

## POST-TRAUMATIC STRESS DISORDER (PTSD)



Exposure to trauma, followed by significant and recurring negative physical and emotional symptoms, are hallmarks of Post-Traumatic Stress Disorder. Patients re-experience symptoms in the forms of flashbacks or nightmares and development of avoidance behaviors to minimize exposure to ‘triggers.’ Hyperarousal and negative thoughts and emotions can accumulate over time. Overall, PTSD can be a highly debilitating illness, often co-existing with anxiety disorders and substance use disorders, making effective treatment challenging with conventional approaches, such as selective serotonin reuptake inhibitors (SSRIs) and cognitive-based psychotherapies.

PTSD patients regularly report relief of symptoms due to cannabis use including stress/ anxiety relief as well as improved sleep and reduction of nightmares.

Increased CB1 signaling has been shown to impair retrieval and promote extinction of emotionally aversive memories. This suggests that cannabis use may be able to treat the underlying causes of PTSD by making it more difficult to remember negative memories and by allowing the brain to forget them more efficiently. THC, through its activation of CB1, may be able to facilitate memory retrieval/ extinction as well as affect symptoms including short-term sleep issues.

PTSD patients may present themselves with a high anxiety state, and the same principles apply here as with anxiety. Low dose THC is beneficial, and high dose THC may make things worse. Combining CBD into cannabis therapy will help to mitigate the effects of higher dose THC.

CBD is also appropriate for PTSD patients for its anxiolytic (anti-anxiety) effects. In addition, CBD allows for the release of serotonin which promotes a feeling of well-being.

Chronic stress can cause a known inflammatory response in the brain. THC, through its action on the CB2 receptor, can relieve the inflammatory response.

### TERPENES

Linalool and Limonene both are known to have calming effects and may be able to affect anxiety symptoms while myrcene, p-Cymene, and terpinolene are known sedatives.

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