[Neurological Disorders – Medical Marijuana Research Overview](http://www.medicalmarijuanainc.com/neurological-disorders-medical-marijuana-research-overview/)

11 December, 2015

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Neurological disorders are a group of diseases and conditions that affect the brain, spinal cord and nervous system. Studies have shown cannabis can delay the onset or limit the progression of various disorders as well as manage their associated spasms, seizures, tics, pain and other symptoms.

Overview of Neurological Disorders

Neurological disorders are disorders of the body’s nervous system, which consists of the brain, spinal cord, and nerves. According to the University of California San Francisco Medical Center, there are more than 600 nervous system diseases. The most common types include [Parkinson’s disease](http://www.medicalmarijuanainc.com/parkinsons-disease-medical-marijuana-research/), [epilepsy](http://www.medicalmarijuanainc.com/epilepsy-2-medical-marijuana-research/), [stroke](http://www.medicalmarijuanainc.com/stroke-medical-marijuana-research/), [multiple sclerosis](http://www.medicalmarijuanainc.com/multiple-sclerosis-medical-marijuana-research/), [migraine](http://www.medicalmarijuanainc.com/migraine-medical-marijuana-research/), [tumors](http://www.medicalmarijuanainc.com/tumors/) of the brain and spinal cord, [Tourette syndrome](http://www.medicalmarijuanainc.com/tourette-syndrome-medical-marijuana-research/), [peripheral neuropathy](http://www.medicalmarijuanainc.com/neuropathy-medical-marijuana-research-overview/), [spinal cord injury](http://www.medicalmarijuanainc.com/spinal-cord-injuries-medical-marijuana-research/), and [amyotrophic lateral sclerosis (ALS)](http://www.medicalmarijuanainc.com/amytotraphic-lateral-sclerosis-als-medical-marijuana-research/).

Damage to the body’s nervous system can be caused by a genetic disorder, a trauma event that causes a brain or spinal cord injury, tumors, degeneration, autoimmune disorders or blood flow disruptions. The cause of some neurological disorders, like Parkinson’s disease, remains unknown.

While symptoms of neurological disorders vary significantly depending on the specific type of disorder, they can include muscle weakness, loss of muscle control or poor coordination, paralysis, loss of sensation, spasms, seizures, loss of mental control, loss of consciousness, confusion and pain.

There is no cure for most neurological disorders, so the focus of treatment is on limiting the progression of the disorder and managing symptoms. Medications can be used to control pain, spasms and seizures.

Findings: Effects of Cannabis on Neurological Disorders

Research has shown that cannabis possesses neuroprotective effects, which in turn support the health of the brain, spinal cord and nerves, and help in preventing and limiting the progression of various neurological disorders. The major cannabinoids found in cannabis, including cannabidiol (CBD) and tetrahydrocannabinol (THC), have both shown they can help protect neurons, modulate the inflammatory response and encourage neuroregeneration (Lafuente, et al., 2011) (Kubajewska & Constantinescu, 2010) (Croxford, et al., 2008).

[Amyotrophic Lateral Sclerosis (ALS)](http://www.medicalmarijuanainc.com/amytotraphic-lateral-sclerosis-als-medical-marijuana-research/)

The cannabinoids in cannabis have shown they are capable of delaying the onset of ALS, prolonging neuron survival and slowing the progression of the disease (Bilsland, et al., 2006) (Carter, Abood, Aggarwal & Weiss, 2010) (Raman, et al., 2004). CBD specifically has been found to significantly slow the onset of ALS (Weydt, et al., 2005). Cannabis can also help with managing the pain, appetite loss, depression, sleeping problems, spasticity and drooling associated with ALS (Amtmann, et al., 2004) (Carter, Abood, Aggarwal & Weiss, 2010).

[Epilepsy](http://www.medicalmarijuanainc.com/epilepsy-2-medical-marijuana-research/)

In numerous studies, CBE has demonstrated the ability to reduce or even eliminate seizures (Blair, Deshpande & DeLorenzo, 2015) (Rosenberg, Tsien, Whalley & Devinsky, 2015) (Szaflarski & Bebin, 2014) (Devinsky, et al., 2014).

[Migraine](http://www.medicalmarijuanainc.com/migraine-medical-marijuana-research/)

Through their activation of the CB1 and CB2, cannabinoids effectively inhibits the pain response caused by migraines (Akerman, Holland, Lasalandra & Goardsby, 2013) (Baron, 2015) (Greco, et al., 2014).

