



ANNOTATED BIBLIOGRAPHY: CANNABIS & CHRONIC PAIN



In an effort to provide evidence-based medicine on the topic of medical cannabis treatment for chronic pain I have created an annotated bibliography with some top articles that may be beneficial as you navigate your patients through their decision-making process. Most of these articles are Systematic Reviews or Meta-analysis and have been published within the last 10 years. I've included ten articles on chronic pain, two on fibromyalgia and two on adverse events. In addition, there is information on where to seek drug- drug interaction between cannabis and commonly prescribed medications. As needed, updated materials will be provided as available.

Guidelines: Federation of State Medical Boards. [Model Guidelines for the Recommendation of Marijuana in Patient Care](https://www.fsmb.org/siteassets/advocacy/policies/model-guidelines-for-the-recommendation-of-marijuana-in-patient-care.pdf). April 2016. Retrieved from:
<https://www.fsmb.org/siteassets/advocacy/policies/model-guidelines-for-the-recommendation-of-marijuana-in-patient-care.pdf>

~ The Federation of State Medical Boards produced this set of guidelines to assist healthcare providers as they navigate incorporating medical cannabis into their patient treatment plans. These plans incorporated all existing laws, regulations, and policies related to medical cannabis. This is a great resource to start your understanding of appropriately referring of medical cannabis.

Bruni N, Della Pepa C, Oliaro-Bosso S, Pessione E, Gastaldi D, Dosio F. Cannabinoid Delivery Systems for Pain and Inflammation Treatment. *Molecules*. 2018 Sep 27;23(10):2478. doi: 10.3390/molecules23102478. PMID: 30262735; PMCID: PMC6222489.

~ Comprehensive review article discussing the endocannabinoid system, the role of cannabinoids in pain, preclinical and clinical trials available. Drug dosing and delivery systems are discussed in detail. For a deeper dive, 149 references are available for further review.

Backes, M., Weil, A., & McCue, J. D. (2017). *Cannabis Pharmacy: The practical guide to medical marijuana*. Black Dog & Leventhal Publishers

~ This publication truly is a guidebook for all things cannabis. It is a practical guide that uses both current knowledge and evidence-based medicine in discussing many disease states and the effectiveness, proposed mechanisms, dosages, and route of a ministrations that would be most appropriate for the given disease state being reviewed. I chose this resource as it focuses on HIV/AIDS, the issues occurring from the disease and the medications treating it, and offers real world suggestions on the application of cannabis as part of a patient's treatment plan.

Frye, P. C., & Smitherman, D. (2018). *The medical marijuana guide : cannabis and your health*. Rowman & Littlefield.

~ This real world cannabis guide provides a history of cannabis, legislative issues, laboratory testing and clinical considerations and then getting any type of cannabis treatment. It is truly a "real world" resource that I have found to be a great overview as I begin to delve deeper in any disease state topic regarding cannabis.

Mücke, M., Weier, M., Carter, C., Copeland, J., Degenhardt, L., Cuhls, H., Radbruch, L., Häuser, W., & Conrad, R. (2018). Systematic review and meta-analysis of cannabinoids in palliative medicine. *Journal of cachexia, sarcopenia and muscle*, 9(2), 220–234.

~ This Cochran review focused on the analysis of 16 separate trials specifically focusing on the treatment of neuropathic pain treated by cannabis. The authors identified a need for additional treatments other than current pharmaceutical options, but found the evidence was not highly significant in utilizing cannabis for neuropathic pain. The ultimate "mild to moderate" results lead to the conclusion that the benefits MAY outweigh the risk. The authors did discuss several limitations to the study including small sample size, short duration of the trials and inconsistency of formulation. They ultimately pointed to the need for additional research in the areas of cannabis to treat neuropathic pain.

Romero-Sandoval EA, Kolano AL, Alvarado-Vázquez PA. Cannabis and Cannabinoids for Chronic Pain. *Curr Rheumatol Rep*. 2017 Oct 5;19(11):67. doi: 10.1007/s11926-017-0693-1. PMID: 28983880.

~ Provides an in depth discussion of cannabinoids for chronic pain. The author discusses routes of administration and efficacy of cannabis in the treatment of pain. Long-term safety issues are reviewed. An additional 60 references are available for review.

