Utah Department of
Health & Human Services
Center for Medical Cannabis

Guidance on the suggested use of medical cannabis

Post-traumatic stress disorder (PTSD)

About this document: The following information on the use of medical cannabis serves as a suggested use guide for those participating in the Utah Medical Cannabis Program. The intended audience for this document includes, pharmacy medical providers, patients intending to use medical cannabis, and caregivers of patients intending to use medical cannabis.

This document details the guidance on the use of medical cannabis for post-traumatic stress disorder (PTSD). This document does not include general instructions on the use of medical cannabis, contraindications, warnings, precautions and adverse reactions to using cannabis and drug-to-drug interactions which could be found in the extended guidance document titled *Guidance on the Suggested Use of Medical Cannabis.* The extended guidance document can be found on the Department of Health and Human Services Center for Medical Cannabis website (www.medicalcannabis.utah.gov).

About the authors: This document was authored by the Utah Cannabis Research Review Board and Department of Health and Human Services staff.

About the Utah Cannabis Research Review Board: Under Utah Health Code 26-61-201, the Cannabis Research Review Board is a board of medical research professionals and physicians who meet on a voluntary basis to review and discuss any available scientific research related to the human use of cannabis, cannabinoid product or an expanded cannabinoid product that was conducted under a study approved by an Institutional Review Board (IRB) or was conducted and approved by the federal government.

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Guidance: There is insufficient evidence to support the conclusion that medical cannabis or cannabinoids are effective or ineffective treatments for PTSD or symptoms of PTSD.

[a] Developed using level of evidence categories from the 2017 National Academies of Sciences, Engineering, and Medicine report on cannabis (National Academies of Sciences, Engineering, and Medicine, 2017d).

⚠️ **Important note:** In the event of significant adverse effects, stop use of medical cannabis until adverse effects have resolved, and then reduce to previous, best-tolerated dose. To avoid unwanted psychoactive adverse effects,"start low and go slow" especially when using cannabis products for the first time or using new dosages or types of products.

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PTSD may be caused by directly experiencing traumatic event(s) (e.g., exposure to actual or threatened death, serious injury, or sexual violence) or witnessing traumatic events affecting others. Conventional treatments for PTSD usually include psychotherapy and may include prescription medications to help manage ongoing and emerging symptoms while undergoing therapy. Cannabis has been anecdotally reported to be useful in managing anxiety, sleep disturbances, nightmares, and other symptoms in individuals suffering from PTSD. There are several pre-clinical observations involving the endocannabinoid system and CB1 receptor density in certain areas of the brain in individuals with PTSD (Neurmeister et al., 2015 & Neurmeister et al., 2013) that lend credence to a hypothesis that cannabis and cannabinoids could have some effect on symptoms of PTSD. However there is currently significant clinical uncertainty regarding the potential benefits and possible harms of using cannabis or cannabinoids as treatment for PTSD or symptoms of PTSD. Several systematic reviews of this topic are outlined below:

1. A systematic review was conducted and reported in *Annals of Internal Medicine* in 2017 that looked at systematic reviews, clinical controlled trials, and observational studies with control groups that reported PTSD symptoms with and without the use of plant-based cannabis, and adverse effects of plant-based cannabis (O'Neil et al., 2017). Two systematic reviews, three observational studies, and no randomized trials were found. This review reported insufficient evidence to draw conclusions about benefits and harms, and the observational studies found that compared with non-use [of cannabis], cannabis did not reduce PTSD symptoms. Authors reported that the clinical trials reviewed had medium and high risk of bias, and overall evidence was judged insufficient to draw any conclusions regarding benefit or harms of using plant-based cannabis as treatment for PTSD.

2. A systematic review regarding medicinal use of cannabis was reported in 2017 by a team at the Portland, Oregon Veterans Hospital as part of treatment policy development effort by the VA system (Kansagara et al., 2017). One of the questions addressed in this review is, *"What are the effects of cannabis on health outcomes and healthcare utilization for adults who have PTSD?"* They found insufficient evidence examining the effects of cannabis in patients with PTSD with no blinded controlled studies. They reported 2 observational studies with untreated controls that showed that cannabis use was not associated with improved outcomes in either study when compared to untreated controls.

