

# Medical Marijuana and Pain Management

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## Medical Marijuana Today

Twenty-three states and the District of Columbia, have passed laws since 1996 legalizing the use of medical marijuana for qualifying patients under state law. While state medical marijuana programs differ from one another in significant ways, most allow medical marijuana for the treatment of severe, intractable pain. Opioids remain the most commonly prescribed medicine to treat severe, chronic pain and are an important tool in the medical arsenal. However, many people do not want to take opioids given the side effects and risks associated with their use. Cannabis, effective in treating certain kinds of pain, affords new options.

## Safety and Efficacy of Medical Marijuana

Marijuana's medical safety and efficacy is incontrovertible – particularly for the treatment of various types of severe and chronic pain.<sup>1</sup>

In February 2010, the University of California Center for Medicinal Cannabis Research released a report of its findings after a decade of randomized, double-blind, placebo-controlled clinical trials on the medical utility of inhaled marijuana. The studies concluded that marijuana should be a “first line treatment” for patients with painful neuropathy and other serious and debilitating symptoms, who often do not respond to other available medications. Among the Center's trials, four studies assessed smoked marijuana's potential to relieve chronic, neuropathic pain – a type of nerve pain associated with cancer, diabetes, HIV/AIDS, spinal cord injury and many other serious conditions. Each of the studies that the Center's investigators conducted found that marijuana consistently reduced patients' pain levels to a comparable or better degree than currently available treatments.<sup>2</sup> The researchers concluded, “The results from these four studies have been convergent, with all four demonstrating a significant decrease in pain after cannabis administration. The magnitude of effect in these studies...was comparable to current therapies.”<sup>3</sup>

Another trial assessed the use of marijuana as a treatment for patients suffering from multiple sclerosis. That study determined that “smoked cannabis was superior to placebo in reducing spasticity and pain in patients with MS, and provided some benefit beyond currently prescribed treatments.”<sup>4</sup> A literature review of 38 studies evaluating medical marijuana's efficacy for treating pain found that “71 percent (27) concluded that cannabinoids had empirically demonstrable and statistically significant pain relieving effects, whereas 29 percent (11) did not.” Of major significance, the review concluded, “[F]or notoriously difficult to treat conditions such as HIV neuropathy, ... cannabinergic pain medicines, particularly inhaled cannabinoid botanicals, are one of the only treatments that have been shown to be safe and effective with the highest levels of evidence.”<sup>5</sup> In fact, a 2015 meta-analysis of 79 studies found a 30 percent or greater reduction of pain with the use of cannabinoids compared to placebos.<sup>6</sup>

Another authoritative review article summarizing the state of the research indicated smoked marijuana reduces symptoms of chronic/neuropathic pain, spasticity associated with multiple sclerosis, and other conditions – and does so with an acceptable safety profile. The article recommends that doctors be allowed to weigh the benefits against risks of medical marijuana therapy – just as they do with any other medicine.

The article concludes by recommending marijuana rescheduling, writing: “The classification of marijuana as a Schedule I drug as well as the continuing controversy as to whether or not cannabis is of medical value are obstacles to medical progress in this area.

Based on evidence currently available the Schedule I classification is not tenable; it is not accurate that cannabis has no medical value, or that information on safety is lacking. It is true cannabis has some abuse potential, but its profile more closely resembles drugs in Schedule III (where codeine and dronabinol are listed). The continuing conflict between scientific evidence and political ideology will hopefully be reconciled in a judicious manner.”<sup>7</sup>

### Medical Marijuana & Prescription Opioids

Not only is medical marijuana effective for treating chronic and intractable pain, but inhaled marijuana has also been found to complement prescription opioid pain medicines well, enhancing the efficacy of (and safely interacting with) these more powerful narcotic medications. Used in combination with opioid analgesics, cannabis can lower opioid side-effects, cravings and withdrawal severity as well as enhance the analgesic effects of opioids, thereby allowing for lower doses and less risk of overdose.<sup>8,9</sup> An important recent study reported that their subjects' pain "was significantly decreased after the addition of vaporized cannabis", and suggested that cannabis treatment “may allow for opioid treatment at lower doses with fewer [patient] side effects.” The authors concluded that their results “demonstrate that inhaled cannabis safely augments the analgesic effects of opioids.”<sup>10</sup> Research published last year found 80 percent of medical marijuana users reported substituting cannabis for prescribed medications, particularly among patients with pain-related conditions<sup>11</sup> A retrospective survey of 244 medical cannabis patients in Michigan found that cannabis use was associated with a “64% lower opioid use in patients with chronic pain” and fewer side effects than opioid medications<sup>12</sup>. Another study of 200 licensed medical cannabis patients in Rhode Island found that over two-thirds (69%) used cannabis to treat chronic pain, and more than half (56 %) indicated that they had “used cannabis as a substitute for pharmaceutical drugs, primarily opioids”, with over 90% of respondents noting that “cannabis was associated with fewer side effects”<sup>13</sup>

