Welcome to The Dispensary Fulton

Here at The Dispensary Fulton, we take great pride in serving our patients and providing a safe and welcoming atmosphere. Thank you for choosing our dispensary to serve your medical needs.

Please review the attached materials. These include education materials and cover information on product types, dosages, ingestion methods, as well as patient rights. We are happy to answer any and all questions regarding our stocked products and the cannabis program in Illinois. Our staff is here to serve and assist you. Confidentiality is of the upmost importance at The Dispensary. All health information, preferred and purchased products, as well as your other personal information is highly secured and remains confidential. Please feel free to visit our website at www.TheDispensaryFulton.com for updated information, a list of available medical products, specials, patient forms, as well as current operating hours, and additional medical cannabis information.

In order to enter our facility and purchase medicine from The Dispensary Fulton, you should be prepared to bring your Registry Identification Card issue by IDPH as well as a matching photo ID. These items should be brought anytime you visit the dispensary. In order to purchase medicine, you need to be registered with The Dispensary Fulton in District 1, and a form to change your registration can be found on our website listed above or on the state website at http://www.dph.illinois.gov/topics-services/prevention-wellness/medical-cannabis/select-a-medical-cannabis-dispensary. Without these items, we are not able to dispense your required medication.

At The Dispensary Fulton, we have made it our mission to provide patients with the highest quality medicine for the most affordable prices. In order to accomplish this, we encourage our patients to provide any feedback regarding the quality of the product as well as the medical benefits you experience. This information will be kept confidential at all times and used internally to evaluate the product lines offered. Please also feel free to provide any feedback regarding your experience with our staff and facility. We want to serve you to the best of our abilities and are always looking for ways to make your visit more enjoyable.

Sincerely,

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**Cannabis in Illinois**

Illinois passed The Compassionate Use of Medical Cannabis Pilot Program Act on August 1st, 2013. This state wide program allows patients with one of the 39 allowable conditions to obtain a recommendation from a physician. After obtaining a recommendation and applying to the Illinois Department of Public Health, if qualified and meeting all requirements, DPH will issue a Patient Registry Identification Card. This card must be renewed annually.

The program allows patients to obtain up to 2.5 ounces from a licensed dispensary every two weeks. Certain persons are restricted and cannot obtain a Registry Identification Card. At this time, these include public safety officials, school bus and commercial drivers, police and correctional officers, firefighters, and anyone convicted of a drug related felony.

Medical cannabis cannot be used on a school bus, on the grounds of any school, in a correctional facility, in any motor vehicle, in a private residence used as a day care or child care facility, or in any public place. Patients cannot use medical cannabis in a health care facility or any place where smoking is prohibited by the Smoke Free Illinois Act and in proximity of anyone under the age of 18.

Cannabis is still a federally prohibited substance, and despite state laws protecting patients, there is no protection from prosecution at the federal level.

**The Therapeutic Potential of Cannabis**

While research in the United States has been sharply restricted by the federal prohibition on cannabis in the past, recent discoveries have increased interest among scientists in the more than 100 different cannabinoids so far identified in the cannabis plant. The International Cannabinoid Research Society (ICRS) was formally incorporated as a scientific research organization in 1991, and since its incorporation the membership has more than tripled. The International Association for Cannabis as Medicine (IACM), founded in 2000, publishes a bi-weekly newsletter and holds a bi-annual symposium to highlight emerging clinical research concerning cannabis therapeutics. The University of California established the Center for Medical Cannabis Research (CMCR) in 2001 to conduct scientific studies to ascertain the general medical safety and efficacy of cannabis products and examine alternative forms of cannabis administration. In 2010, the CMCR issued a report on the 14 clinical studies it has conducted, most of which were FDA-approved, double-blind, placebo-controlled clinical studies that have demonstrated that cannabis can control pain, in some cases better than the available alternatives. To date, more than 15,000 modern peer-reviewed scientific articles on the chemistry and pharmacology of cannabis and cannabinoids have been published, as well as more than 2,000 articles on the body's natural endocannabinoids. In recent years, more placebo-controlled human trials have also been conducted.

