana under this section.

(e) The Attorney General may recommend modifications to the possession or cultivation limits set forth in this section. These recommendations, if any, shall be made to the Legislature no later than Dec. 1, 2005 and may be made only after public comment and consultation with interested organizations, including, but not limited to, patients, health care professionals, researchers, law enforcement, and local governments. Any recommended modification shall be consistent with the intent of this article and shall be based on currently available scientific research.

(f) A qualified patient or a person holding a valid identification card, or the designated primary caregiver of that qualified patient or person, may possess amounts of marijuana consistent with this article.

HS 11362.775. Qualified patients, persons with valid identification cards, and the designated primary caregivers of qualified patients and persons with identification cards, who associate within the State of California in order collectively or cooperatively to cultivate marijuana for medical purposes, shall not solely on the basis of that fact be subject to state criminal sanctions under § 11357, 11358, 11359, 11360, 11366, 11366.5, or 11570.

HS 11362.78. A state or local law enforcement agency or officer shall not refuse to accept an identification card issued by the department

unless the state or local law enforcement agency or officer has reasonable cause to believe that the information contained in the card is false or fraudulent, or the card is being used fraudulently.

HS 11362.785. (a) Nothing in this article shall require any accommodation of any medical use of marijuana on the property or premises of any place of employment or during the hours of employment or on the property or premises of any jail, correctional facility, or other type of penal institution in which prisoners reside or persons under arrest are detained.

(b) Notwithstanding subdivision (a), a person shall not be prohibited or prevented from obtaining and submitting the written information and documentation necessary to apply for an ID card on the basis that the person is incarcerated in a jail, correctional facility, or other penal institution in which prisoners reside or persons under arrest are detained.

(c) Nothing in this article shall prohibit a jail, correctional facility, or other penal institution in which prisoners reside or persons under arrest are detained, from permitting a prisoner or a person under arrest who has an identification card, to use marijuana for medical purposes under circumstances that will not endanger the health or safety of other prisoners or the security of the facility.

(d) Nothing in this article shall require a governmental, private, or any other health insurance provider or health care service plan to be liable for any claim for reimbursement for the medical use of marijuana.

HS 11362.79. Nothing in this article shall authorize a qualified patient or person with an identification card to engage in the smoking of medical marijuana under any of the following circumstances:

(a) In any place where smoking is prohibited by law.

(b) In or within 1,000 feet of the grounds of a school, recreation center, or youth center, unless the medical use occurs within a residence.

(c) On a schoolbus.

(d) While in a motor vehicle that is being operated.

(e) While operating a boat.

HS 11362.795(a) (1) Any criminal defendant who is eligible to use marijuana pursuant to § 11362.5 may request that the court confirm that he or she is allowed to use medical marijuana while he or she is on probation or released on bail.

(2) The court's decision and the reasons for the decision shall be stated on the record and an entry stating those reasons shall be made in the minutes of the court.

(3) During the period of probation or release on bail, if a physician recommends that the probationer or defendant use medical marijuana, the probationer or defendant may request a modification of the conditions of probation or bail to authorize the use of medical marijuana.

(4) The court's consideration of the modification request authorized by this subdivision shall comply with the requirements of this section.

(b) (1) Any person who is to be released on parole from a jail, state prison, school, road camp, or other state or local institution of confinement and who is eligible to use medical marijuana pursuant to § 11362.5 may request that he or she be allowed to use medical marijuana during the period he or she is released on parole. A parolee's written conditions of parole shall reflect whether or not a request for a modification of the conditions of his or her parole to use medical marijuana was made, and whether the request was granted or denied.

(2) During the period of parole, where a physician recommends that the parolee use medical marijuana, parolee may request a modification of the conditions of the parole to authorize the use of medical marijuana.

(3) Any parolee whose request to use medical marijuana while on parole was denied may pursue an administrative appeal of the decision. Any decision on the appeal shall be in writing and shall reflect the reasons for the decision.

(4) The administrative consideration of modification request authorized by this subdivision shall comply with the requirements of this section.