[Multiple Sclerosis (MS)](http://www.medicalmarijuanainc.com/multiple-sclerosis-medical-marijuana-research/)

Cannabis’ cannabinoids slow the neurodegenerative process of multiple sclerosis by helping to regulate the body’s immune system, modulating its inflammatory response and encouraging neuroregeneration (Kubajewska & Constantinescu, 2010) (Croxford, et al., 2008). One study showed that cannabinoids reduced the damage to myelin caused from inflammation, thereby offering neuroprotection (Pryce, et al., 2003). Another found that cannabinoids reduced neurological disability, improved motor coordination and limited the progression of the MS in animals with a model of multiple sclerosis (de Lago, et al., 2012).

[Parkinson’s Disease](http://www.medicalmarijuanainc.com/parkinsons-disease-medical-marijuana-research/)

Studies show that cannabis’ neuroprotective effects can slow the progression of Parkinson’s. Its cannabinoids suppress excitotoxicity, glial activation and oxidative injury that lead to neuron degeneration. They improve the mitochondria function and the clearance of cellular debris, which also supports neuron health (More & Choi, 2015) (Garcia-Arencibia, Garcia & Fernandez-Ruiz, 2009) (Lastres-Becker & Fernandez-Ruiz, 2006). CBD has also shown to support the health of neural cells mitochondria (da Silva, et al., 2014) (Zuardi, 2008).

Peripheral Neuropathy

Cannabis effectively reduces neuropathic pain (Jensen, Chen, Furnish & Wallace, 2015) (Baron, 2015) (McDonough, McKenna, McCreary & Downer, 2014). Cannabis-based medicines have even shown they can reduce chronic neuropathic pain that had previously proven refractory to other treatments (Boychuk, Goddard, Mauro & Orellana, 2015).

Prion Diseases

CBD has shown to protect neurons against prion toxicity and therefore reduced the risk of prion diseases, a group of rare degenerative brain disorders (Dirikoc, et al., 2007).

[Spinal Cord Injury](http://www.medicalmarijuanainc.com/spinal-cord-injuries-medical-marijuana-research/)

Cannabis’ cannabinoids limit neurological damage caused by a spinal cord injury if administered shortly after the traumatic event. The cannabinoids reduce the proinflammatory cytokines and delay the atrophy and degeneration of neurons and thereby protect the white matter and myelin sheath surrounding the cord and nerves (Arevalo-Martin, Garcia-Ovejero & Molina-Holgado, 2010) (Latini, et al., 2014) (Arevalo-Martin, Garcia-Ovejero & Molina-Holgado, 2010) (Arevalo-Martin, et al., 2012). An animal trial have found the administration of cannabinoids shortly after a spinal cord injury caused an improvement in locomotor functional recovery (Kwiatkoski, Guimaraes & Del-Bel, 2012). In addition, cannabis has found to be among the most effective pain relief treatments for people with spinal cord injuries (Wilsey, et al., 2013) (Heutink, Post, Wollaars & van Asbeck, 2011).

[Stroke](http://www.medicalmarijuanainc.com/stroke-medical-marijuana-research/)

Cannabinoids reduce infarct volume and improving functional outcome following strokes (England, Hind, Rasid & O’Sullivan, 2015). When administered shortly after a stroke, CBD specifically protects neurons and astrocytes from damage, and therefore leads to improved functional, histological, biochemical, and neurobehavior recovery (Lafuente, et al., 2011).

[Tourette Syndrome](http://www.medicalmarijuanainc.com/tourette-syndrome-medical-marijuana-research/)

Cannabis effectively suppresses tics and improves behavioral problems associated with Tourette syndrome (Muller-Vahl, 2013) (Muller-Vahl, et al., 2002).

[Tumors of the Brain and Spinal Cord](http://www.medicalmarijuanainc.com/tumors/)

CBD has shown it has anti-tumor properties, with one study showing it significantly inhibited the growth of cancer cells (Massi, et al., 2004).

States That Have Approved Medical Marijuana for Neurological Disorders

No states include “neurological disorders” on their list of approved conditions for medical marijuana, although [Pennsylvania](http://www.medicalmarijuanainc.com/pennsylvania-marijuana-laws/) allows medicinal cannabis for “damage to the nervous tissue of the spinal cord with objective neurological indication of intractable spasticity.” Additionally, many other states allow medical marijuana for the treatment of specific neurological disorders.

