

## UNIVERSITY STUDENT HEALTH SERVICES • Fact Sheet

## CANNABIS (MARIJUANA)

**CANNABIS PHARMACOLOGY**

Marijuana is a mind-altering substance that comes from the hemp plant *Cannabis sativa*. It contains over 400 compounds, including more than 60 cannabinoids. The primary psychoactive cannabinoid in marijuana is delta-9-tetrahydrocannabinol (THC). THC is most highly concentrated in the dried buds of the female *Cannabis* plant.

The amount of THC in marijuana has more than doubled from 1983 to 2009, making it a much more potent drug. This can increase the risk of unpredictable side effects, as well as the risk of addiction.

Cannabis can be smoked or ingested as food or drink:

- THC is more rapidly absorbed into the bloodstream when inhaled, and its effects are felt almost immediately, lasting 1-3 hours. When taken orally, effects last longer.
- THC acts on cannabinoid receptors in the brain and other parts of the body, producing a variety of physical and mind-altering effects.
- THC accumulates in the body's fatty tissue, from where it is slowly released and eliminated. It can be detectable in the body for 12-30 days after use.

**CANNABIS USE AT VCU**

According to 2012 data,

- 60.6% of VCU students have **never** used marijuana.
- 86.1% have **not** used marijuana in the past 30 days.

**CANNABIS & THE LAW**

- By federal law, marijuana is a Schedule I controlled substance, meaning that it is a drug with increased potential for abuse and no known medical use.
- Despite this designation, 23 states and Washington D.C. have legalized medical marijuana use to varying degrees.
  - Marijuana may help decrease pain, nausea, loss of appetite, and other symptoms caused by cancer or cancer treatment.
  - In Virginia, limited access laws allow marijuana to be prescribed for the treatment of cancer or glaucoma. A new law also allows patients with intractable epilepsy who are in possession of low-THC cannabis oils to avoid convictions.
  - Current scientific evidence has not been sufficient for marijuana to gain FDA approval. However, there are THC-based medications that are FDA-approved for the treatment of pain and nausea.
- Four states (Colorado, Washington, Oregon, & Alaska) and the District of Columbia have legalized recreational marijuana use.

**THE GOOD AND THE NOT-SO-GOOD**

With cannabis' legal status changing across the country and around the world, you may find yourself in a place where cannabis use is legal. It's helpful for users and potential users to consider the pros and cons of marijuana use. Everyone is different, and effects that are considered positive by some may not be enjoyable to others.

**■ WHAT USERS LIKE**

Many cannabis users consider these effects to be positive:

- A sense of euphoria.
- Heightened sensory perception (eg. music may sound better, eating may be more pleasurable).
- Reduced anxiety (though anxiety is increased in some).

**■ WHAT USERS DON'T LIKE**

A recent study asked regular users what they didn't like about their marijuana use. Here are their **top 10** responses:

1. Eating too much.
2. Sleep problems.
3. Issues with productivity, apathy, motivation; boredom.
4. Problems with cognition, attention, concentration.
5. Memory problems.
6. Coughing or lung problems.
7. Antisocial tendencies, social awkwardness.
8. Physical difficulties not related to the lungs, mouth, or throat (eg. feeling sick, dizzy, uncoordinated, etc.).
9. Not getting things done.
10. Spending too much money.

**EFFECTS OF CANNABIS ON THE BODY**

Because cannabinoid receptors are located throughout the body, marijuana use can cause a variety of physical effects. In addition to the symptoms noted in the top 10 list above, other effects include:

- Increased heart rate and blood pressure. The increase in heart rate (from 20-100%) can last up to 3 hours after smoking and can lead to palpitations and irregular heart rhythms. This can also contribute to increased anxiety.
- Increased respiratory rate, which can cause breathing problems.
- Increased risk for chronic cough, bronchitis, and pneumonia in frequent cannabis smokers. This is because cannabis smoke contains many of the same components as tobacco smoke that cause respiratory problems.
- Red eyes, dry mouth.
- Tremors, headaches.
- Cancer risks associated with marijuana use are under investigation.

**EFFECTS OF CANNABIS ON THE BRAIN**

Cannabinoid receptors in the brain are concentrated in areas that influence pleasure, memory, thinking, concentration, sensory and time perception, and coordinated movement.

- In small quantities, users find marijuana both relaxing and stimulating. After the initial euphoria, users often feel sleepy. Some may feel depressed or anxious.
- In larger quantities (or with stronger strains), users may experience mild hallucinations, anxiety, panic, or paranoia.
- Like alcohol, marijuana can impair driving because it slows down reaction time and impairs judgment.
- Taking marijuana with other drugs, including alcohol, can increase the effects of both and increase the risk of harm to the user.

**EFFECTS OF CANNABIS ON ACADEMICS**

Research suggests that regular marijuana use can have long-lasting negative effects on the structure and function of the brain.

- Studies have shown that problems with attention, memory, and learning can last days to weeks after using marijuana.
- When marijuana use starts in adolescence, problems with memory and learning may persist for years. A recent study showed that heavy users in their teens were unable to recover their lost IQ points after quitting as adults.

## **CANNABIS AND MENTAL HEALTH**

A number of studies have shown an association between chronic marijuana use and mental illness.