3. The 2017 report on *The Health Effects of Cannabis and Cannabinoids (The National Academies of Sciences, Engineering and Medicine, 2017)* did not identify any good or fair-quality systematic reviews that reported on medical cannabis as an effective treatment for PTSD symptoms and determined that there was only one fair-quality small double-blind placebo controlled study that looked at nabilone (a synthetic cannabinoid) and found it to be helpful in managing symptoms of PTSD.

A literature review published in *Depression and Anxiety* in February 2017 regarding treatment of PTSD using cannabis (Steenkamp et al., 2017) concluded that treatment outcome studies of whole plant cannabis and related cannabinoid effects on PTSD are limited and not methodologically rigorous, precluding conclusions about their potential therapeutic effects. The authors raised the concern that

cannabis use has been linked to adverse psychiatric outcomes, including conditions commonly comorbid with PTSD such as depression, anxiety, psychosis, and substance misuse. They also noted that cannabis use is associated with worse treatment outcomes in PTSD naturalistic studies, and with maladaptive coping styles that may maintain PTSD symptoms. Their ultimate conclusion was that known risks of cannabis use currently outweigh unknown benefits of cannabis for treatment of PTSD. There are four placebo-controlled trials that evaluated multiple doses of cannabis-based products (CBPs) for PTSD symptom treatment, though the trials are not enough to guide or recommend the use of medical cannabis or cannabinoids as first-line agents in the treatment of PTSD or comorbid symptoms.

1. Bonn-Miller et al. (2021) conducted a placebo-controlled trial to evaluate three types of smoked cannabis (high THC, balanced THC/CBD, and high CBD) against placebo in 80 US military veterans with moderate chronic PTSD. Participants were allowed stable concurrent medications or psychotherapy, but significant comorbidities and severe substance use disorders were exclusionary. The study found no significant differences in PTSD symptom scores (CAPS-5 and PCL-5) or secondary outcomes (e.g., insomnia, psychosocial functioning) between cannabis and placebo groups at 3 weeks, though all groups showed some symptom reduction from baseline. Adverse events, mostly mild to moderate (e.g., cough, throat irritation, anxiety), were common, with a small incidence of treatment-related suicidal ideation reported. Limitations included possible confounding due to cannabis withdrawal symptoms, high placebo group response rates, and lower-than-expected cannabis consumption by participants. The study duration may have been too short to detect meaningful differences. These limitations restrict the interpretation of the results.
2. Walsh et al. (2023) conducted a trial similar to Bonn-Miller et al., evaluating high THC and balanced THC/CBD cannabis delivered via vaporization in six participants with chronic, treatment-resistant PTSD. The participants were mostly male (83.3%) with moderate PTSD severity at baseline. Cannabis treatment showed a modest numerical reduction in PTSD severity (CAPS-5 scores) over three weeks, but the results were not statistically significant. The small sample size and lack of a comparator group limit the ability to draw firm conclusions. No safety results were reported.
3. A placebo-controlled, double-blind RCT (NCT03248167) evaluated oral CBD 600 mg daily for 6 weeks in 30 participants with comorbid PTSD or

subthreshold PTSD and moderate-to-severe alcohol use disorder. Both the CBD and placebo groups showed numerical reductions in PTSD symptoms (PCL-5 scores) and alcohol consumption, but no statistical analysis was reported, and differences appeared non-significant. Adverse events (AEs) such as diarrhea, headache, and nausea were more common in the CBD group, along with feelings of being overwhelmed, lack of motivation, and suicidal ideation. Anxiety and nightmares were more frequent in the placebo group. No serious AEs were reported, but only 70% of participants completed the trial. The small sample size, high withdrawal rate, and absence of statistical analysis limit the ability to draw firm conclusions about efficacy.

