

What Marijuana Does To Your Body And Brain

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There are pros and cons pertaining to marijuana use. It's correct for both sides to be presented. Read with discernment.

It's 4/20. For those not in the know, "4/20" is the unofficial holiday for pot smokers and marijuana legalization activists around the world to celebrate by lighting up on April 20.

The Huffington Post's Ryan Grim [traced the term back to 1971](#). A group of California high school friends, known as the "Waldos" used "4/20" as a code word to refer to the time of the day when they would smoke outside of school.

This year, for the first time, residents of Colorado, Washington, and Uruguay can celebrate the day with legal recreational marijuana.

The plant, best-known for its "feel-good" effects and touted for its uses for multiple diseases, can also be damaging to our bodies and minds.

The high you get from marijuana mostly comes from a chemical called Tetrahydrocannabinol, also known as THC, which is found in varying potency in different strains of cannabis.

Most of THC's effects happen in the brain, where the chemical interacts with receptors on brain cells called cannabinoid receptors. Our bodies actually make chemicals very similar to THC, which are used in normal brain function and development. THC co-opts these natural pathways to produce most of its effects.

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Marijuana makes us feel good.



When THC hits brain cells, it causes them to release dopamine, a feel-good brain chemical. This is a part of the brain's reward system, which makes you feel good when you do things that ensure the survival of yourself and your offspring. These things include eating and having sex.

When over-excited by drugs, the reward system creates feelings of euphoria.

But that's not all good. It can mess up your reward system.



When the rewards system is overstimulated, for example, by the abuse of drugs like cocaine, it can go haywire and cause a dependence (or in extreme cases addiction) on whatever is providing the rewarding feeling. It can also diminish how rewarding normal things, like eating, feel. This can cause apathy and dependence on the drug.

It blocks memory formation.



The active ingredient in marijuana acts in the part of the brain called the hippocampus to alter the way information is processed and how memories are formed. Animal studies have shown that this is particularly true [while the brain is still developing](#) — specifically why the legal smoking age is 21 in the states that have legalized it.

This blockage of memory formation can cause cognitive impairment in adulthood if use happens during adolescence, at least in rats. It can also quicken age-related brain cell loss, though marijuana has been shown to [slow the progression of Alzheimer's disease](#).

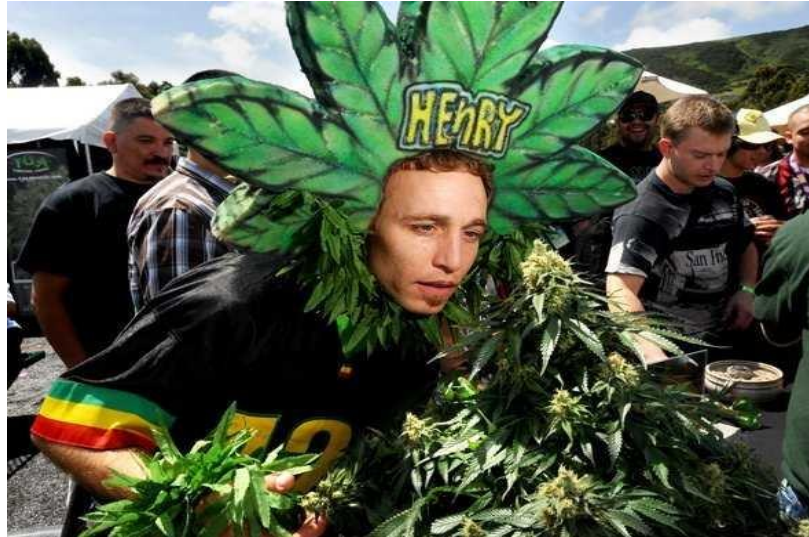
THC messes with your balance.



THC messes with brain areas called the cerebellum and basal ganglia, which regulate balance, posture, coordination, and reaction time. When these brain areas are disturbed,

the user has a harder time walking and talking correctly, becoming quite clumsy. It also impacts their ability to drive.

Cannabis use may increase the risk of depression.



Although there is no conclusive evidence that marijuana makes users depressed (it's just as likely that people who are depressed use pot), one recent study from the Netherlands found that smoking cannabis [increases the risk of depression for young people who have a genetic vulnerability](#) to the mental illness.

