## **Consumer Safety**

**Understanding concentration and potency**

When people talk about the potency of cannabis, they are typically referring to the concentration of THC in a product. THC concentration is indicated on the label of a product as either milligrams of THC or as a THC percentage.

**Flower and concentrates – Percentages**

The concentration of THC in dried cannabis and in cannabis concentrates is shown as a percentage. Dried cannabis harvested in the 1960s and 1970s was believed to be about 5%. Cannabis strains now average between 15 and 20%, potentially going as high as 35%.

Concentrates, such as wax, rosin, shatter, and hash oil, generally range from 60 to 90%. Because the THC concentration is so much higher than flower, the effect is felt more quickly and intensely.

Washington State does not limit the THC concentration in flower and concentrates.

**Edibles (solid and liquid) – Milligrams**

The THC concentration in edibles is specified as milligrams (mg) of THC. Washington State limits each serving to no more than 10 milligrams of THC, and the total package of cannabis cannot contain more than 100 milligrams.

To assist you in understanding what you are getting, the packaging of edibles must include a label that tells you the milligrams of THC per serving (no more than 10 mg), and the total THC in the package (no more than 100 mg). As an example, if each serving is 10 mg, there can be no more than 10 servings in the package, and the servings must be separately packaged unless an exception has been made (e.g., small mints in small container). If each serving is 5 mg, there could be up to 20 servings.

For liquids, there is still a 100 milligrams per container limit. Serving size must be delineated on the container or a measuring device included.

**Deciding What and How Much**

Several factors can influence your experience with cannabis. For example, some may experience a pleasant euphoria with cannabis, while other may find it increases their anxiety. The effects depend on the type of product and the person.

**Factors to consider**

If you choose to consume cannabis, here are factors that may affect your experience:

* Stomach contents

How much cannabis your body absorbs from edibles varies depending on what is in your stomach and how your body metabolizes cannabis. Foods with high levels of terpenes (like mangoes and black pepper, for example) may also impact how your body absorbs cannabis and can potentially change the effects.

* Metabolism

Everyone has a different metabolism. Cannabis is typically metabolized and primarily absorbed in the lungs when smoked and the liver when eaten. There is a reason why some people think edibles feel stronger and more potent than smoking cannabis. When you eat or drink cannabis products, THC is broken down in the liver and transforms into the metabolite 11-Hydroxy-THC, which is several times more potent than THC when it is smoked.

* Product form

Some product forms are more potent on their own or become stronger based on how they are processed in our bodies. For example, a pre-roll with only flower might be around 20% THC. If you were to consume an edible with the same amount of THC, it would feel more powerful due to the metabolite 11-Hydroxy-THC described above.

* Product potency

The potency or intensity of cannabinoids in your product and how they were extracted can affect your experience.

* Frequency of cannabis consumption

Someone who is new to cannabis will not have to consume the same amount as a daily cannabis user to get a similar effect. When you consume cannabis regularly, your “cannabis tolerance” will increase.

* Cannabinoid and terpene profiles

Each cannabis cultivar (strain) has a different combination of cannabinoids and terpenes. This means each cultivar may have a different effect on your body. It is also important to note that cannabis genetics vary from state to state. This means that a cultivar in one state might be totally different in another, even if they have the same name. Check the cannabinoid and terpene profiles, if available, to ensure you get the product you desire.

* Space and setting

Having a safe place to consume cannabis can influence your mindset.

**Onset and duration**

When using cannabis, it is important to know the THC concentration of the product you are using, how quickly it can take effect, and the average duration time. The chart below provides guidelines.

|  |  |  |  |
| --- | --- | --- | --- |
| Consumption Method | Types of Cannabis Products | Onset of Effects | Duration of Effects |
| Inhalation | Pre-Rolls, Flower, Vape Pens, Concentrates | Rapid  (7-10 minutes) | Shorter  (1-3 hours) |
| Topicals | Lotions, Salves | Intermediate  (30 minutes-1 hours) | Shorter  (1-3 hours) |
| Sublingual Ingestion (drops under the tongue) | Tinctures | Rapid  (10 min-30 min) | Shorter  (1-3 hours) |
| Ingestion | Edibles, Capsules | Slower  (1-4 hours) | Longer  (4-12 hours) |

**What is the “right” serving size?**

**S**tart **L**ow

**G**o **S**low

The “right” amount, or serving size, is different for everybody. How your body absorbs cannabis and when it takes effect varies from person to person. The “right” amount also depends on what kind of cannabis experience you want.