- Marijuana use can worsen depression and lead to anxiety. It is associated with suicidal thoughts in adolescents and personality changes, including loss of interest in school, work, and relationships.
- High doses of marijuana can lead to temporary psychotic reactions involving hallucinations and paranoia.
- Studies have also shown an association between marijuana use and schizophrenia in vulnerable individuals. This link is higher in those who start young and use high amounts.
- Research also indicates that marijuana has the potential to cause or worsen problems in a user's daily life. Heavy users often report poorer mental and physical health, as well as lower life satisfaction (in relationships, academics, career goals, etc.).

## **IS SYNTHETIC MARIJUANA SAFE?**

Legal cannabis alternatives (K2, Spice, etc.) contain synthetic cannabinoids and unknown herbs. They are chemically related to marijuana, but synthetic cannabinoids were created for lab research on cells, not for human consumption.

Many synthetic cannabinoids bind to cannabinoid receptor sites much more strongly than marijuana does, often with unpleasant results. Poison center and emergency room data suggest that synthetic marijuana has some potentially serious side effects. A 2013 CDC publication implicated synthetic marijuana in cases of acute kidney injury.

## **LOWER RISK CANNABIS USE GUIDELINES**

In 2011, *The Canadian Journal of Public Health* published a brief list of harm reduction strategies. A summary of this list follows:

1. Abstaining from cannabis use eliminates harm, but users should take into account how their patterns of use and individual circumstances affect their risk levels.
2. The risks of dependence and problems are higher for users who start early. Potential users should delay cannabis use until at least age 16 (18 or older is even better).
3. Daily or near-daily use "is associated with most severe problems and should be avoided."
4. Daily or near-daily users who can't control their use should try to quit, using professional help if necessary.
5. To reduce health risks, users should "avoid smoking cannabis with tobacco; avoid deep inhalation or breath-holding; and use vaporizers rather than smoking joints, blunts or water pipes."
6. Users should be cautious with stronger or unknown strains, and use only enough to get the desired effect.
7. Driving should be avoided for 3-4 hours after use, longer for heavy doses or if the effects of use can still be felt.
8. "The possibility for cannabis use-related problems is elevated in the following groups: pregnant women; middle-aged or older men with cardiovascular problems; and individuals with a history of psychosis, or a first-degree relative with a history of psychosis. These groups should consider entirely abstaining from use."

## **SIGNS THAT IT'S TIME TO CUT BACK OR QUIT**

- **HEAVY USERS** often experience one or more of the following:
  - Not keeping up with their responsibilities, like going to work or school, remembering family events, etc.
  - Problems in their relationships due to cannabis use.
  - Legal problems.

▪ **DEPENDENT USERS** experience 3 or more of the following (in addition to the issues listed for heavy users):

- Using more pot or for a longer period of time than planned.
- Spending a lot of time obtaining marijuana, getting high, or recovering from being high.
- Using marijuana even when it causes problems.
- Inability to cut back on pot use even when they want to.
- Forgetfulness, difficulty concentrating, and/or anxiety or sadness.
- Breathing difficulties, frequent colds, or a chronic cough.
- Developing a "tolerance" to pot, requiring higher doses to get the same effects.
- Experiencing withdrawal symptoms when stopping marijuana use, such as:
  - Irritability, anxiety, restlessness, increased aggression
  - Sadness or depression
  - Trouble sleeping, vivid dreams, night sweats
  - Slowed thoughts and movements
  - Fatigue, headaches
  - Nausea, decreased appetite
  - Drug craving

## **CONSIDERING QUITTING?**

Create a chart like the one below, and fill in the costs and benefits of changing. Compare them, and consider if the costs are worth it to you.

	Changing	Not Changing
Benefits of		
Costs of		

## **WHERE CAN SOMEONE GET HELP?**

If you have concerns that you or someone you know may be at risk for addiction or are already addicted, help is available. Visit **University Student Health Services (USHS)**, **University Counseling Services (UCS)**, and/or the **Wellness Resource Center (The Well)** to discuss your concerns. Our staff is committed to offering assistance in a non-judgmental and compassionate manner.

- To get objective feedback about your marijuana use, go to [www.thewell.vcu.edu](http://www.thewell.vcu.edu) and complete VCU's anonymous "**Alcohol and Drug Self-Assessment**" questionnaire.
- To keep you motivated, take the **Reasons for Quitting questionnaire** at [www.secretaddiction.org/reasons-for-quitting-questionnaire](http://www.secretaddiction.org/reasons-for-quitting-questionnaire).
- **Cognitive behavioral therapy** can help users understand why they use, how it affects their lives, why it is difficult to stop, and what changes would work best for them. Visit University Counseling Services to learn more.
- The Wellness Resource Center offers **Pathways to Choices**, a two-part alcohol and drug education class for students with addiction concerns. For more information, visit [www.thewell.vcu.edu/pathways-to-choices](http://www.thewell.vcu.edu/pathways-to-choices).
- Drop in on a **Marijuana Anonymous** meeting in the community ([www.marijuana-anonymous.org](http://www.marijuana-anonymous.org)). Meet others who have been in your shoes, and learn about positive changes you can make.
- Check out a **Smart Recovery** (Self-Management and Recovery Training) meeting on campus. This group focuses on self-empowerment and science-based tools to overcome addiction issues. Learn more at [www.smartrecovery.org](http://www.smartrecovery.org).
- **Other resources** include [sobersources.com](http://sobersources.com), [dancesafe.org](http://dancesafe.org), and [www.drugabuse.gov/drugs-abuse/marijuana](http://www.drugabuse.gov/drugs-abuse/marijuana).