For example, [Arizona](http://www.medicalmarijuanainc.com/arizona-marijuana-laws/), [Arkansas](http://www.medicalmarijuanainc.com/arkansas-marijuana-laws/), [Connecticut](http://www.medicalmarijuanainc.com/connecticut-marijuana-laws/), [Delaware](http://www.medicalmarijuanainc.com/delaware-marijuana-laws/), [Florida](http://www.medicalmarijuanainc.com/florida-marijuana-laws/), [Georgia](http://www.medicalmarijuanainc.com/georgia-marijuana-laws/), [Maine](http://www.medicalmarijuanainc.com/maine-marijuana-laws/), [Massachusetts](http://www.medicalmarijuanainc.com/massachusetts-marijuana-laws/), [Michigan](http://www.medicalmarijuanainc.com/michigan-marijuana-laws/), [Minnesota](http://www.medicalmarijuanainc.com/minnesota-marijuana-laws/), [New Hampshire](http://www.medicalmarijuanainc.com/new-hampshire-marijuana-laws/), [New Jersey](http://www.medicalmarijuanainc.com/new-jersey-marijuana-laws/), [New Mexico](http://www.medicalmarijuanainc.com/new-mexico-marijuana-laws/), [New York](http://www.medicalmarijuanainc.com/new-york-marijuana-laws/), [North Dakota](http://www.medicalmarijuanainc.com/north-dakota-marijuana-laws/), [Ohio](http://www.medicalmarijuanainc.com/ohio-marijuana-laws/) and [Pennsylvania](http://www.medicalmarijuanainc.com/pennsylvania-marijuana-laws/) have approved medical marijuana for the treatment of ALS. [Alabama](http://www.medicalmarijuanainc.com/alabama-marijuana-laws/), [Connecticut](http://www.medicalmarijuanainc.com/connecticut-marijuana-laws/), [Delaware](http://www.medicalmarijuanainc.com/delaware-marijuana-laws/), [Florida](http://www.medicalmarijuanainc.com/florida-marijuana-laws/), [Georgia](http://www.medicalmarijuanainc.com/georgia-marijuana-laws/), [Iowa](http://www.medicalmarijuanainc.com/iowa-marijuana-laws/), [Louisiana](http://www.medicalmarijuanainc.com/louisiana-marijuana-laws/), [Maine](http://www.medicalmarijuanainc.com/maine-marijuana-laws/), [Mississippi](http://www.medicalmarijuanainc.com/mississippi-marijuana-laws/), [Missouri](http://www.medicalmarijuanainc.com/missouri-marijuana-laws/), [New Hampshire](http://www.medicalmarijuanainc.com/new-hampshire-marijuana-laws/), [New Jersey](http://www.medicalmarijuanainc.com/new-jersey-marijuana-laws/), [New Mexico](http://www.medicalmarijuanainc.com/new-mexico-marijuana-laws/), [New York](http://www.medicalmarijuanainc.com/new-york-marijuana-laws/), [North Carolina](http://www.medicalmarijuanainc.com/north-carolina-marijuana-laws/), [North Dakota](http://www.medicalmarijuanainc.com/north-dakota-marijuana-laws/), [Ohio](http://www.medicalmarijuanainc.com/ohio-marijuana-laws/), [Oklahoma](http://www.medicalmarijuanainc.com/oklahoma-marijuana-laws/), [Pennsylvania](http://www.medicalmarijuanainc.com/pennsylvania-marijuana-laws/), [South Carolina](http://www.medicalmarijuanainc.com/south-carolina-marijuana-laws/), [Texas](http://www.medicalmarijuanainc.com/texas-marijuana-laws/), [Utah](http://www.medicalmarijuanainc.com/utah-marijuana-laws/), [Virginia](http://www.medicalmarijuanainc.com/virginia-marijuana-laws/), [Wisconsin](http://www.medicalmarijuanainc.com/wisconsin-marijuana-laws/), and [Wyoming](http://www.medicalmarijuanainc.com/wyoming-marijuana-laws/) have approved medical marijuana for the treatment of either epilepsy or seizure disorders. [California](http://www.medicalmarijuanainc.com/california-marijuana-laws/) and [Illinois](http://www.medicalmarijuanainc.com/illinois-marijuana-laws/) have specifically approved medical marijuana for the treatment of migraines. [Arkansas](http://www.medicalmarijuanainc.com/arkansas-marijuana-laws/), [Montana](http://www.medicalmarijuanainc.com/montana-marijuana-laws/), [New