

## Benefits:

According to the Arizona State Department of Health Services, medical cannabis has been sufficiently demonstrated to provide benefit to the following medical conditions:

- Severe and chronic pain
- Cachexia or wasting syndrome
- Severe nausea
- Seizures, including epilepsy
- Severe or persistent muscle spasms
- Acquired immune deficiency syndrome,
- Amyotrophic lateral sclerosis
- Crohn's disease
- Alzheimer's disease
- Cancer
- Glaucoma
- Hepatitis C
- Post-Traumatic Stress Disorder (PTSD)

## Risks:

While considered a safer alternative compared to opioid pain medications, there are important risks to be aware of, including but not limited to:

- **Impaired motor skills: do not drive under the influence.**
- **Addiction**, with changes in personality
- Loss of short term memory and changes in brain structure
- Dry mouth, fast heart rate, stimulant or sedative effects, and **anxiety**
- Excessive appetite and weight gain
- Excessive and unrelenting nausea
- **Paranoia**, loss of social skills, aggravation of schizophrenia psychosis
- **Risk to the developing brain during pregnancy and breast-feeding and is strongly discouraged. Smoke inhalation causes damage to brain development in pregnancy.**

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## HOW CANNABIS WORKS AND WHY IT'S IMPORTANT TO INCLUDE THE WHOLE PLANT

Cannabis stimulates the endocannabinoid system, which interacts with the immune system, fertility, pregnancy, and development, and is well known to affect appetite, memory, and mood. **The endocannabinoid system** is responsible for decreasing pain and muscle tension, and is known as the “master regulator” system. The state of euphoria associated with the “runner’s high” is now known to be the result of the endocannabinoid system. The

### The healing “triad’ according to Naturopathic Physician and educator Glen Nagel, ND

**THC** is the psychoactive component of cannabis that works along with CBD, terpenes, and other cannabinoids to affect the experience differently for each type or “strain” in each individual differently. THC by itself stimulates the sympathetic “fight/flight” system in the body and by itself can cause anxiety and paranoia.

*This is like the gas pedal for the nervous system.*

**CBD** is the deeply relaxing compound that treats seizures by promoting the restful neurotransmitter called “GABA.”

*This is like the brake pedal for the nervous system.*

**Terpenes** are a type of molecule that modify the effects of different strains of cannabis, appearing as different colors in the cannabis and affecting the smell and taste as well. These by themselves promote a mild effect. These are the “essential oils” of cannabis, which are typically removed during the extraction process such as in vaping or “distillates.” There are calming and stimulating terpenes, which are also found in many other herbs such as lavender, citrus, and pine plants.

*This is like the steering wheel for the nervous system.*

### What is CBD? Why take CBD **AND** terpenes with THC?

Cannabidiol (CBD) and other cannabinoids (like CBD, CBN, THC-V) are found in the cannabis plant. CBD is the legal and medically recognized therapeutic compound and when activated by CBD this system creates a balancing effect on many different body systems. CBD is well known for reducing pain, inflammation, anxiety, insomnia, muscle spasms, nerve overstimulation, seizures, nausea and can limit degeneration by calming nerve inflammation.

**CANNABIS “STRAINS” (TYPES) AND THE VARYING EFFECTS**

General categories or “strains” are helpful as a starting point, but ultimately each patient must find the strain and method of use that works for that individual with that specific medical need.

- **Indica:** associated with deep muscle relaxation and overall calming. Traditionally this is purple due to the terpene content that produces a relaxing effect.
- **Sativa:** associated with more energizing stimulant effects, with the potential to induce a creative state of mind. **This type more commonly causes anxiety.**
- **“Hybrid” strains:** many strains of cannabis are a blend of both sativa and indica qualities. Check with online references or smart phone apps to get more information about the effects of different strains. **This type may cause anxiety but could be better for pain relief than indica alone.**
- **CBD strains** are a newer option, and are hybridized with other strains for a more balanced effect.

**METHODS OF ADMINISTRATION - DOSE BY STARTING SMALL AND SLOWLY INCREASING**

**General principles:**

- Finding the minimum effective dose - start with low doses and take at least 2 days of a break.
- Combines well with other herbal therapies - chamomile, passionflower, hops, kava kava, and ashwagandha.
- Combine with black pepper which has beta-caryophyllene and is useful to calm the “paranoia” of THC.

**Method of administration:**

- **Smoking** from a pipe, rolled cigarette, or other device, with the use of “flower” which is the cannabis plant material. The quality of the plant is important to consider the use of chemical pesticides, antifungals and fertilizers, as well as mold content which may be counterproductive to medical benefit.
- **Vaporizing** “vaping” may be easier to use, but it does irritate airways and typically produces more coughing immediately. More significantly extracts (distillates) can contain chemical solvents (toxins) that injure lungs, and the extraction process may remove terpenes. This should be investigated for each specific product.
- **Edibles** such as gummies or foods typically take 1-2 hours to have effect, and may last 6+ hours. This is very easy to overdose and in some cases may last 24 hours. This is because the liver converts THC to a metabolite that lasts longer, which can be used to produce a sustained effect.
- **Tinctures** or oils, such as “Uncle Herbs THC:CBD (1:1)” in olive oil (or a similar product) medicine can be taken by swishing 10-30drops in the mouth for 15mins and then ingest. This can take effect within 10 mins.
- **Suppositories** are ideal for patients that are not able to eat or have severe nausea, and prefer to have symptom relief with minimal psychoactive results. This typically is calming regardless of the strain used and does not produce the anxiety associated with edibles or smoking/vaping.

**Example dosing strategy for medical effect throughout the day:**

1. Start with a low dose edible (or suppository) and increase as tolerated and needed
2. Use the tinctures (or vaporizing the whole herb) for immediate effect that is shorter acting
3. Combine with other herbs to keep the dose lower and avoid anxiety, eg. black pepper, passionflower, or a full-spectrum hemp extract (non-psychoactive and over-the-counter availability).

**A NON-REGULATED ALTERNATIVE - FULL SPECTRUM HEMP EXTRACT CBD OIL**

**Bluebird Botanicals - Bluebird Classic 6X :** This formula was tested by Consumer Lab, an independent lab, which compared the concentration of CBD against the cost to call this product **the best economy for CBD available.** While a greater initial investment, this product is significantly more potent and is the best long-term value for CBD to my knowledge. **Dose:** CBD is typically effective in the dose of 5-50mg, assuming 100% absorption of the product. In order to maximize absorption, the sublingual method of swishing in the mouth for approximately 10-20mins is likely the most efficient way to save money. The dose of Bluebird Classic 6X is between 1-2 droppers full, swishing in the mouth for 10-20 minutes, **until you feel the effect of relaxation and pain relief.** If this medication irritates your mouth or throat, it is ok to dilute in about ¼ cup of water.