4. Jetly et al. (2015) conducted a placebo-controlled, double-blind RCT evaluating oral nabilone (0.5–3 mg) for sleep disturbances in 10 male active-duty military personnel with chronic PTSD. Participants had high CAPS distressing dream and sleep difficulty scores at baseline, with stable use of medications or psychotherapy allowed. Nabilone significantly reduced recurring/distressing dreams compared to placebo, with 44% of participants reporting no distressing dreams at 7 weeks versus none in the placebo group. However, it did not significantly improve difficulty falling or staying asleep. Patient-reported well-being also improved significantly with nabilone. The treatment was generally well-tolerated, with dry mouth and headache being the most common adverse events. Due to the small sample size, the investigators recommended further confirmatory trials.

Study	Intervention	Efficacy
Jetly (2015, n=10)	Nabilone (synthetic cannabinoid) for PTSD-associated nightmares vs placebo (7 weeks per stage)	Reduction in nightmare frequency and intensity; improved well-being.
Bonn-Miller (2021, n=80)	Smoked cannabis with varying THC/CBD ratios (high THC, high CBD, THC+CBD) vs placebo (3 weeks per stage)	No significant difference in PTSD symptom severity compared to placebo; all groups showed improvement.
Walsh (2023, n=5)	Vaporized cannabis using commercially available chemovars (3 weeks)	Positive trends with medium-sized effects; limited by small sample size.
NCT03248167 (n=95)	Cannabidiol (CBD) for PTSD comorbid with alcohol use disorder vs placebo (6 weeks)	Symptom reduction in both groups, no statistical testing reported.

Table 1. Summary of Multiple Dose Cannabinoid Trials for PTSD

Two parallel, placebo-controlled, double-blinded RCTs investigated the effects of a single dose of a cannabis-based product (CBP) on acute symptoms and functional brain changes using fMRI during laboratory-based behavioral tests. Five publications reported findings from these trials, with three publications (Rabinak et al., 2020; Pacitto et al., 2022; Zabik et al., 2023) sharing the same trial number (NCT02069366) and likely overlapping participants despite minor discrepancies in reported sample sizes.

1. Bolsoni et al. (2022) studied 33 Brazilian adults with PTSD (75.8% female, baseline PCL-5 score 53) who experienced sexual (42.4%) or non-sexual trauma (57.6%) and had no significant psychiatric or substance use comorbidities aside from depression or anxiety. A single 300 mg dose of CBD administered 90 minutes before behavioral tests significantly reduced cognitive impairment (e.g., confusion, difficulty reasoning) during traumatic memory recall compared to placebo, but it did not impact anxiety, sedation, or discomfort. This cognitive benefit persisted 1 week later when participants recalled their trauma without receiving additional CBD or placebo. A post-hoc analysis revealed that CBD significantly reduced both anxiety and cognitive impairment during trauma recall in participants with non-sexual trauma but not in those with sexual trauma. This suggests a potential trauma-specific effect of CBD on PTSD symptoms.
2. The NCT02069366 RCT studied up to 71 right-handed U.S. adults divided into three subgroups: individuals meeting DSM-5 criteria for PTSD (19–22 participants), trauma-exposed controls without PTSD (TEC), and healthy controls with no trauma exposure (HC). Most participants in the PTSD subgroup were female (68–74% across sub-studies), with a mean baseline CAPS-5 score of approximately 34. Participants with PTSD had no major psychiatric or substance use comorbidities and were not actively undergoing SSRIs or exposure-based PTSD therapy. Approximately 30% of the PTSD participants reported cannabis use in the 30 days before the trial. Participants in all subgroups were randomized to receive dronabinol or placebo 120 minutes prior to undergoing fMRI scans. This setup allowed for the evaluation of acute effects of cannabis-based products on brain function during trauma-related tasks.

There is growing interest in using cannabis or cannabinoids as adjunctive therapies

to psychotherapy, administered on a time-limited basis alongside treatment sessions. However, only one trial has explored this approach, and its complete results have yet to be published. Preliminary numerical findings and basic statistical tests indicate that adjunctive CBD and placebo were similarly effective in reducing PTSD symptom scores. Overall, the current evidence is insufficient to draw firm conclusions.