A 2009 review of clinical studies conducted over a 38-year period, found that “nearly all of the 33 published controlled clinical trials conducted in the United States have shown significant and measurable benefits in subjects receiving the treatment.” The review's authors note that cannabinoids have the capacity for analgesia through neuromodulation in ascending and descending pain pathways, neuroprotection, and anti-inflammatory mechanisms—all of which indicates that the cannabinoids found in cannabis have applications in managing chronic pain, muscle spasticity, cachexia, and other debilitating conditions.
The Endocannabinoid System

Humans have used drugs derived from the opium poppy for thousands of years to lessen pain and produce euphoria. In 1973, scientists discovered the brain receptors that interact with these opiates, which include opium, morphine, and heroin. In 1975, the first of the brain's natural chemicals that bind with these receptors was identified. The similarity of this chemical, enkephalin, to morphine suggested opiate drugs work primarily by mimicking natural opiate-like molecules. These discoveries helped explain the effects of opiate drugs and opened the door to the development of powerful new therapeutic drugs that revolutionized pain management.

Similarly, humans have used the cannabis plant for thousands of years to reduce pain, control nausea, stimulate appetite, control anxiety, and produce feelings of euphoria. Since 1964 when the first cannabinoid was identified, researchers have made new discoveries that help us better understand not just why and how cannabis works so well for so many people but its full therapeutic potential.

The therapeutic benefits of cannabis are derived from the interactions of cannabinoids and the human body's own endocannabinoid system, first identified in 1988. The endocannabinoid system (ECS) is a sophisticated group of neuromodulators, their receptors, and signaling pathways involved in regulating a variety of physiological processes including movement, mood, memory, appetite, and pain.

In the little more than 20 years since researchers began developing an understanding of the ECS, two types of cannabinoid receptors, CB1 and CB2, have been identified, setting the stage for discoveries that have dramatically increased our understanding of how cannabis and its many constituent cannabinoids affect the human body.10-11

CB1 receptors are found in the central nervous system, particularly the brain, and in other organs and tissues such as the eyes, lungs, kidneys, liver and digestive tract. In fact, the brain's receptors for cannabinoids far outnumber its opiate receptors, perhaps by as much as ten to one. The relative safety of cannabis is explained by the fact that cannabinoid receptors are virtually absent from those regions at the base of the brain that are responsible for such vital functions as breathing and heart control. CB2 receptors are primarily located in tissues associated with immune function, such as the spleen, thymus, tonsils, bone marrow, and white blood cells.

General Cannabis Information

Cannabis is a flowering plant that has fibrous stalks used for paper, clothing, rope, and building materials leaves, flowers, and roots used for medicinal purposes, and seeds used for food and fuel oil.

Cannabis leaves and flowers are consumed in several forms: dried flower buds or various types of concentrated, loose, or pressed resin extracted from the flowers or leaves through a variety of methods. Once mature, the plant’s leaves and flowers are covered with trichomes, tiny glands of resinous oil containing cannabinoids and terpenes that provide physical and psychoactive effects.

- 100+ different types of cannabinoids and terpenes.
- Concentrations or percent of each type of cannabinoid ranges widely from plant to plant and strain to strain.
- The first identified and best-known cannabinoid is THC (delta-9-tetrahydrocannabinol). THC has the most significant psychoactive effect of the cannabinoids.
- The ratio of THC to other cannabinoids varies from strain to strain. While THC has been the focus of breeding and research due to its various psychoactive and therapeutic effects, non-psychoactive cannabinoids have physiologic effects that can be therapeutic.
• Cannabidiol (CBD) relieves convulsions, inflammation, anxiety and nausea—many of the same therapeutic qualities as THC but without psychoactive effects. It is the main cannabinoid in low-THC cannabis strains, and modern breeders have been developing strains with greater CBD content for medical use.
• Cannabinol (CBN) is mildly psychoactive, decreases intraocular pressure, and seizure occurrence.
• Cannabichromene (CBC) promotes the analgesic effects (pain relief) of THC and has sedative (calming) effects.
• Cannabigerol (CBG) has sedative effects and antimicrobial properties, as well as lowers intraocular pressure.
• Tetrahydrocannabinvarin (THCV) is showing promise for type 2 diabetes and related metabolic disorders.

In addition to cannabinoids, other cannabis plant molecules are biologically active. A few other molecules known to have health effects are flavonoids and terpenes or terpenoids (the flavor and smell of the strain). Cannabinoids, terpenoids, and other compounds are secreted by the glandular trichomes found most densely on the floral leaves and flowers of female plants.