Consider the following:

* **Start low** with the amount of cannabis consumed, and **go slow** when increasing the serving size of cannabis you consume over a period of time.
* Wait for 5-10 minutes after inhaling or vaping 1-2 puffs of cannabis before consuming more. It is recommended to pause and sit with how you feel before consuming more, if desired.
* Start with a **low** serving size for edibles (such as 2-5 milligrams). You may have to cut your edible into a half or quarters or have fewer sips of a beverage rather than taking the entire serving at once.
* After you have waited and feel safe to increase the amount, if desired, consume the same amount or less than you previously consumed rather than going for a full serving size. A common error is not waiting long enough, which could be up to four hours, and then consuming too much cannabis.
* Topicals can be portioned by how much of the product is applied at a time. If a dime sized amount of lotion is ineffective, increase to the size of a quarter, and so on.
* **A higher THC percentage (or more potent product) does not mean a better cannabis experience.** Remember, it’s about the overall product profile – the terpenes and other cannabinoids present in the product. These elements contribute to the overall effect.
* A higher amount of THC may overstimulate your cannabinoid system, increasing the chances for negative effects (such as paranoia or rapid heart rate).
* Consuming high potency cannabis products with a higher percentage of THC regularly may increase the risk of developing cannabis hyperemesis syndrome, cannabis use disorder, or lead to the development of certain mental health conditions, especially if someone is already predisposed to develop such conditions. Teens and young adults may be at higher risk. (See box below for more information.)

**A caution about concentrates**

Research studies are indicating that there are serious health consequences related to prolonged use of products with high THC concentration. This includes increased risk of cannabis use disorder, and potential increased risks of anxiety, depression, and psychosis in certain populations. Cannabis-related emergency department visits for acute psychiatric symptoms and cannabis hyperemesis syndrome (acute vomiting) have been on the rise.

What is cannabis *hyperemesis syndrome* (CHS)? CHS is a condition associated with long-term, regular cannabis use. It is characterized by nausea and cyclic vomiting that is not associated with other symptoms, such as fever, although weight loss and dehydration may result. Because of its rarity, it may go unrecognized, undiagnosed, or misdiagnosed (frequently as cyclical vomiting disorder). Temporary relief is often found with hot showers combined with the topical application of capsaicin oil. Symptoms will go away with complete abstinence from cannabis use. A return to cannabis use may result in the return of CHS.

**Cannabis and other substances**

**Alcohol**

Alcohol and cannabis are two of the most commonly used drugs in the US, so it isn’t surprising that some will choose to use them at the same time. However, simultaneous use of alcohol and cannabis is not recommended because of the way they interact, significantly increasing the risk of adverse health effects than either alone.

Alcohol increases the absorption of THC, creating a greater high but also intensifying any negative side effects. Too much THC can cause a temporary overdose, characterized by symptoms that may include extreme anxiety, sweating, rapid heartbeat, nausea, dizziness, etc. This is known as a “green out.”

Simultaneous use can also affect reaction time and other cognitive functions, increasing the risk for being involved in a car crash if driving.

**Prescription Drugs**

The active cannabinoids in cannabis can interfere with drug metabolism in various ways. Not only does mixing affect the efficacy of your prescription medication, but when cannabinoids are metabolized, depending on the medicine, neurotoxins may be produced. (As an example, CBD and medications that say not to eat grapefruit.) You should always consult with your medical provider and/or pharmacist before using cannabis while taking prescription medication.

**Reducing Risks**

Like other drugs, cannabis use has the potential for psychological and physical harm. While most cannabis users do not experience severe problems from use, there is no absolute safe level of cannabis use. It affects individuals differently, and one’s individual characteristics, how it is used, and how often will determine the likelihood and extent of adverse outcomes. These outcomes may be short- or long-term.