HS 11362.8. No professional licensing board may impose a civil penalty or take other disciplinary action against a licensee based solely on the fact that the licensee has performed acts that are necessary or appropriate to carry out the licensee's role as a designated primary caregiver to a person who is a qualified patient or who possesses a lawful identification card issued pursuant to § 11362.72. However, this section shall not apply to acts performed by a physician relating to the discussion or recommendation of the medical use of marijuana to a patient. These discussions or recommendations, or both, shall be governed by § 11362.5.

RESOURCES

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For more information online

<http://www.chrisconrad.com/>

www.safeaccessnow.net/ the Safe Access Now homepage

Other useful web resources

American Alliance for Medical Cannabis:

www.LetFreedomGrow.org/ AAMC

ASA: www.AmericansforSafeAccess.org/

California laws and bills: www.Leginfo.ca.gov/

California NORML: www.CAnorml.org/

Drug Reform Coordination Network: www.DRCnet.org/

Drug Policy Alliance DPA: www.DrugPolicy.org/

Drug Sense: www.DrugSense.org/

Equal Rights Coalition: www.EqualRights4all.org/

Federal laws: <http://www4.law.cornell.edu/uscode/>

Medical Marijuana of America:

www.MedicalMarijuanaofAmerica.com/

Marijuana Policy Project: www.MPP.org/

Multidisciplinary Assn for Psychedelic Study: www.maps.org

National Organization for the Reform of Marijuana Laws: www.NORML.org/

Patients Out of Time: www.MedicalCannabis.com/



Chris Conrad evaluates an authorized medical marijuana garden, 2005

ABOUT THE AUTHOR

Chris Conrad is director of Safe Access Now, author of *Hemp: Lifeline to the Future* and *Hemp for Health*, and curator of the Hash-Marijuana-Hemp Museum (Amsterdam). He has qualified as a cannabis expert more than 150 times in the California, other State and federal US courts. His recognized cannabis expertise includes issues of hemp, personal use, medical use, dosage, consumption, religious use, cultivation, yields, preparations, pricing, sales and intent.

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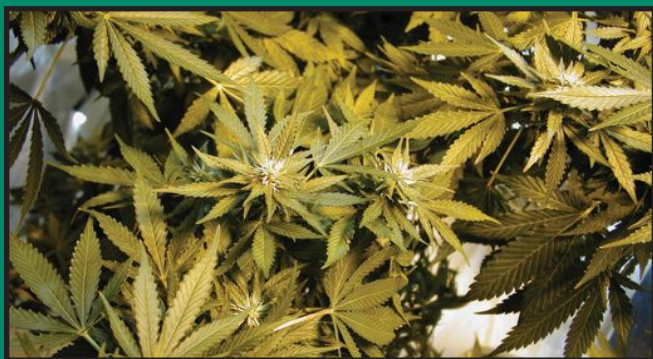
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Chris Conrad has written a handy and authoritative *Safe Access Now* guide book on the basics of medical marijuana's effect, titration and cultivation, as well as explaining the tangle of laws and policies that ensnare this natural medicine.

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“The study subjects were habitual marijuana users. During the study, they were hospitalized and allowed free access to marijuana cigarettes for a period of four weeks, consuming an average of four to 17 marijuana cigarettes per day.”

— *Marijuana and Medicine*
National Academy of Science,
Institute of Medicine (IOM), 1999. p. 141

“[A] mathematical formula can use plant canopy diameter information to accurately estimate usable yield.”

— *Cannabis Yields*, US Department of Justice, NIDA and Drug Enforcement Administration, 1992. pp 10-11

“Based on various government and non-governmental sources, a patient will use up to three pounds of processed usable marijuana per year. Therefore these guidelines are intended to allow for the cultivation and use of up to three pounds of marijuana per year.”

— **Paul Gallegos**, 2/14/03
Humboldt County District Attorney

“Each patient will be allowed to possess three pounds of processed marijuana per year. In order to grow that quantity we are allowing a canopy of 100 square feet, not to exceed 99 plants. The key here is we have not made a strict plant restriction, but allowed the number of plants to be grown according to the conditions present at each caregiver or patient site.”

— **Michael J. Mullins**, 5/7/01
Sonoma County District Attorney

Suggested retail price: \$6.50 USD

www.safeaccessnow.net

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