Effects
Different people have different experiences. One individual may feel stress release, while another feels over-stimulated and stressed, while another feels energized and on-task. There are many factors that impact the effect:

• Amount used (dosage)
• Strain of cannabis used and method of consumption
• Environment/setting
• Experience and history of cannabis use
• Biochemistry
• Mindset or mood
• Nutrition or diet

Types of Cannabis
Though cannabis is biologically classified as the single species Cannabis Sativa, there are at least three distinct plant varieties: Cannabis Sativa, Cannabis Indica, and Cannabis Ruderalis, though the last is rare. There are also hybrids, which are crosses between sativa and indica varieties. Cannabis used for fiber is typically referred to as hemp and has only small amounts of the psychoactive cannabinoid THC, usually less than 1%.

All types of medical cannabis produce effects that are more similar than not, including pain and nausea control, appetite stimulation, reduced muscle spasm, improved sleep, and others. But individual strains will have differing cannabinoid and terpene content, producing noticeably different effects. Many people report finding some strains more beneficial than others. For instance, strains with more CBD tend to produce better pain and spasticity relief. As noted above, effects will also vary for an individual based on the setting in which it is used and the person's physiological state when using it. In general, sativas and indicas are frequently distinguished as follows:

Sativas
The primary effects are on thoughts and feelings. Sativas tend to produce stimulating feelings, and many prefer it for daytime use. Some noted therapeutic effects from use of Sativas:
• Stimulating/energizing
• Increased sense of well-being, focus, creativity
• Reduces depression, elevates mood
• Relieves headaches/migraines/nausea
- Increases appetite
- Some noted Side-Effects from use of Sativas
- Increased anxiety feelings
- Increased paranoia feelings

**Indicas**
The primary effects are on the body. Indicas tend to produce sedated feelings, and many prefer it for nighttime use. Some noted Therapeutic Effects from use of Indicas:
- Provides relaxation/reduces stress
- Relaxes muscles/spasms
- Reduces pain/inflammation/headaches/migains
- Helps sleep
- Reduces anxiety
- Reduces nausea, stimulates appetite
- Reduces intra-ocular pressure
- Reduces seizure frequency/anti-convulsant
- Some noted Side-Effects from use of Indicas
- Feelings of tiredness
- “Fuzzy” thinking

**Hybrids**
Strains bred from crossing two or more varieties, with typically one dominant. For example, a sativa-dominant cross may be helpful in stimulating appetite and relaxing muscle spasms. Crosses are reported to work well to combat nausea and increase appetite.

**Cannabis Extracts and Concentrates**
The dried flower or bud from the manicured, mature female plant is the most widely consumed form of cannabis in the U.S. Elsewhere in the world, extracts or concentrates of the cannabis plant are more commonly used. Concentrates are made from cannabinoid-rich glandular trichomes, which are found in varying amounts on cannabis flowers, leaves and stalks. The flowers of a mature female plant contain the most trichomes.

**Kief**
Kief is a powder made from trichomes removed from the leaves and flowers of cannabis plants. Can be compressed to produce cakes of hashish, or consumed (typically smoked) in powder form in a pipe or with cannabis bud or other herbs.

**Hashish**
Hashish (also known as hash or hashisha) is a collection of compressed or concentrated resin glands (trichomes). Hash contains the same active cannabinoids as the flower and leaves but typically in higher concentrations (in other words, hash is more potent by volume than the plant material from which it was made).

Hashish usually is a paste-like substance with varying hardness. Good quality is typically described as soft and pliable. It becomes progressively harder and less potent as it oxidizes and oil evaporates.
- THC content of hashish ranges from 15-70%.
- Often smoked with a small pipe. Can be used in food, in a hookah, vaporizer, mixed with joints of cannabis bud or aromatic herbs.
- Color varies from black to brown to golden or blonde. Color typically reflects methods of harvesting, manufacturing, and storage.
Hash oil
Hash oil is a mix of essential oils and resins extracted from mature cannabis foliage through the use of various solvents such as ethanol or hexane. The solvent is then evaporated, which leaves the oil.

- Honey oil contains waxes and essential oils.
- Tends to have a high proportion of cannabinoids—a range from 30 to 90% THC content can be found.
- Can smoke with a specialty pipe for hash oil or hash, with a vaporizer, with cannabis bud in a pipe, joint, or added to food.

