## The use of cannabinoids in the management of Irritable Bowel Syndrome (IBS).

While the pathophysiology of IBS is not completely understood, derangements in gut motility, alternations of diarrhea and constipation, painful intestinal hypersensitivity, low-grade bowel inflammation and disturbances in the gut-brain axis have all been associated with IBS [1,2]

Cannabinoids have been shown to favorably alter gastrointestinal motility [3,4], the cause of most of the symptomatology of IBS. In addition, cannabidiol may play an active role in reducing intestinal inflammation via modulation of the neuroimmune axis [5].

As a physician practicing cannabis medicine in Oakland, California in 2014, I saw numerous patients with irritable bowel syndrome who reported significant benefits and relief of symptoms associated with cannabis use.

The National Academy of Sciences 2017 report on The Health Effects of Cannabis and Cannabinoids, The Current State of Evidence and Recommendations for Research [6] placed irritable bowel syndrome in the same category as amyotrophic lateral sclerosis and epilepsy, two conditions already accepted as qualifying conditions for medical cannabis use in Arkansas. While all three of these conditions have extensive narrative reports describing beneficial effect of cannabinoids, they all lack the necessary clinical trials required to establish definitive clinical benefit. With this in mind, it would seem reasonable to also include irritable bowel syndrome as an approved condition.

1. Pesce M, D'Alessandro A, Borrelli O, et al. Endocannabinoid-related compounds in gastrointestinal diseases.

J Cell Mol Med. 2018;22(2):706-715. doi:10.1111/jcmm.133592. Drossman DA. Functional Gastrointestinal Disorders: History, Pathophysiology, Clinical Features, and

Rome IV. *Gastroenterology*. 2016;150(6):1262-1279.e2. doi:10.1053/j.gastro.2016.02.032

- 3. Reichenbach ZW, Schey R. Cannabinoids and GI Disorders: Endogenous and Exogenous. *Curr Treat Options Gastroenterol.* 2016;14(4):461-477. doi:10.1007/s11938-016-0111-1
- 4. Hornby PJ, Prouty SM. Involvement of cannabinoid receptors in gut motility and visceral perception. *Br J Pharmacol*. 2004;141(8):1335-1345. doi:10.1038/sj.bjp.0705783
- 5. De Filippis D, Esposito G, Cirillo C, et al. Cannabidiol Reduces Intestinal Inflammation through the Control of Neuroimmune Axis. *PLoS One*. 2011;6(12). doi:10.1371/journal.pone.0028159
- 6. National Academies of Sciences, Engineering, and Medicine, Health and Medicine Division, Board on Population Health and Public Health Practice, Committee on the Health Effects of Marijuana: An Evidence Review and Research Agenda. *The Health Effects of Cannabis and Cannabinoids: The Current State of Evidence and Recommendations for Research*. Washington (DC): National Academies Press (US); 2017. <a href="http://www.ncbi.nlm.nih.gov/books/NBK423845/">http://www.ncbi.nlm.nih.gov/books/NBK423845/</a>.