Stella, B., Baratta, F., Della Pepa, C., Arpicco, S., Gastaldi, D., & Dosio, F. (2021). Cannabinoid Formulations and Delivery Systems: Current and Future Options to Treat Pain. *Drugs*, *81*(13), 1513–1557. <https://doi.org/10.1007/s40265-021-01579-x>

~ In this review, Stella reviews the role of cannabinoids in the endocannabinoid system, discusses a variety of therapeutic uses and focuses on current and novel routes of administration. A special point is made that additional high quality research must be done to further the knowledge of using cannabinoids as a medical treatment.

Whiting, P. F., Wolff, R. F., Deshpande, S., Di Nisio, M., Duffy, S., Hernandez, A. V., Keurentjes, J. C., Lang, S., Misso, K., Ryder, S., Schmidkofer, S., Westwood, M., & Kleijnen, J. (2015). Cannabinoids for Medical Use: A Systematic Review and Meta-analysis. *JAMA*, *313*(24), 2456–2473.

~ This systematic review is my go-to when reviewing cannabis for medical use. It is a well-designed study that has reviewed 28 databases with a total of 79 trials. The study has focused on reviews of nausea, reduction in pain, and even in weight gain in an HIV patient population. That is what drew me to this but particular study, as I know that systematic reviews are the same the strongest evidence in support of my discussion.

Kurlyandchik, I., Tiralongo, E., & Schloss, J. (2021). Safety and Efficacy of Medicinal Cannabis in the Treatment of Fibromyalgia: A Systematic Review. *Journal of alternative and complementary medicine (New York, N.Y.)*, *27*(3), 198–213. <https://doi.org/10.1089/acm.2020.0331>

~ A systematic review was conducted and the focus was on the safety and efficacy of utilizing cannabis as part of a fibromyalgia patient's treatment plan. 181 studies were identified with ultimately 10 studies included in the analysis. The authors concluded is safe and effective, and maybe even safer than current pain management strategies.

Khurshid, H., Qureshi, I. A., Jahan, N., Went, T. R., Sultan, W., Sapkota, A., & Alfonso, M. (2021). A Systematic Review of Fibromyalgia and Recent Advancements in Treatment: Is Medicinal Cannabis a New Hope?. *Cureus*, *13*(8), e17332. <https://doi.org/10.7759/cureus.17332>

~ this most up-to-date systematic review on fibromyalgia and treatment was completed in 2021. 363 articles were initially identified with 22 ultimately in the final analysis. Fibromyalgia Pathophysiology and diagnosis are reviewed. The author concludes that cannabis may indeed be a treatment option when all allopathic medications are exhausted.

Panlilio, L. V., Goldberg, S. R., & Justinova, Z. (2015). Cannabinoid abuse and addiction: Clinical and preclinical findings. *Clinical pharmacology and therapeutics*, 97(6), 616–627.
<https://doi.org/10.1002/cpt.118>

~ I included this article as the focus are adverse events that may occur when utilizing cannabinoid. The authors review the acute and long-term effects, cannabis use disorder Cannabis withdrawal and the issues surrounding synthetic cannabinoid. Both animal and human studies were included. Conclusions include that additional research is necessary.

The following information provides resources to identify drug drug interactions between cannabis and some commonly prescribed allopathic medications.

Antoniou, T., Bodkin, J., & Ho, J. M.-W. (2020, March 2). *Drug interactions with cannabinoids*. CMAJ.
Retrieved February 22, 2023, from <https://www.cmaj.ca/content/192/9/E206>

~ This peer reviewed article Highlights the potential dangers of drug interactions with cannabinoids. Concise but informative.

Drugs.com.

<https://www.drugs.com/drug-interactions/cannabis.html>

This online resource is essentially a pharmaceutical encyclopedia that provides drug information for health care providers and consumers alike period

CANN-DIR™

Cannabinoid drug interaction review

CANN-DIR.psu.edu

Penn State College of Medicine has designed this free web-based resource to assess drug- drug interactions between cannabinoids, including THC and CBD and other allopathic concomitantly prescribed medications. Includes over the counter medication's as well.