

Cannabis Risks and Benefits

Introduction

The use of cannabis derivatives for medicinal purposes and therapeutic potential have been heavily researched over the past several years due to changes in societal and cultural norms¹. It is the duty of the athletic trainer to be able to educate their patient/athlete and understand the medicinal benefits, the long and short-term side effects, and the associated risks of the use of cannabinoids. It should be noted that utilizing cannabinoids for medicinal and therapeutic benefits should be discussed with a licensed physician prior to initiating treatment.

Medicinal and Therapeutic Benefits

The benefits of cannabinoids have been widely anecdotal until recently with significant research being applied to the endocannabinoid system. Even with the increase in peer reviewed literature available, much is left to be desired to understand the full spectrum of benefits cannabinoids can offer. Below are noted medicinal and therapeutic benefits of cannabis derivatives:

- Treatment of Chronic Pain Conditions²
- Antiinflammatory Properties^{1 3 4 5}
- Neuropathic Pain^{3 5 6 7}
- Depression/Mood Improvement^{2 8}
- Appetite Stimulation^{9 10}
- Anti-Nausea^{9 10}
- Anxiety Suppression^{8 10}
- Neurological Disease (Parkinson's, Huntington's, Alzheimer's)¹¹
- Crohn's disease¹⁵
- Antimicrobial¹⁶

¹ Cannabis and the Health and Performance of the Elite Athlete. Ware et al. Clin J Sports Med 2018 Sep; 28(5): 480-484.

² Serum Endocannabinoid and Mood Changes after Exercise in Major Depressive Disorders. Meyers et al. Med Sci Sports Exerc. 2019 Sep; 51(9): 1909-1917.

³ Understanding Cannabis-Based Therapeutics in Sports Medicine. Maurer et al. Sports Health Nov/Dec 2020 12 (6) 540-546

⁴ Transdermal cannabidiol reduces anti-inflammatory and fibrosis in experimental allergic asthma. Vuolo et al. Eur J Pharmacol 2019 Jan 15; 843: 251-259

⁵ Review of neurological benefits of phytocannabinoids. Maroon et al. Surg Neurol Int. 2018 Apr 26; 9:91

⁶ A Multicriteria Decision Analysis Comparing Pharmacotherapy for Chronic Neuropathic Pain, Including Cannabinoids and Cannabis-Based Medical Products. Nutt et al. Cannabis Cannabinoid Res 2021 Mar 17.

⁷ Selective Cannabinoids for Chronic Neuropathic Pain: A systematic review and meta-analysis. Meng et al. Anesth Analg 2017 Nov; 125(5) 1638-1652.

⁸ Cannabidiol, neuroprotection and neuropsychiatric disorders. Campos et al. Pharmacol Res 2016 Oct; 112:119-127

⁹ The therapeutic potential of cannabis and cannabinoids. Grotenhermen et al. Dtsch Arztebl Int 2012 Jul; 109(29-30): 495-501

¹⁰ Cannabis sativa L. and Nonpsychoactive Cannabinoids: Their Chemistry and Role against Oxidative Stress, Inflammation, and Cancer. Pellati et al. Biomed Res Int. 2018 Dec4; 2018: 1691428

¹¹ Medical Use of Cannabinoids. Fraguas-Sanchez et al. Drugs 2018 Nov; 78(16) 1665-1703

Side Effects (Long and Short Term) and Associated Risks

The long and short-term side effects and the associated risks of cannabinoid use for medicinal and therapeutic benefit is poorly characterized in the literature. While research shows acute and chronic side effects of the use of tetrahydrocannabinol (THC) exist, the use of cannabidiol (CBD) note minimal risk when prescribed appropriately by a licensed physician. Possible side effects and associated risks include, but are not limited to:

- Fatigue²
- Dizziness¹²
- Nausea¹³
- Cannabinoid Hyperemesis Syndrome¹³
- Dry Mouth⁹
- Psychological Effects^{8 14}
- Mental health problems²¹
- Cardiopulmonary Conditions¹⁷
- Birth Defects/Conditions²⁰
- Anxiety¹⁸
- Paranoia¹⁸
- Adverse Drug Interactions¹⁹

Citations

[1] Cannabis and the Health and Performance of the Elite Athlete. Ware et al. Clin J Sports Med 2018 Sep; 28(5): 480-484.

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[8] Cannabidiol, neuroprotection and neuropsychiatric disorders. Campos et al. Pharmacol Res 2016 Oct; 112:119-127

¹² Adverse effects of medical cannabinoids: a systematic review. Wang et al. CMAJ 2008 Jun 17; 178(13): 1669-1678

¹³ Cannabinoid hyperemesis syndrome: an unrecognized cause of nausea and vomiting. Smith et al. JAAPA 2019 Apr; 32(4) 1-5

¹⁴ Cannabis use and psychosis: a review of reviews. Hasan et al. Eur Arch Psychiatry Clin Neurosci

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- ¹⁶ Cannabis: a multifaceted plant with endless potentials. Fordjour E, Manful CF, Sey AA, Javed R, Pham TH, Thomas R, Cheema M. *Front Pharmacol*. 2023 Jun 15;14:1200269.
- ¹⁷ Focus on cannabinoids and synthetic cannabinoids. Le Boisselier R., Alexandre J., Lelong-Boulouard V., Debruyne D. (2017). *Clin. Pharmacol. Ther.* 101, 220–229. 10.1002/cpt.563
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