1. A small pilot RCT (NCT05132699) evaluated CBD (250 mg twice daily) as an adjunct to massed Prolonged Exposure (PE) therapy for PTSD, focusing on feasibility, preliminary efficacy, safety, and biological plausibility. The trial involved 21 U.S. adults (62% male) with PTSD (mean CAPS-5 score of 42) on stable medications and without severe medical or psychiatric comorbidities. Participants received CBD or placebo for 3 days before starting 10 daily 90-minute PE sessions over 14 days. Both groups showed numerical reductions in PTSD severity (CAPS-5 and PCL-5 scores) by day 45, with placebo outperforming CBD on the CAPS-5 scale and CBD showing better outcomes on the PCL-5 scale, though differences were not statistically significant. No serious adverse events were reported, but the CBD group experienced higher rates of gastrointestinal issues (36.4%), emotional problems (27.3%), and sleep disturbances such as nightmares and insomnia (36.4%) compared to placebo. Complete trial results and statistical analyses are not yet available, making the findings preliminary.

Some anecdotal reports and observational studies suggest possible short-term benefits in some individuals with PTSD (Greer et al., 2014; Betthauser et al., 2015 & Roitman et al., 2014) but there are also longitudinal 10-year data in 2276 US veterans that demonstrate worse outcomes in individuals using cannabis to treat PTSD, including worse outcomes in PTSD symptom severity, increase in violent behaviors, and increase in measures of alcohol and drug use (Wilkinson et al., 2015). Cross-sectional studies have found a direct correlation between more severe PTSD symptomatology and increased motivation to use cannabis for coping purposes, especially among patients with difficulties in emotional regulation or stress intolerance (Bonn-Miller et al., 2007). These uncertainties and sometimes contradictory observations need to be addressed with robust randomized placebo-controlled clinical trials.

Because of limited randomized blinded placebo-controlled clinical trials, and

current very significant clinical uncertainty regarding risks and benefits of medical cannabis in the treatment of PTSD, the use of medical cannabis to treat PTSD should generally be considered only if:

1. The diagnosis of PTSD has been made or confirmed by a board-certified psychiatrist or a master's level therapist with a degree in psychology or social work, or a psychiatric APRN (see Utah Code 26-61a-104 for most up-to-date definition and requirements of documentation), and;
2. The individual with PTSD has not tolerated or adequately responded to robust attempts at traditional treatment, including various therapy modalities (see recommendations from the American Psychological Association and Department of Veterans Affairs), and FDA-approved pharmacologic interventions, and;
3. The individual fully understands the known and potential unknown risks of using cannabis or cannabinoids to manage symptoms of PTSD including the potential for worse PTSD treatment outcomes, especially in those with cannabis use disorder, and;
4. The individual and qualified healthcare provider working together have arrived at the conclusion that the potential risks of using medical cannabis to treat PTSD may be justified by the possible benefits and potential for avoidance of assessed risks of continuing on with unmanaged symptoms of severe PTSD despite robust attempts using traditional interventions.

Summary of Recent Systematic Reviews and Guidelines on Cannabis for PTSD

Two recent systematic reviews (Rodas et al., 2024, and Ayers et al., 2021, updated in 2024) evaluated evidence on the use of cannabis or cannabis-based products for managing PTSD. Both reviews included data from randomized controlled trials (Bonn-Miller et al., 2021, and Jetly et al., 2015), as well as observational studies and case series.

Key Findings:

- **Rodas et al. (2024):**
    - Suggested that cannabinoids may be beneficial for specific PTSD symptoms, such as sleep disturbances (DSM-5 symptom clusters B and E), but not for overall PTSD symptom improvement.
    - Some studies reported adverse effects, including worsening suicidal ideation (SI) and violent behavior, particularly among individuals with PTSD and cannabis use disorder (CUD).
- **Ayers et al. (2021, updated 2024):**
    - Found low certainty of evidence (CoE) for no effect of cannabis on PTSD symptoms, depression, or social anxiety, and very low CoE for improvement in disturbing dreams with nabilone.
    - Reported no evidence of cannabis improving global functioning or quality of life.
    - Observational studies linked cannabis use with increased substance abuse scores and violent behavior.