Edibles
Cannabis can be ingested or eaten when added to cake, cookies, dressings, and other foods. It can also be brewed into a tea or other beverage. To be effective, cannabis and its extracts or concentrates must be heated in order to convert the cannabinoid tetrahydrocannabinolic acid into active THC. Digestive processes alter the metabolism of cannabinoids and produce a different metabolite of THC in the liver. That metabolite may produce markedly different effects or negligible ones, depending on the individual. Onset of effects are delayed and last longer due to slower absorption of the cannabinoids.

- Cannabinoids are fat-soluble, hydrophobic oils, meaning they dissolve in oils, butters, fats and alcohol, but not water.
- Processes using oil, butter, fat or alcohol can extract the cannabinoids from plant material.

Various forms of converted cannabis can be used for edible medicating. Each can be made from cannabis flowers, leaves of concentrates such as hash. The potency of the edible will depend on the material used in making it and the amount used. Edibles made with hash will be stronger than those made from leaf trim.

Cannabis Oil
Cannabis Oil (cannaoil): is cooking oil infused with cannabinoids. Can be used in any recipe that includes oil and that doesn't go over 280 degrees Fahrenheit (evaporating point).

Cannabis Butter
Cannabis Butter (cannabutter) is butter infused with cannabinoids. The butter and cannabis mix is combined and heating so that the cannabinoids are extracted and infused into the fat. Cannabis butter can be used in any recipe that includes butter and doesn't go over 280 degrees Fahrenheit.

Tincture
Tinctures use ethanol alcohol (e.g. pure grain alcohol, not rubbing alcohol) or other solvents to extract the cannabinoids. You use droplet amounts, and it is absorbed through the mucous membranes in the mouth.

Spray
Sublingual sprays is another way of using a tincture. Use ethanol alcohol or other solvents to extract the cannabinoids. You use a pump to spray cannabis-alcohol solution under your tongue.

Cannabis Topicals
Cannabinoids combined with a penetrating topical cream can enter the skin and body tissues and allow for direct application to affected areas (e.g. allergic skin reactions, post-herpes neuralgia, muscle strain, inflammation, swelling, etc.).

- Cannabinoids in cannabis interact with CB1 and CB2 receptors that are found all over the body, including the skin.
- Both THC and Cannabidiol (CBD) have been found to provide pain relief and reduce inflammation.
- Topical cannabis use does not produce a psychoactive effect, which is different from eating or inhaling the medicine.
Different types of cannabis topicals include:

- Salve: cannabinoids heated into coconut oil combined with bees wax and cooled. Rub directly on skin.
- Cream: cannabinoids heated into shea butter combined with other ingredients and cooled. Rub directly on skin.

Topicals may produce anti-inflammatory and analgesic or pain relief effects. Research has to date been limited to studies on allergic and post-herpes skin reactions and pain relief. Anecdotal reports on topical treatment efficacy include:

- Certain types of dermatitis (including atopic) and psoriasis
- Balm for lips, fever blisters, herpes
- Superficial wounds, cuts, acne pimples, furuncles, corns, certain nail fungus
- Rheumatism and arthritic pains (up to the 2nd degree of arthritis)
- Torticollis, back pains, muscular pains and cramps, sprains and other contusions
- Phlebitis, venous ulcerations
- Hemorrhoids
- Menstruation pains
- Cold and sore throat, bronchitis
- Asthmatic problems with breathing
- Chronical inflammation of larynx (application in the form of a Priessnitz compress)
- Migraine, head pains, tension headaches

Methods of Consumption
Adjust the Way You Use Cannabis. One of the great aspects of cannabis is that there are many ways to use the medicine effectively.

Ingest via Eating
This is one of the safest ways to consume your medication, but understand that the effects from eaten cannabis may be more pronounced and onset of the effects will be delayed by an hour or more and typically last longer than inhalation. Using edible cannabis effectively will usually take some experimentation with particular product types and dosage. Digesting cannabis also metabolizes the cannabinoids somewhat differently and can produce different subjective effects, depending on the individual.

- Use small amounts of edibles and wait 2 hours before gradually increasing the dose, if needed. Take care to find and use the right dose-excessive dosage can be uncomfortable and happens most often with edibles.
- Try cannabis pills made with hash or cannabis oil.

Ingest via Tinctures/Sprays
This is one of the safest ways to consume your medication.

- Find your ideal dosage to enhance your therapeutic benefits. Start with no more than two drops and wait at least an hour before increasing the dosage, incrementally and as necessary.

