

Multiple Sclerosis

Multiple sclerosis (MS) is a chronic degenerative disease of the central nervous system that causes inflammation, muscular weakness and a loss of motor coordination. Over time, MS patients typically become permanently disabled and, in some cases, the disease can be fatal. According to the US National Multiple Sclerosis Society, about 200 people are diagnosed every week with the disease – often striking those 20 to 40 years of age.

Survey data indicates that patients with MS frequently turn to cannabis for symptomatic relief,¹⁻³ with some studies estimating that nearly one-in-two MS patients report current use of the substance.⁴⁻⁵ Many of these patients report that their use of cannabis results in symptomatic improvements and allows them to reduce their use of prescription medications.⁶

Numerous studies, including randomized, placebo-controlled trials, affirm the safety and efficacy of either cannabis or whole-plant cannabis extracts in MS patients.⁷⁻²⁰ For example, in a clinical trial sponsored by the University of San Diego, “Smoked cannabis was superior to placebo in symptom and pain reduction in participants with treatment-resistant spasticity.”²¹ In recent years, health regulators in numerous countries, including Canada, Denmark, Germany, New Zealand, Spain, and the United Kingdom have approved the prescription use of plant-derived cannabis extracts in patients with MS. Long-term use of these extracts has been shown to be safe and effective.²² The administration of comparably low doses of plant-derived extracts has also been shown to be efficacious and well-tolerated in human trials.²³

Preclinical models suggest that cannabinoids may also inhibit MS progression in addition to providing symptom management. Writing in 2003 in the journal *Brain*, investigators at the University College of London’s Institute of Neurology reported that administration of the synthetic cannabinoid agonist WIN 55,212-2 provided “significant neuroprotection” in an animal model of multiple sclerosis. “The results of this study are important because they suggest that in addition to symptom management, ... cannabis may also slow the neurodegenerative processes that ultimately lead to chronic disability in multiple sclerosis and probably other disease,” researchers concluded.²⁴ Other researchers have reported similar findings, documenting that “the treatment of EAE mice with the cannabinoid agonist WIN55,512-2 reduced their neurological disability and the progression of the disease.”²⁵ The administration of plant-derived cannabinoids has also been shown to boost immune function in subjects with MS, suggesting a “disease-modifying potential of cannabinoids [for] MS” patients.²⁶

Longitudinal trials also suggest that cannabis therapy may slow down the clinical progression of MS in humans.²⁷ Observational data from an extended open-label study of 167 multiple sclerosis patients concluded that the use of whole plant cannabinoid extracts relieves symptoms of pain, spasticity, and bladder incontinence for an extended period of treatment (mean duration of study participants was 434 days) without requiring subjects to increase their dose.²⁸ Results from another two-year open-label extension trial report that the administration of cannabis extracts is associated with long-term reductions in neuropathic pain in select MS patients. On average, patients in that study required fewer daily doses of the drug and reported lower median pain scores the longer they took it.²⁹ Investigators have suggested that these results would be unlikely in patients suffering from a progressive disease like MS unless the cannabinoid therapy was halting its progression.

While there exists growing worldwide acceptance of the use of cannabis extracts for MS, not all patients respond to such treatments. However, in some instances, those non-responsive to extracts have responded favorably to herbal cannabis products.³⁰ These results emphasize that cannabis flower should

remain a legal therapeutic option, even in jurisdictions where medical cannabis extracts are already available by prescription.

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