Such findings are increasingly common, prompting a recent journal commentary to note, "There is sufficient evidence of safety and efficacy for the use of [marijuana] in the treatment of nerve pain relative to opioids...[that] where medicinal cannabis is legal, physicians who treat neuropathic pain with opioids should evaluate their patients for a trial of cannabis and prescribe it when appropriate prior to using opioids.” The commentary went on to suggest that, “Prescribing cannabis in place of opioids for neuropathic pain may reduce the morbidity and mortality rates associated with prescription pain medications and may be an effective harm reduction strategy”<sup>14</sup>

A 2014 study published in the Journal of the American Medical Association found that states with medical marijuana laws are associated with a significant reduction in mortality from opioid abuse; these states saw a 25 percent reduction in opioid overdose deaths, compared to states without such laws, resulting in 1,700 fewer deaths in 2010 alone.<sup>15</sup> Another working paper from the RAND BING Center for Health Economics notes that “states permitting medical marijuana dispensaries experienced a 15 to 35 percent decrease in substance abuse admissions and opiate overdose deaths.<sup>16</sup> Similarly, another recent report by Castlight Health, an employee health benefits platform provider, found almost double the rate of opioid abuse in states that did not permit access to medical marijuana. Specifically, in those states, 5.4 percent of individuals with

an opioid prescription qualified as abusers of the drug, whereas only half or 2.8 percent of individuals with an opioid prescription living in medical marijuana states qualified as opioid abusers<sup>17</sup>

Finally, cannabis use has been shown to improve outcomes among participants undergoing treatment for opioid dependency. In a 2015 study, researchers at Columbia University found that “patients who consumed cannabis during the outpatient treatment phase were more readily able to sleep, reported experiencing less anxiety, and were more likely to complete their treatment as compared to those subjects who did not” and “were more likely to remain in [outpatient treatment] as compared to those who were not using marijuana, regardless of whether they were taking dronabinol or placebo”<sup>18</sup> This finding replicates two prior studies conducted in 2001 and 2009 which found “greater treatment adherence among subjects who consumed cannabis intermittently during outpatient therapy”<sup>19</sup>

Several elected officials, including Senator Elizabeth Warren<sup>20</sup> and Congressman Earl Blumenauer<sup>21</sup>, have recently expressed their support for the use of medical marijuana to treat chronic pain as a way to help address the opioid crisis. Given medical marijuana’s pain-relieving benefits, it presents a promising solution to reducing the morbidity and mortality associated with prescription opioid use in New York State, creating broader access to medical marijuana for patients in need, and should be included as a qualifying condition in its medical marijuana program.

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<sup>1</sup> Ware, M.A., Doyle, C.R., Woods, R., Lynch, M.E., Clark, A.J. (2003). Cannabis use for chronic non-cancer pain: results of a prospective survey. *Pain*, 102(1-2):211-6.

<sup>2</sup> See California Center for Medicinal Cannabis Research, Report to the Legislature and Governor of the State of California presenting findings pursuant to SB847 which created the CMCR and provided state funding (2010), [http://www.cmcr.ucsd.edu/images/pdfs/CMCR\\_REPORT\\_FEB17.pdf](http://www.cmcr.ucsd.edu/images/pdfs/CMCR_REPORT_FEB17.pdf). (Summarizing a decade of research) .

<sup>3</sup> Ibid.

<sup>4</sup> Jody Corey-Bloom et al., "Smoked Cannabis for Spasticity in Multiple Sclerosis: A Randomized, Placebo-Controlled Trial," *Canadian Medical Association Journal* 184, no. 10 (2012).

<sup>5</sup> Aggarwal SK. "Cannabinergic pain medicine: A concise clinical primer and survey of randomized controlled trial results," *The Clinical Journal of Pain* (2012-forthcoming).

<sup>6</sup> Whiting, P. F., Wolff, R. F., Deshpande, S., Di Nisio, M., Duffy, S., Hernandez, A. V., ... & Schmidkofer, S. (2015). Cannabinoids for medical use: a systematic review and meta-analysis. *Jama*, 313(24), 2456-2473.