Guideline Recommendations:

- The 2023 VA/DoD PTSD guideline strongly recommends against using cannabis or cannabinoids to treat PTSD due to very low-quality evidence and potential risks, including impaired cognition, increased substance use, and psychiatric adverse events (e.g., paranoia, suicide attempts).
- A 2022 PTSD treatment algorithm advises against routine cannabis use due to limited efficacy and potential harm but includes it as a last-line option for treatment-resistant cases.
- Expert guidance for chronic pain (Bell et al., 2023) cautiously supports cannabis-based treatments for PTSD and chronic pain in individuals unresponsive to non-pharmacologic therapies, but only based on low-quality, non-experimental evidence.

These findings highlight limited efficacy evidence and significant safety concerns, leading to cautious recommendations against cannabis use for PTSD in most cases.

Ongoing studies identified by our literature search referenced several ongoing ETs for CBPs in people with PTSD, which may be monitored for completion and for possible updates to PTSD guidance:

- NCT03518801: https://clinicaltrials.gov/study/NCT03518801. Anticipated study completion September 30, 2025.
- NCT04448808 (THC PTSD-trial): https://clinicaltrials.gov/study/NCT04448808. Anticipated study completion in June 2025. A study protocol is published.
- NCT04080427: https://clinicaltrials.gov/study/NCT04080427. Anticipated study completion in December 2025.
- NCT04550377: https://clinicaltrials.gov/study/NCT04550377. Anticipated study completion in June 2026.
- NCT05269459: https://clinicaltrials.gov/study/NCT05269459. Anticipated study completion in April 2029.

References

1. Betthauser, K., Pilz, J., & Vollmer, L. E. (2015). Use and effects of cannabinoids in military veterans with posttraumatic stress disorder. American Journal of Health-System Pharmacy, 72(15), 1279–1284. doi: 10.2146/ajhp140523
2. Bolsoni LM, Crippa JAS, Hallak JEC, Guimarães FS, Zuardi AW. Effects of cannabidiol on symptoms induced by the recall of traumatic events in patients with posttraumatic stress disorder. Psychopharmacology (Berl). 2022 May;239(5):1499-1507. doi: 10.1007/s00213-021-06043-y. Epub 2022 Jan 14. PMID: 35029706.
3. Bonn-Miller M.O., Sisley S, Riggs P, Yazar-Klosinski B, Wang JB, Loflin MJE, Shechet B, Hennigan C, Matthews R, Emerson A, Doblin R. The short-term impact of 3 smoked cannabis preparations versus placebo on PTSD symptoms: A randomized cross-over clinical trial. PLoS One. 2021 Mar 17;16(3):e0246990. doi: 10.1371/journal.pone.0246990. PMID: 33730032; PMCID: PMC7968689.
4. Bonn-Miller, M.O., Vujanovic, A. A., Feldner, M. T., Bernstein, A., & Zvolensky, M. J. (2007). Posttraumatic stress symptom severity predicts marijuana use coping motives among traumatic event-exposed marijuana users. Journal of Traumatic Stress, 20(4), 577–586. doi: 10.1002/jts.20243
5. Greer, G. R., Grob, C. S., & Halberstadt, A. L. (2014). PTSD Symptom Reports of Patients Evaluated for the New Mexico Medical Cannabis Program. Journal of Psych
6. Jetly R, Heber A, Fraser G, Boisvert D. The efficacy of nabilone, a synthetic cannabinoid, in the treatment of PTSD-associated nightmares: A preliminary randomized, double-blind, placebo-controlled cross-over design study. Psychoneuroendocrinology. 2015 Jan;51:585-8. doi: 10.1016/j.psyneuen.2014.11.002. Epub 2014 Nov 8. PMID: 25467221.oactive Drugs, 46(1), 73–77. doi: 10.1080/02791072.2013.873843
7. Kansagara, D., O'Neil, M., Nugent, S., Freeman, M., Low, A., Kondo, K., … Morasco, B. (2017). Benefits and Harms of Cannabis in Chronic Pain or Post traumatic Stress Disorder: A Systematic Review. Department of Veterans Affairs.
8. Neumeister, A., Normandin, M. D., Pietrzak, R. H., Piomelli, D., Zheng, M. Q., Gujarro-Anton, A., … Huang, Y. (2013). Elevated brain cannabinoid CB1 receptor availability in post-traumatic stress disorder: a positron emission tomography study. Molecular Psychiatry, 18(9), 1034–1040. doi:

