

TOURETTE SYNDROME – MEDICAL MARIJUANA RESEARCH OVERVIEW

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Tourette syndrome is a nervous system disorder that affects 1 of every 360 children ages 6 through 17. Studies have shown marijuana safely reduces the frequency of tics associated with the syndrome.

OVERVIEW OF TOURETTE SYNDROME

Tourette syndrome is a condition of the nervous system that develops during childhood. The syndrome is characterized by tics, which tics are characterized as being motor, which means unusual repetitive movements of the body, or vocal, which are involuntary sounds made with the voice. For example, a person with Tourette's may repeatedly shrug their shoulders or uncontrollably blurt out grunting sounds. Tics are also classified as simple, which are sudden, brief, repetitive and involving a limited number of muscles, and complex, which are distinct and coordinated movements that involve several muscle groups.

According to the Centers for Disease Control and Prevention, the tics associated with Tourette syndrome typically begin between the ages of 5 and 10. The tics can grow in intensity and frequency when a child is stressed or excited. The tics commonly decrease throughout the teenage and adult years and in some cases can disappear entirely. Many with Tourette's, however, have tics worsen with age.

The cause of Tourette's remains unknown, but according to Mayo Clinic, theories include genetic mutations or brain abnormalities. While not life-threatening, Tourette's can still pose lifestyle difficulties for those who are diagnosed. The syndrome is often associated with other related conditions like attention-deficit/hyperactivity disorder, obsessive-compulsive disorder, learning disabilities, depression, and sleep and anxiety disorders.

There is no cure for Tourette's, so focus of treatment is on managing the tics so that they don't cause pain or injury or adversely affect the quality of one's school, work or social life. No medications completely eliminate symptoms, but some can limit the frequency of tics. In addition, antidepressants and psychotherapy and behavior therapy are used to assist in symptom management.

FINDINGS: EFFECTS OF CANNABIS ON TOURETTE SYNDROME

Research has shown that cannabis can be effective in suppressing tics and also in the treatment of the syndrome's associated behavioral problems (Muller-Vahl, 2013) (Abi-Jaoude, et al., 2017). One study measuring the effects of a single cannabis treatment on adult Tourette's syndrome patients found a significant improvement of tics and obsessive-compulsive behavior compared to placebo (Muller-Vahl, et al., 2002). Demonstrating cannabis potential longer-term benefits, another study discovered a significant difference in the reduction of tics compared to placebo in Tourette's patients after six weeks of cannabis administration (Muller-Vahl, et al., 2003). Another study, also involving six-weeks of cannabis treatments, reported a reduction tics in patients with Tourette's with no serious adverse effects or impairment on neuropsychological performance (Muller-Vahl, 2003).

Tourette syndrome patients being treated with cannabis have shown to experience no impairments in verbal and visual memory, reaction time, intelligence, sustained attention, divided attention, vigilance or mood compared to placebo treatment (Muller-

Vahl, et al., 2002). Therefore, regular cannabis use to manage the symptoms associated with Tourette's appears to have no acute or long-term cognitive effects (Muller-Vahl, et al., 2003).

STATES THAT HAVE APPROVED MEDICAL MARIJUANA FOR TOURETTE SYNDROME

Currently, [Arkansas](#), [Illinois](#), [Minnesota](#) and [Ohio](#) have approved medical marijuana specifically for the treatment of Tourette syndrome.

A number of other states will consider allowing medical marijuana to be used for the treatment of Tourette syndrome with the recommendation from a physician. These states include: [California](#) (any debilitating illness where the medical use of marijuana has been recommended by a physician), [Connecticut](#) (other medical conditions may be approved by the Department of Consumer Protection), [Massachusetts](#) (other conditions as determined in writing by a qualifying patient's physician), [Nevada](#) (other conditions subject to approval), [Oregon](#) (other conditions subject to approval), [Rhode Island](#) (other conditions subject to approval), and [Washington](#) (any "terminal or debilitating condition").

In [Washington D.C.](#), any condition can be approved for medical marijuana as long as a DC-licensed physician recommends the treatment.

Seventeen states have approved medical marijuana for the treatment of spasms (motor tics), which is a symptom commonly associated with Tourette's. These states include: [Arizona](#), [Arkansas](#), [California](#), [Colorado](#), [Delaware](#), [Florida](#), [Hawaii](#), [Louisiana](#), [Maryland](#), [Michigan](#), [Minnesota](#), [Montana](#), [Nevada](#), [New Hampshire](#), [Oregon](#), [Rhode Island](#) and [Washington](#).