<sup>7</sup> Igor Grant et al., "Medical Marijuana: Clearing Away the Smoke," *The Open Neurology Journal* 6 (2012): 24; 18–25. doi:[10.2174/1874205X01206010018](https://doi.org/10.2174/1874205X01206010018).

<sup>8</sup> Degenhardt, L., Lintzeris, N., Campbell, G., Bruno, R., Cohen, M., Farrell, M., & Hall, W. D. (2015). Experience of adjunctive cannabis use for chronic non-cancer pain: Findings from the Pain and Opioids IN Treatment (POINT) study. *Drug and alcohol dependence*, 147, 144-150.

<sup>9</sup> Haroutounian, S., Ratz, Y., Ginosar, Y., Furmanov, K., Saifi, F., Meidan, R., & Davidson, E. (2016). The Effect of Medicinal Cannabis on Pain and Quality of Life Outcomes in Chronic Pain: A Prospective Open-label Study. *The Clinical Journal of Pain*.

<sup>10</sup> D I Abrams, et al. "Cannabinoid-Opioid interaction in chronic pain," *Clinical Pharmacology & Therapeutics* (2011); 90 6, 844–851.

<sup>11</sup> Lucas, P., Walsh, Z., Crosby, K., Callaway, R., Belle-Isle, L., Kay, R., ... & Holtzman, S. (2015). Substituting cannabis for prescription drugs, alcohol and other substances among medical cannabis patients: The impact of contextual factors. *Drug and Alcohol Review*.

<sup>12</sup> Boehnke, K. F., Litinas, E., & Clauw, D. J. (2016). Medical Cannabis Use Is Associated With Decreased Opiate Medication Use in a Retrospective Cross-Sectional Survey of Patients With Chronic Pain. *The Journal of Pain*

<sup>13</sup> Zaller, N., Topletz, A., Frater, S., Yates, G., & Lally, M. (2015). Profiles of medicinal cannabis patients attending compassion centers in Rhode Island. *Journal of psychoactive drugs*, 47(1), 18-23.

<sup>14</sup> Mark Collen "Prescribing cannabis for harm reduction" *Harm Reduction Journal* (2012), 9:1, <http://www.harmreductionjournal.com/content/pdf/1477-7517-9-1.pdf>.

<sup>15</sup> Bachhuber, M. A., Saloner, B., Cunningham, C. O., & Barry, C. L. (2014). Medical cannabis laws and opioid analgesic overdose mortality in the United States, 1999-2010. *JAMA internal medicine*, 174(10), 1668-1673.

<sup>16</sup> Powell, D., Pacula, R. L., & Jacobson, M. (2015). Do Medical Marijuana Laws Reduce Addictions and Deaths Related to Pain Killers? (No. w21345). National Bureau of Economic Research.

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<sup>17</sup>Castlight Health. (2016). *Report: The Opioid Crisis in America's Workforce*. Retrieved from:

<http://www.castlighthealth.com/typ/the-opioid-crisis/>

<sup>18</sup> Bisaga, A., Sullivan, M. A., Glass, A., Mishlen, K., Pavlicova, M., Haney, M., ... & Nunes, E. V. (2015). The effects of dronabinol during detoxification and the initiation of treatment with extended release naltrexone. *Drug and alcohol dependence, 154*, 38-45.

<sup>19</sup> Church, S. H., Rothenberg, J. L., Sullivan, M. A., Bornstein, G., & Nunes, E. V. (2001). Concurrent substance use and outcome in combined behavioral and naltrexone therapy for opiate dependence. *The American journal of drug and alcohol abuse, 27*(3), 441-452; Raby, W. N., Carpenter, K. M., Rothenberg, J., Brooks, A. C., Jiang, H., Sullivan, M., ... & Nunes, E. V. (2009). Intermittent marijuana use is associated with improved retention in naltrexone treatment for opiate-dependence. *American Journal on Addictions, 18*(4), 301-308.

<sup>20</sup> Warren, Elizabeth. Letter to CDC re Opioid Epidemic Research. Available at:

[http://www.warren.senate.gov/files/documents/2016-2-8\\_Letter\\_to\\_CDC\\_re\\_opioid\\_epidemic%20research.pdf](http://www.warren.senate.gov/files/documents/2016-2-8_Letter_to_CDC_re_opioid_epidemic%20research.pdf);

Accessed: 3/1/2016

<sup>21</sup> C-SPAN. (2016, February 24). Blumenauer on Opioid Abuse Epidemic. [Video File]. Retrieved from: <http://www.c-span.org/video/?c4582196/blumenauer-opioid-abuse-epidemic>