Apply via Topicals
This is one of the safest ways to consume your medication and may be the best option for certain pains or ailments. Rubbing cannabis products on the skin will not result in a psychoactive effect.

Inhale via Smoking
Because the effects are noticed or felt quickly, this is a good way to get immediate relief and find the best dose for you. Research has shown that smoking cannabis does not increase your risk of lung or other cancers, but because it entails inhaling tars and other potential irritants, it may produce unpleasant bronchial effects such as harsh coughing.
• Smoke as little as possible. Try 1 to 3 inhalations and wait 10 to 15 minutes to find the right dosage. Increase dosage as necessary.
• Take smaller, shallower inhalations rather than deep inhales. Holding smoke in does not increase the effects; studies show that 95% of the THC is absorbed in the first few seconds of inhaling.
• If consuming with others, for health reasons, try not to share the smoking device. If sharing, quickly apply flame to the pipe mouthpiece or wipe with rubbing alcohol to kill germs.
• To avoid inhaling unnecessary chemicals, use hemp paper coated with beeswax to light your medicine rather than matches or a lighter.

**Inhale via Vaporizer**
This is the safest way to inhale your medicine because it heats the cannabinoid-laden oils to the point where they become airborne vapors, without bringing the other plant material to combustion, drastically reducing the amount of tars and other chemical irritants that you otherwise would inhale. Vaporizers also emit much less odor than any type of smoking.

**Cannabis Dosage**
Due to the wide range of types of cannabis, the various cannabis products, and individual responses to various cannabinoids, dosages may vary. At The Dispensary Fulton, we advise patients to ‘start low and go slow.’ Generally smoking and vaporization lead to the fastest onset of effects which can occur in 1 to 30 minutes. For ingestion, effects may not be felt for up to two hours. Illinois law required edibles to be labeled with dosage information. Maintaining a record of medicine consumed, type, onset, duration, and medical benefits is a good way to maintain accurate records and determine your most beneficial dosage level.

**Cannabis Safety and Effects**
Cannabis and its psychoactive cannabinoid, THC, have an excellent safety profile. The Drug Awareness Warning Network Annual Report, published by the Substance Abuse and Mental Health Services Administration (SAMHSA), contains a statistical compilation of all drug deaths which occur in the United States. According to this report, there has never been a death recorded from the use of cannabis.

DEA Chief Administrative Law Judge, Francis Young, in response to a petition to reschedule cannabis under federal law concluded in 1988 that, “In strict medical terms marijuana is far safer than many foods we commonly consume.... Marijuana in its natural form is one of the safest therapeutically active substances known to man. By any measure of rational analysis marijuana can be safely used within the supervised routine of medical care.”

More than a decade later, Institute of Medicine investigators considered the physiological risks of using cannabis and concluded that “Marijuana is not a completely benign substance. It is a powerful drug with a variety of effects. However, except for the harms associated with smoking, the adverse effects of marijuana use are within the range of effects tolerated for other medications.”

Since the IOM report, research on the long term effects of smoking cannabis that studied thousands of users over decades has shown that smoking moderate amounts of cannabis (equivalent to a joint a day) has no negative effects on lung function, even in those who have consumed more than 10,000 joints.
Toxicity, Risk of Overdose
Cannabis has an extraordinarily high estimated lethal dose, equivalent to smoking approximately 1,500 pounds in 15 minutes, a physical impossibility. Scientists have had to estimate the LD50, or Lethal Dose for 50% of the human population, because it has never been demonstrated. This puts cannabis in a class of its own, since even relatively safe medications such as aspirin have a lethal dose. Dr. Grinspoon had this to say in a 1995 article in the Journal of the American Medical Association:

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

That technology Dr. Grinspoon envisioned is now readily available in the form of vaporizing devices, manufactured by many companies. And, as mentioned previously, recent research on the rate of lung cancer and pulmonary diseases among even heavy cannabis smokers has revealed that they have no greater risk of lung cancer, obstructive pulmonary disease, or other adverse effects on pulmonary function than those who smoke nothing at all. However, cannabis should not be considered a harmless substance. Cannabis has a number of physiological effects, such as rapid heart rate and dilation of the blood vessels that, in limited cases, could be hazardous, particularly for those with pre-existing cardiac conditions. These adverse effects are within the range tolerated for most FDA-approved medications, and tend to dissipate with continued use.

