

I. Multiple Sclerosis

A.

1. RESEARCH STUDY, ARTICLE OR REFERENCE

Clinical and anecdotal reports of cannabinoids' ability to reduce MS-related symptoms such as pain, spasticity, depression, fatigue, and incontinence are plentiful in the scientific literature.^[1-12] Specifically, investigators at the University of California at San Diego reported in 2008 that inhaled cannabis significantly reduced objective measures of pain intensity and spasticity in patients with MS in a placebo-controlled, randomized clinical trial. They concluded that "smoked cannabis was superior to placebo in reducing spasticity and pain in patients with multiple sclerosis and provided some benefit beyond currently prescribed treatment."

2. ONLINE SOURCE

<http://norml.org/library/item/multiple-sclerosis>

3. MEDICAL REFERENCES AS DOCUMENTED IN SOURCE (Refer to Source)

- [1] Chong et al. 2006. [Cannabis use in patients with multiple sclerosis](#). *Multiple Sclerosis* 12: 646-651.
- [2] Rog et al. 2005. [Randomized, controlled trial of cannabis-based medicine in central pain in multiple sclerosis](#). *Neurology* 65: 812-819.
- [3] Wade et al. 2004. [Do cannabis-based medicinal extracts have general or specific effects on symptoms in multiple sclerosis? A double-blind, randomized, placebo-controlled study on 160 patients](#). *Multiple Sclerosis* 10: 434-441.
- [4] Brady et al. 2004. [An open-label pilot study of cannabis-based extracts for bladder dysfunction in advanced multiple sclerosis](#). *Multiple Sclerosis* 10: 425-433.
- [5] Vaney et al. 2004. [Efficacy, safety and tolerability of an orally administered cannabis extract in the treatment of spasticity in patients with multiple sclerosis: a randomized, double-blind, placebo-controlled, crossover study](#). *Multiple Sclerosis* 10: 417-424.
- [6] Zajicek et al. 2003. [Cannabinoids for treatment of spasticity and other symptoms related to multiple sclerosis: multicentre randomized placebo-controlled trial \[PDF\]](#). *The Lancet* 362: 1517-1526.
- [7] Page et al. 2003. [Cannabis use as described by people with multiple sclerosis \[PDF\]](#). *Canadian Journal of Neurological Sciences* 30: 201-205.
- [8] Wade et al. 2003. [A preliminary controlled study to determine whether whole-plant cannabis extracts can improve intractable neurogenic symptoms](#). *Clinical Rehabilitation* 17: 21-29.
- [9] Consroe et al. 1997. [The perceived effects of smoked cannabis on patients with multiple sclerosis](#). *European Journal of Neurology* 38: 44-48.
- [10] Meinck et al. 1989. [Effects of cannabinoids on spasticity and ataxia in multiple sclerosis](#). *Journal of Neurology* 236: 120-122.
- [11] Ungerleider et al. 1987. [Delta-9-THC in the treatment of spasticity associated with multiple sclerosis](#). *Advances in Alcohol and Substance Abuse* 7: 39-50.
- [12] Denis Petro. 1980. Marijuana as a therapeutic agent for muscle spasm or spasticity. *Psychosomatics* 21: 81-85.
- [13] Jody Corey-Bloom. 2010. [Short-term effects of cannabis therapy on spasticity in multiple sclerosis](#). In: University of San Diego Health Sciences, 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*. op. cit.

- [14] Corey-Bloom et al. 2012. Smoked cannabis for spasticity in multiple sclerosis: a randomized, placebo-controlled trial. *CMAJ* 10: 1143-1150.
- [15] Clark et al. 2004. [Patterns of cannabis use among patients with multiple sclerosis](#). *Neurology* 62: 2098-2010.
- [16] Reuters News Wire. August 19, 2002. "Marijuana helps MS patients alleviate pain, spasms."
- [17] Pryce et al. 2003. [Cannabinoids inhibit neurodegeneration in models of multiple sclerosis](#). *Brain* 126: 2191-2202.
- [18] de Lago et al. 2012. [Cannabinoids ameliorate disease progression in a model of multiple sclerosis in mice, acting preferentially through CB\(1\) receptor-mediated anti-inflammatory effects](#). *Neuropharmacology* [E-pub ahead of print]
- [19] Killestein et al. 2003. [Immunomodulatory effects of orally administered cannabinoids in multiple sclerosis](#). *Journal of Neuroimmunology* 137: 140-143.
- [20] Wade et al. 2006. [Long-term use of a cannabis-based medicine in the treatment of spasticity and other symptoms of multiple sclerosis](#). *Multiple Sclerosis* 12: 639-645.
- [21] Rog et al. 2007. [Oromucosal delta-9-tetrahydrocannabinol/cannabidiol for neuropathic pain associated with multiple sclerosis: an uncontrolled, open-label, 2-year extension trial](#). *Clinical Therapeutics* 29: 2068-2079.

B. MARIJUANA EXTRACT RELIEVES MULTIPLE SCLEROSIS SYMPTOMS

1. RESEARCH STUDY, ARTICLE OR REFERENCE

Painful muscle stiffness, which affects the vast majority of people with multiple sclerosis, is eased with progressively stronger doses of cannabis extract (tetrahydrocannabinol), according to Phase III trial results published in the *Journal of Neurology Neurosurgery and Psychiatry*.

2. ONLINE SOURCE(s)

<http://www.medicalnewstoday.com/articles/251339.php>

3. MEDICAL REFERENCES AS DOCUMENTED IN SOURCE (Refer to Source)

Nordqvist, Christian. "Marijuana Extract Relieves Multiple Sclerosis Symptoms." *Medical News Today*. MediLexicon, Intl., 10 Oct. 2012. Web. 25 Sep. 2015.
<<http://www.medicalnewstoday.com/articles/251339.php>>

C. SMOKED CANNABIS REDUCES SOME SYMPTOMS OF MULTIPLE SCLEROSIS

1. RESEARCH STUDY, ARTICLE OR REFERENCE

A clinical study of 30 adult patients with multiple sclerosis (MS) at the University of California, San Diego School of Medicine has shown that smoked cannabis may be an effective treatment for spasticity -- a common and disabling symptom of this neurological disease.

2. ONLINE SOURCE(s)

<http://www.sciencedaily.com/releases/2012/05/120514122607.htm>

3. MEDICAL REFERENCES AS DOCUMENTED IN SOURCE (Refer to Source)

University of California, San Diego Health Sciences. "Smoked cannabis reduces some symptoms of multiple sclerosis." ScienceDaily. ScienceDaily, 14 May 2012.
<www.sciencedaily.com/releases/2012/05/120514122607.htm>.