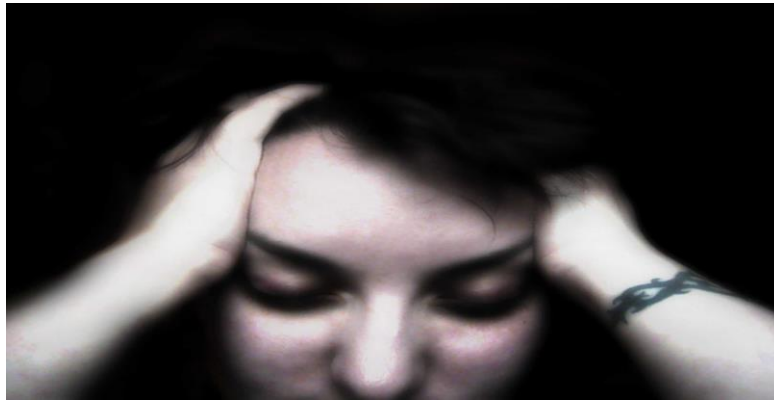
In the long-term, smoking marijuana increased depressive symptoms in subjects with a special serotonin gene responsible for increased risk of depression.

Intense anxiety, fear, distrust, or panic are common side effects.



Somewhere between 20 and 30 percent of recreational marijuana users react with intense anxiety after taking the drug, making it one of the most commonly reported side effects.

But it may decrease anxiety too, provided people don't consume too much.



Medical marijuana users claim that the drug helps relieve pain and suppress nausea — the two main reasons it's often used to relieve the side effects of chemotherapy.

[In 2010, researchers at Harvard Medical School](#) suggested that that these benefits may actually be from reduced anxiety, which would improve the smoker's mood and act as a sedative in low doses. Beware, though, higher doses may increase anxiety and make you paranoid.

Marijuana users may experience psychosis.



Marijuana users who have taken large doses of the drug may experience acute psychosis, which includes hallucinations, delusions, and a loss of the sense of personal identity. These episodes may be related to the link between marijuana use and psychosis, but are distinct.

Audio and visual hallucinations are common.



Along with actual psychosis, cannabis users can also have audio and visual hallucinations from the effects on the brain areas that process what we see and hear.

These audio hallucinations include “looping” sounds, where one particular sound (that is usually one syllable in duration) will repeat over and over again until it is either replaced by a different sound or the effects of THC begin to wear off.

It robs you of sleep.



Aaron Jacobs/Flickr

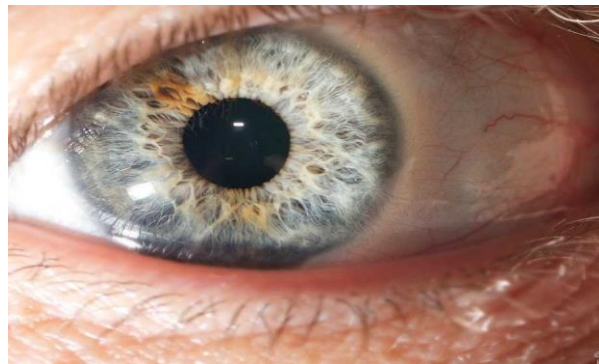
There are five stages of sleep, which get progressively deeper as the night goes on. The first four stages are called rapid eye movement, or REM. THC, the main active chemical in marijuana, has been shown to [interrupt the later phases of REM sleep](#), the point during the night that is most crucial to making the body feel re-energized when you wake up.

Inhaling marijuana causes your heart rate to increase.



Within a few minutes of inhaling marijuana, your heart rate increases, sometimes by 20 to 50 beats per minute (normal is 70 to 80 beats per minute). In some cases, like when taking other drugs with marijuana, heart rate can double. This heart rate increase usually subsides relatively quickly, in about 20 minutes.

It may cause red eyes.



The traditional red eyes of a marijuana user — Visine anyone? — come from blood vessels expanding in the eye.

It can lead to dry mouth.



One uncomfortable effect of smoking weed is dry mouth or thirst.

The common side-effect, equivalent to the feeling of having a bunch of cotton balls shoved in your mouth, is not just the result of inhaling hot smoke. It turns out [cannabinoids receptors are located where our saliva is produced](#). When these receptors are activated by cannabis use, they inhibit the production of saliva.

You may get the munchies.



After marijuana intake, most people feel the need to eat. And eat a lot. The drug increases food enjoyment and interest in food, increasing appetite. This is thought to be caused by the THC interacting with the cannabinoid receptors in a brain area called the hypothalamus.

Interestingly, a link has been drawn between milk products and cannabinoids. Some researchers think that these cannabinoids in milk play an important role in infant survival, because they stimulate the child's appetite and cause them to eat more and suckle, which could be why THC has a similar effect in adults.

But it keeps you skinny and helps your metabolism.



A study published in the [American Journal Of Medicine on April 15, 2013](#) suggested that pot smokers are skinnier than the average person and have healthier metabolism and reaction to sugars, even though they do end up eating more calories because of the munchies.

The study analyzed data from more than 4,500 adult Americans — 579 of whom were current marijuana smokers, meaning they had smoked in the last month. About 2,000 had used marijuana in the past, while another 2,000 had never used the drug.

They studied their body's response to eating sugars: their levels of the hormone insulin and their blood sugar levels while they hadn't eaten in nine hours, and after eating sugar. Not only are pot users skinnier, but their body has a healthier response to sugar.