As Dr. Grinspoon observes, “The greatest danger in medical use of marihuana is its illegality, which imposes much anxiety and expense on suffering people, forces them to bargain with illicit drug dealers, and exposes them to the threat of criminal prosecution.”
Marijuana

What is marijuana?

Marijuana refers to the dried leaves, flowers, stems, and seeds from the hemp plant, Cannabis sativa. The plant contains the mind-altering chemical delta-9-tetrahydrocannabinol (THC) and other related compounds. Extracts with high amounts of THC can also be made from the cannabis plant (see "Marijuana Extracts" on page 2).

Marijuana is the most commonly used illicit drug in the United States (SAMHSA, 2014). Its use is widespread among young people. According to a yearly survey of middle and high school students, rates of marijuana use have steadied in the past few years after several years of increase. However, the number of young people who believe marijuana use is risky is decreasing (Johnston, 2014).

Legalization of marijuana for medical use or adult recreational use in a growing number of states may affect these views. Read more about marijuana as medicine in DrugFacts: Is Marijuana Medicine? at www.drugabuse.gov/publications/drugfacts/marijuana-medicine.

How do people use marijuana?

People smoke marijuana in hand-rolled cigarettes (joints) or in pipes or water pipes (bongs). They also smoke it in blunts—emptied cigars that have been partly or completely refilled with marijuana. To avoid inhaling smoke, more people are using vaporizers. These devices pull the active ingredients (including THC) from the marijuana and collect their vapor in a storage unit. A person then inhales the vapor, not the smoke.

Users can mix marijuana in food (edibles), such as brownies, cookies, or
candy, or brew it as a tea. A newly popular method of use is smoking or eating different forms of THC-rich resins (see "Marijuana Extracts").

How does marijuana affect the brain?

Marijuana has both short- and long-term effects on the brain.

Short-term effects

When a person smokes marijuana, THC quickly passes from the lungs into the bloodstream. The blood carries the chemical to the brain and other organs throughout the body. The body absorbs THC more slowly when the person eats or drinks it. In that case, the user generally feels the effects after 30 minutes to 1 hour.

THC acts on specific brain cell receptors that ordinarily react to natural THC-like chemicals in the brain. These natural chemicals play a role in normal brain development and function.

Marijuana overactivates parts of the brain that contain the highest number of these receptors. This causes the "high" that users feel. Other effects include:

- altered senses (for example, seeing brighter colors)
- altered sense of time
- changes in mood
- impaired body movement
- difficulty with thinking and problem-solving
- impaired memory

Long-term effects

Marijuana also affects brain development. When marijuana users begin using as teenagers, the drug may reduce thinking, memory, and learning functions and affect how the brain builds connections between the areas necessary for these functions.

Marijuana Extracts

Smoking THC-rich resins extracted from the marijuana plant is on the rise. Users call this practice dabbing. People are using various forms of these extracts, such as:

- hash oil or honey oil—a gooey liquid
- wax or budder—a soft solid with a texture like lip balm
- shatter—a hard, amber-colored solid

These extracts can deliver extremely large amounts of THC to users, and their use has sent some people to the emergency room. Another danger is in preparing these extracts, which usually involves butane (lighter fluid). A number of people who have used butane to make extracts at home have caused fires and explosions and have been seriously burned.
Marijuana's effects on these abilities may last a long time or even be permanent.

For example, a study showed that people who started smoking marijuana heavily in their teens and had an ongoing cannabis use disorder lost an average of eight IQ points between ages 13 and 38. The lost mental abilities did not fully return in those who quit marijuana as adults. Those who started smoking marijuana as adults did not show notable IQ declines (Meier, 2012).

**What are the other health effects of marijuana?**

Marijuana use may have a wide range of effects, both physical and mental.

*Physical effects*

- **Breathing problems.** Marijuana smoke irritates the lungs, and frequent marijuana smokers can have the same breathing problems that tobacco smokers have. These problems include daily cough and phlegm, more frequent lung illness, and a higher risk of lung infections. Researchers still do not know whether marijuana smokers have a higher risk for lung cancer.

- **Increased heart rate.** Marijuana raises heart rate for up to 3 hours after smoking. This effect may increase the chance of heart attack. Older people and those with heart problems may be at higher risk.