10.1038/mp.2013.61
9. Neumeister, A., Seidel, J., Ragen, B. J., & Pietrzak, R. H. (2015). Translational evidence for a role of endocannabinoids in the etiology and treatment of posttraumatic stress disorder. Psychoneuroendocrinology, 51, 577–584. doi: 10.1016/j.psyneuen.2014.10.012
10. NYU Langone Health. Cannabidiol as a Treatment for AUD Comorbid with PTSD. NCT03248167. ClinicalTrials.gov; 2019. Last Updated June 28, 2023. Accessed September 12, 2024. Available at https://clinicaltrials.gov/study/NCT03248167
11. O'neil, M. E., Nugent, S. M., Morasco, B. J., Freeman, M., Low, A., Kondo, K., … Kansagara, D. (2017). Benefits and Harms of Plant-Based Cannabis for Posttraumatic Stress Disorder. Annals of Internal Medicine, 167(5), 332. doi: 10.7326/m17-0477
12. Roitman, P., Mechoulam, R., Cooper-Kazaz, R., & Shalev, A. (2014). Preliminary, Open-Label, Pilot Study of Add-On Oral Δ9-Tetrahydrocannabinol in Chronic Post-Traumatic Stress Disorder. Clinical Drug Investigation, 34(8), 587–591. doi: 10.1007/s40261-014-0212-3
13. Steenkamp, M. M., Blessing, E. M., Galatzer-Levy, I. R., Hollahan, L. C., & Anderson, W. T. (2017). Marijuana and other cannabinoids as a treatment for posttraumatic stress disorder: A literature review. Depression and Anxiety, 34(3), 207–216. doi: 10.1002/da.22596
14. The National Academies of Sciences, Engineering, and Medicine. (2017). The health effects of cannabis and cannabinoids: the current state of evidence and recommendations for research. doi: https://doi.org/10.17226/24625
15. The University of Texas Health Science Center at San Antonio. Enhancing Prolonged Exposure with Cannabidiol to Treat Posttraumatic Stress Disorder. NCT05132699. ClinicalTrials.gov; 2022. Last Updated August 24, 2023. Accessed September 12, 2024. Available at https://clinicaltrials.gov/study/NCT05132699
16. Walsh Z, Mitchell I, Crosby K, St Pierre M, DeClerck D, Ong K, Lucas P. A small clinical trial of vaporized cannabis for PTSD: suggestive results and directions for future study. Trials. 2023 Sep 9;24(1):578. doi: 10.1186/s13063-023-07543-2. PMID: 37689680; PMCID: PMC10493009.
17. Wayne State University. Cannabinoid Control of Fear Extinction Neural Circuits in Post-traumatic Stress Disorder. NCT02069366. ClinicalTrials.gov; 2014. Last Updated September 9, 2022. Accessed September 16, 2024. Available at https://clinicaltrials.gov/study/NCT02069366

18. Wilkinson, S. T., Stefanovics, E., & Rosenheck, R. A. (2015). Marijuana Use Is Associated With Worse Outcomes in Symptom Severity and Violent Behavior in Patients With Posttraumatic Stress Disorder. The Journal of Clinical Psychiatry, 76(09), 1174–1180. doi: 10.4088/jcp.14m09475

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This document is a summary of available peer-reviewed literature concerning potential therapeutic uses and harmful effects of cannabis and cannabinoids. With the ongoing nature of cannabis and cannabinoid research, it is not meant to be complete or comprehensive and should be used as a limited complement to other reliable sources of information. This document is not a systematic review or meta-analysis of the literature and has not rigorously evaluated the quality and weight of the available evidence. There is a lack of controlled clinical trials yielding high level evidence of predictable therapeutic benefit for any given condition other than those for FDA approved formulations. This document includes warnings and risks related to the use of cannabis including cannabis use disorder, potentially irreversible brain damage/mental illness, and legal liability for DUI and potential for adverse work-related consequences.

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