It's better for your lungs than tobacco.



According to a [study published in Journal of the American Medical Association](#) in January, marijuana does not impair lung function and can even increase lung capacity.

Researchers looking for risk factors of heart disease tested the lung function of 5115 young adults over the course of 20 years. Tobacco smokers lost lung function over time, but pot users actually showed an increase in lung capacity.

The increased lung capacity may due to taking a deep breaths while inhaling the drug.

It controls epileptic seizures.



[Marijuana use can prevent epileptic seizures, a 2003 study showed.](#)

Robert J. DeLorenzo of Virginia Commonwealth University, gave marijuana extract and synthetic marijuana to epileptic rats. The drugs rid the rats of the seizures for about 10 hours. Cannabinoids like the active ingredient in marijuana, tetrahydrocannabinol (also known as THC), control seizures by binding to the brain cells responsible for controlling excitability and regulating relaxation.

The findings were published in the [Journal of Pharmacology and Experimental Therapeutics](#).

It relieves arthritis discomfort.



Marijuana alleviates pain, reduces inflammation, and promotes sleep, which may [help relieve pain and discomfort for people with rheumatoid arthritis, researchers announced in 2011](#).

Researchers from rheumatology units at several hospitals gave their patients, sativex, a cannabinoid-based pain-relieving medicine. After a two week period, people on [Sativex had a significant reduction in pain](#) and improved sleep quality compared to placebo users.

Marijuana treats inflammatory bowel diseases.



Patients with inflammatory bowel diseases like Crohn's disease and ulcerative colitis [could benefit from marijuana use](#), studies suggest.

University of Nottingham researchers found in 2010 that chemicals in marijuana, including THC and cannabidiol, interact with cells in the body that play an important role in gut function and immune responses. The study was published in the [Journal of Pharmacology and Experimental Therapeutics](#).

THC-like compounds made by the body increase the permeability of the intestines, allowing bacteria in. The plant-derived cannabinoids in marijuana block these body-cannabinoids, preventing this permeability and making the intestinal cells bond together tighter.

THC slows the progression of Alzheimer's disease.

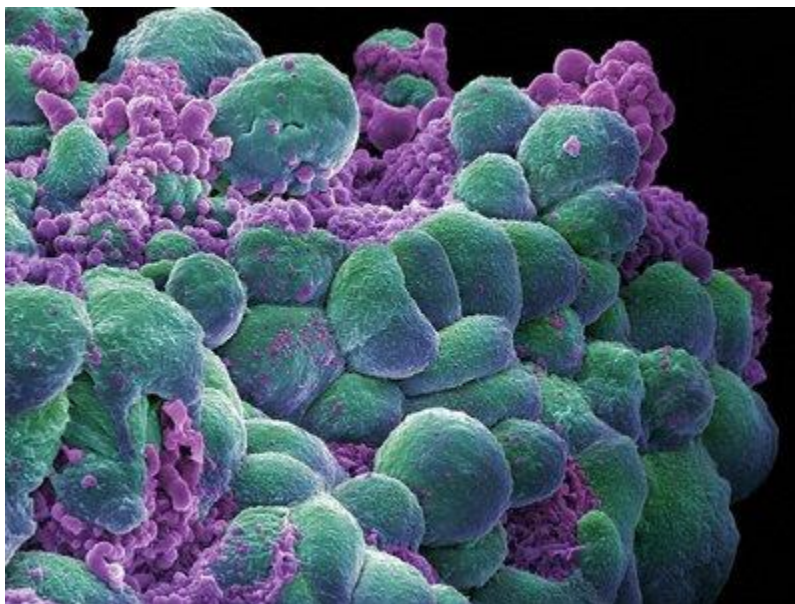


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Marijuana may be able to slow [the progression of Alzheimer's disease](#), a study led by [Kim Janda](#) of the Scripps Research Institute suggests.

The 2006 study, published in the journal [Molecular Pharmaceutics](#), found that THC, the active chemical in marijuana, slows the formation of amyloid plaques by blocking the enzyme in the brain that makes them. These plaques are what kill brain cells and cause Alzheimers.

A chemical found in marijuana stops cancer from spreading.



One chemical found in marijuana, called cannabidiol, [prevents cancer from spreading](#), researchers at California Pacific Medical Center in San Francisco reported in 2007.

Cannabidiol stops cancer by [turning off a gene called Id-1](#), the study, published in the journal Molecular Cancer Therapeutics, found. Cancer cells make more copies of this gene than non-cancerous cells, and it helps them spread through the body.

The researchers studied breast cancer cells in the lab that had high expression levels of Id-1 and treated them with cannabidiol. After treatment the cells had decreased Id-1 expression and were less aggressive spreaders.

Here's the way it works in Colorado.

[Here's How Easy It Is To Buy Weed From A Store In Colorado Now](#)