- **Problems with child development during and after pregnancy.** Marijuana use during pregnancy is linked to increased risk of both brain and behavioral problems in babies. If a pregnant woman uses marijuana, the drug may affect certain developing parts of the fetus's brain. Resulting challenges for the child may include problems with attention, memory, and
problem-solving. Additionally, some research suggests that moderate amounts of THC are excreted into the breast milk of nursing mothers. The effects on a baby’s developing brain are still unknown.

**Mental effects**

Long-term marijuana use has been linked to mental illness in some users, such as:
- temporary *hallucinations*—sensations and images that seem real though they are not
- temporary *paranoia*—extreme and unreasonable distrust of others
- worsening symptoms in patients with *schizophrenia* (a severe mental disorder with symptoms such as hallucinations, paranoia, and disorganized thinking)

Marijuana use has also been linked to other mental health problems, such as:
- depression
- anxiety
- suicidal thoughts among teens

How does marijuana affect a user’s life?

Compared to nonusers, heavy marijuana users more often report the following:
- lower life satisfaction
- poorer mental health
- poorer physical health
- more relationship problems

Users also report less academic and career success. For example, marijuana use is linked to a higher likelihood of dropping out of school (McCaffrey, 2010). It is also linked to more job absences, accidents, and injuries (Zwerling, 1990).

How can people get treatment for marijuana addiction?

Long-term marijuana users trying to quit report withdrawal symptoms that make quitting difficult. These include:
- gruchiness
- sleeplessness
- decreased appetite
- anxiety
- cravings

Behavioral support has been effective in treating marijuana addiction. Examples include therapy and motivational incentives (providing rewards to patients who remain substance free). No medications are currently available to treat marijuana addiction. However, continuing research may lead to new medications that help ease withdrawal symptoms, block the effects of marijuana, and prevent relapse.
Points to Remember

- Marijuana refers to the dried leaves, flowers, stems, and seeds from the hemp plant, *Cannabis sativa*.
- The plant contains the mind-altering chemical *delta*-9-*tetrahydrocannabinol* (THC) and other related compounds.
- People use marijuana by smoking, eating, drinking, and inhaling it.
- Smoking THC-rich extracts from the marijuana plant (a practice called *dabbing*) is on the rise.
- THC overactivates certain brain cell receptors, resulting in effects such as:
  - altered senses
  - changes in mood
  - impaired body movement
  - difficulty with thinking and problem-solving
  - impaired memory and learning
- Marijuana use may have a wide range of effects, both physical and mental, which include:
  - breathing illnesses
  - possible harm to a fetus's brain in pregnant users
  - hallucinations and paranoia
- The amount of THC in marijuana has been increasing steadily, creating more harmful effects for users.
- Marijuana can be addictive.
- Treatment for marijuana addiction includes forms of behavioral therapy. No medications currently exist for treatment.

Learn More

For more information on marijuana and marijuana use, visit:
[www.drugabuse.gov/publications/research-reports/marijuana-abuse](http://www.drugabuse.gov/publications/research-reports/marijuana-abuse)

[www.drugabuse.gov/publications/drugfacts/drugged-driving](http://www.drugabuse.gov/publications/drugfacts/drugged-driving)

For more information on marijuana as medicine and on state laws related to marijuana, visit:

[www.whitehouse.gov/ondcp/state-laws-related-to-marijuana](http://www.whitehouse.gov/ondcp/state-laws-related-to-marijuana)

Monitoring the Future

Learn more about the Monitoring the Future survey, which annually measures drug, alcohol, and tobacco use and related attitudes among teenage students nationwide:

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References


KNOW THE FACTS

• “Pharm parties” are quickly becoming popular among adolescents. Prescription drugs are dumped in a bowl and taken by the handful, which results in dangerous drug interactions and overdoses.

• Every day, 2,500 youth 12- to 17-years of age abuse a prescription pain reliever for the first time.

• Among young adults 18- to 25-years of age, prescription drug abuse is second only to marijuana use.

• Prescription drug abuse causes the largest percentage of deaths from drug overdosing.

• Surveys show nearly half of teens believe prescription drugs are much safer than illegal street drugs. Sixty percent to 70 percent of teen prescription drug abusers say home medicine cabinets are their source.