**Tips for a safer cannabis experience:**

* Avoid mixing cannabis with other substances, like tobacco, alcohol, or other types of impairing substances, including prescription medications, to avoid negative interactions.
* Purchase cannabis from a licensed retailer so you know they meet quality standards and have been tested for contaminants. Learn how to recognize regulated products. (See . . .)
* Holding smoke in your lungs after taking a hit will not increase the effects of THC – it will only make you light-headed due to oxygen deprivation. It does not influence the intensity of the effects because cannabis, when inhaled, absorbs almost instantly into your bloodstream.
* Do not drive or operate heavy machinery after consuming cannabis. Understand how long the effects may last and plan accordingly (See “Onset and Duration Timeframe”).
* Consider keeping a journal to track how different varieties of cannabis affect you.
* Consume cannabis in an environment that feels safe to you.
* Research your cultivars (or strains). Each cultivar has various effects on different people. Review the information available and consult with budtenders for more information.
* Use your own supplies. Be sure to clean your bongs and other smoking devices after each use to avoid inhaling harmful contaminants like mold. Sharing may lead to spreading illness. Don’t leave cannabis or accessories unattended.
* Keep cannabis products in their original packaging. That way you will always know what you are consuming and its THC concentration. Flower that is left out or expose to light and air can get moldy. Also, keep in mind that cannabinoids change over time.
* Smoking cannabis in blunts or cigar papers, which contain tobacco, may have additional negative health effects. There is evidence of harm due to carcinogens from smoking tobacco that could affect your throat and lungs. There are many other types of rolling papers or other smoking devices you can use.
* Consider using products with lower THC concentration. High THC concentration products have been associated with increased risk of adverse health effects.
* Choose the “right” serving size for the kind of cannabis experience you want so you can avoid negative effects (See “What is the ‘right’ serving size?”).

**Safe Storage and Proper Disposal**

If you keep cannabis and cannabis products in your home, take precautionary measures to store them safely, locked and out of reach of young people and pets. It is not enough to put products high on a shelf or in a box. Young people are resourceful, so it is important to store them securely.

Whenever possible, keep the products in their original, child-resistant and/or resealable packaging with the labels intact. This will provide a clear indication to others that the product is or contains cannabis, making accidental exposure less likely. Also, those using the product won’t need to guess the ingredients or the THC milligram content or percentage.

When disposing of cannabis, destroy it beyond recognition to keep others from searching through your trash, and put it in a trash container with a closed lid to keep animals out. You can mix it with non-cannabis waste, such as food waste, coffee grounds, etc. to make it unusable and unrecognizable.

**Accidental Use (including pets) and Overconsumption**

**Accidental Use**

Because cannabis products can look like non-cannabis edible products, accidental consumption is a risk, especially for young people and pets. This can result in cannabis toxicity or the need for emergency medical attention.

If there is an accidental exposure to cannabis or cannabis products, or you have an adverse reaction to cannabis, call 911 if it’s a medical emergency, or the Poison Center at (800) 222-1222 for non-urgent matters. Contact the Poison Center or your veterinarian immediately if your pet has ingested cannabis.

Even if you are unsure whether a medical situation is caused by cannabis use, providing this information to the medical provider can help with determining treatment.

**Overconsumption**

Using too much cannabis can happen when you:

* Consume a product you don’t know contains cannabis;
* Are a first-time user and you don’t start with a low dose;
* Use a high THC product for the first time;
* Consume homemade products with an unknown THC content; or
* Consume more than you need of an edible because you don’t feel the effects right away.

Overconsuming cannabis can be uncomfortable and scary. It can also be potentially dangerous, sometimes requiring emergency medical attention. The symptoms may include:

* Extreme confusion, anxiety, panic, or paranoia;
* Fast heart rate;
* Increased blood pressure;
* Hallucinations or delusions;
* Severe nausea and vomiting.

You can call the **Poison Control Hotline, (800) 222-1222**, for free, fast, expert help at any time. If the symptoms are severe, call 911 or go to an emergency room. Children and pets are at greater risk.

Here are some tips for adults who have overconsumed:

* The best way to get through it. . . is to get through it! Remind yourself that the effects are temporary.
* Hydrate and rest. Drinking plenty of water, taking deep breaths, taking a nap, doing an activity that will help to calm you (such as listening to music) can all assist you in getting through.
* Talk to someone you trust.
* Call the Poison Center for professional advice.
* Disclosing cannabis use when speaking with a medical professional can assist the professional in giving you the best medical advice.
* **Call 911 if you are having a medical emergency!**

**Remember, understanding what led to the adverse effects you experienced can help you avoid similar experiences in the future.**

**Sources**

The Guide to Safer Cannabis Consumption. New York State Office of Cannabis Management.

[Cannabis Concentration and Health Risks. A report for the Washington State Prevention Research Committee (PRSC), November 2020.](https://adai.uw.edu/wordpress/wp-content/uploads/2020/11/Cannabis-Concentration-and-Health-Risks-2020.pdf)

[Changes in Emergency Department Visits for Cannabis Hyperemesis Syndrome Following Recreational Cannabis Legalization and Subsequent Commercialization in Ontario, Canada](https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2796355).