



DOSE OF EDUCATION

CANNABIS AND PTSD

PTSD 101

Posttraumatic stress disorder (PTSD) is characterized by hyperarousal and recurrent stressful memories after an emotionally traumatic event. The risk of developing PTSD after a traumatic event is approximately 15% for the general population and approximately 30% for military personnel deployed to areas of combat. It is currently not well understood why certain individuals will develop PTSD and others will not when they have been exposed to comparable trauma.

PTSD is regularly associated with:

- Major depression
- Bipolar disorder
- Chronic inflammation
- Metabolic disorder
- Coronary artery disease
- Early mortality¹

CANNABIS AS AN ALTERNATIVE TREATMENT

PTSD Research:

A 2014 study published in the Journal of Psychoactive Drugs, studied the outcomes of the first 80 PTSD patients who used medical cannabis in the state of New Mexico. They used the Clinician-Administered PTSD Scale (CAPS) which asks questions about emotional responses to traumatic events. The second portion of the CAPS is comprised of 17 symptoms which fall under the categories of reexperiencing, hyperarousal, and avoidance. These were rated on a scale of 0 to 4 based on their frequency and intensity. CAPS scores were analyzed to assess differences in PTSD symptoms with vs without cannabis use. The authors of the study reported a reduction of over 75% for all three areas of PTSD symptoms they tested while using cannabis.²

Cannabis Uses for PTSD Symptoms:

1. **Re-experiencing** - Cannabinoids activating the CB1 receptor has been demonstrated to provide significant relief for military personnel with PTSD who experienced nightmares.³
2. **Avoidance** - CB1 receptor activation in the basolateral amygdala (BSA) led to reduced anxiety-related behavior in rats.⁴ This is relevant to avoidance due to the fact that the BSA has been implicated in social anxiety.⁵
3. **Hyperarousal** - CB1 receptor activation has been shown to reduce stress responses.⁴ This along with the studies done on the new Mexico PTSD patients suggests that cannabis may help to reduce hyperarousal.
4. **Cognitive/Mood** - Enhancing cannabinoid signaling could represent a novel approach to the treatment of cognitive deficits that accompany stress-related depression.⁶

**It is also important to note that not all these studies have not been replicated in humans.*

¹ Girgenti, Hare, Ghosal & Duman, 2017

² Greer, Grob & Halberstadt, 2014

³ Jetly, Heber, Fraser & Boisvert, 2015

⁴ Ganon-Elazar & Akirav, 2009

⁵ WANG, ZHAO, LIU & FU, 2014

⁶ Segev, Rubin, Abush, Richter-Levin & Akirav, 2013



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Cannabis Dosing Tips:

In my time as a patient assistant, I have had few experiences more rewarding than helping veterans with PTSD find relief using medical cannabis. These men and women often turned to cannabis as a last resort so it was critical to get them started effectively and safely. Here are a few tips:

1. Patients suffering from PTSD are often on many different medications which could potentially interact with cannabis. It is important to consult a physician before beginning a cannabis regimen to mitigate any potential contraindications.
2. Dosing is absolutely critical. Cannabis is biphasic meaning at lower doses it can alleviate anxiety but higher doses can cause anxiety. Use products that are accurately dosed and easily measured.
3. Products that contain the terpene linalool work great for anxiety as well as sleep due to its anxiolytic and anesthetic properties. I recommend the strain Granddaddy Purple for this reason as low doses relieve stress and higher doses induce sleepiness.
4. Edible or sublingual administration provides longer effects which can help keep patients with PTSD in a stable mental state. The sharp onset and offset of inhalation can aggravate mood swings.

• Derek Espinoza, Baked Bros Director of Educational Development

** We are not doctors and all of our information is based on research. We can provide references upon request*