Medicines recommended for disposal by flushing

#Flushing_list

Prescription drug packages inserts

http://dailymed.nlm.nih.gov/dailymed/about.cfm

Information about the dangers of prescription drugs

www.talkaboutrx.org

BASIC MEDICATION SAFETY TIPS

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SAFEGUARD YOUR MEDICATIONS

• **Store medications in a secure and dry place.** Do not leave medications in a visible place. Consider using a lock box or hiding them somewhere where they cannot be found.

• **Keep track of your medicine.** Count how many pills you have at any given time to check for missing medicine.

• **Don’t share your medications under any circumstances.**

• **Keep a low profile.** Your medications are your business. Do not tell your friends about the medicines you take.

DISPOSE UNUSED MEDICATIONS

Medications play an important role in treating many conditions and diseases, but when they are no longer needed it’s important to dispose of them properly to avoid harm to others. Here are ways to properly remove expired, unwanted or unused medicines from the home.

• **Medicine take-back programs.** Contact your city or county government’s household trash and recycling service to see if there is a medicine take-back program.

• **Disposal in household trash.** Mix medicines (do not crush tablets or capsules) with an unpleasant substance, such as kitty litter or expired food, then place the mixture in a container, such as a sealed plastic bag, and throw it in your household trash.

• **Always remember to scratch out information on the prescription label to make it unreadable.**

Medications can be harmful and fatal when used by someone other than the person for whom the medicine was prescribed. To prevent accidental ingestion by children, pets or anyone else, some medications have specific disposal instructions to be flushed down the sink or toilet as soon as they are no longer needed, and when they cannot be disposed of through a medicine take-back program. For a detailed list of medicines that can be flushed, see the website information on the back of the brochure.
COMMONLY ABUSED PRESCRIPTION DRUGS

1. Stimulants are prescribed to treat ADHD or narcolepsy.
   These medications, which include Adderall, Concerta and Ritalin, can speed up brain activity, which causes increased alertness, attention and energy.

2. Sedatives/depressants are prescribed to treat anxiety, panic attacks and sleep disorders.
   These medications, which include Valium, Xanax and Ambien, slow down or “depress” the functions of the brain and central nervous system.

3. Opioids are prescribed to treat moderate-to-severe pain.
   These medications, which include Vicodin, OxyContin and Percocet, can block pain messages from reaching the brain and give a feeling of euphoria.

HELP IS AVAILABLE

If you suspect a friend, roommate or loved one is abusing prescription drugs, there is help.

Substance Abuse and Mental Health Services Administration (SAMHSA) Center for Substance Abuse Treatment (CSAT)
Contact: 240-276-2750
www.csat.samhsa.gov

SAMHSA's National Helpline:
800-662-HELP (English and Spanish)
800-487-4889 (TDD)

Substance Abuse Treatment Facility Locator:
www.samhsa.gov/treatment

MISUSE OF PRESCRIPTION DRUGS CAN KILL YOU.
MAKING SENSE OF MISUSE AND ABUSE

Someone is misusing a prescription medication if they take a medication prescribed to them differently or at a higher dose than recommended by their physician, or they use someone else’s medication.

Someone is abusing a prescription drug if they intentionally use a prescription drug to experiment, feel good or get “high.” Someone who abuses prescription drugs also is likely to combine them with alcohol and/or other pills and then snort or inject them to get a quicker, more intense high.

Whatever the reason, using medications without a prescription is illegal and can lead to addiction, overdose and even death.

Many people mistakenly believe prescription medications are safe because they are FDA approved and prescribed by a doctor. However, all medications have risks and they are only safe when taken as directed by the person for whom they were prescribed. Misusing or abusing prescription medications is dangerous and can lead to long-term health problems, such as:

- High blood pressure or heart rate
- Organ damage
- Addiction
- Difficulty breathing
- Seizures
- Heart attack
- Stroke
- Death

SIGNS AND SYMPTOMS

Common reactions to misuse and abuse of prescription drugs include:

- Anxiety
- Dizziness
- Inability to concentrate
- Paranoia
- Vomiting
- Increase in body temperature
- Hostility
- Euphoria
- Sweating
- Decreased energy levels

WITHDRAWAL SYMPTOMS

When someone is addicted to prescription drugs, sudden cessation is often very dangerous. The safest way to quit is a slow decrease in the amount of drugs used under the supervision of a health professional.

Withdrawal symptoms can include:

- Seizures
- Chills
- Nausea
- Insomnia
- Drastic mood changes
- Pain
- Raised blood pressure
- Sweating
- Death