Mexico](http://www.medicalmarijuanainc.com/new-mexico-marijuana-laws/), [New York](http://www.medicalmarijuanainc.com/new-york-marijuana-laws/) and [Pennsylvania](http://www.medicalmarijuanainc.com/pennsylvania-marijuana-laws/) have approved medical marijuana for the treatment of neuropathy. [New Hampshire](http://www.medicalmarijuanainc.com/new-hampshire-marijuana-laws/), [New Mexico](http://www.medicalmarijuanainc.com/new-mexico-marijuana-laws/), [New York](http://www.medicalmarijuanainc.com/new-york-marijuana-laws/), [North Dakota](http://www.medicalmarijuanainc.com/north-dakota-marijuana-laws/), [Ohio](http://www.medicalmarijuanainc.com/ohio-marijuana-laws/) and [Pennsylvania](http://www.medicalmarijuanainc.com/pennsylvania-marijuana-laws/) have approved medical marijuana specifically for the treatment of spinal cord injuries. [Arkansas](http://www.medicalmarijuanainc.com/arkansas-marijuana-laws/), [Illinois](http://www.medicalmarijuanainc.com/illinois-marijuana-laws/), [Minnesota](http://www.medicalmarijuanainc.com/minnesota-marijuana-laws/) and [Ohio](http://www.medicalmarijuanainc.com/ohio-marijuana-laws/) have approved medical marijuana specifically for the treatment of Tourette syndrome. [Connecticut](http://www.medicalmarijuanainc.com/connecticut-marijuana-laws/), [Florida](http://www.medicalmarijuanainc.com/florida-marijuana-laws/), [Georgia](http://www.medicalmarijuanainc.com/georgia-marijuana-laws/), [Illinois](http://www.medicalmarijuanainc.com/illinois-marijuana-laws/), [Maine](http://www.medicalmarijuanainc.com/maine-marijuana-laws/), [Massachusetts](http://www.medicalmarijuanainc.com/massachusetts-marijuana-laws/), [New Hampshire](http://www.medicalmarijuanainc.com/new-hampshire-marijuana-laws/), [New Mexico](http://www.medicalmarijuanainc.com/new-mexico-marijuana-laws/), [New York](http://www.medicalmarijuanainc.com/new-york-marijuana-laws/), [Ohio](http://www.medicalmarijuanainc.com/ohio-marijuana-laws/) and [Pennsylvania](http://www.medicalmarijuanainc.com/pennsylvania-marijuana-laws/) have approved medical marijuana for the treatment of Parkinson’s disease. [Alaska](http://www.medicalmarijuanainc.com/alaska-marijuana-laws/), [Connecticut](http://www.medicalmarijuanainc.com/connecticut-marijuana-laws/), [Florida](http://www.medicalmarijuanainc.com/florida-marijuana-laws/), [Georgia](http://www.medicalmarijuanainc.com/georgia-marijuana-laws/), [Illinois](http://www.medicalmarijuanainc.com/illinois-marijuana-laws/), [Maine](http://www.medicalmarijuanainc.com/maine-marijuana-laws/), [Massachusetts](http://www.medicalmarijuanainc.com/massachusetts-marijuana-laws/), [New Hampshire](http://www.medicalmarijuanainc.com/new-hampshire-marijuana-laws/), [New Jersey](http://www.medicalmarijuanainc.com/new-jersey-marijuana-laws/), [New Mexico](http://www.medicalmarijuanainc.com/new-mexico-marijuana-laws/), [New York](http://www.medicalmarijuanainc.com/new-york-marijuana-laws/), [Ohio](http://www.medicalmarijuanainc.com/ohio-marijuana-laws/), [Pennsylvania](http://www.medicalmarijuanainc.com/pennsylvania-marijuana-laws/) and [Vermont](http://www.medicalmarijuanainc.com/vermont-marijuana-laws/) allow medical marijuana for the treatment of multiple sclerosis. [Alaska](http://www.medicalmarijuanainc.com/alaska-marijuana-laws/), [Arizona](http://www.medicalmarijuanainc.com/arizona-marijuana-laws/), [Arkansas](http://www.medicalmarijuanainc.com/arkansas-marijuana-laws/), [California](http://www.medicalmarijuanainc.com/california-marijuana-laws/), [Colorado](http://www.medicalmarijuanainc.com/colorado-marijuana-laws/), [Connecticut](http://www.medicalmarijuanainc.com/connecticut-marijuana-laws/), [Delaware](http://www.medicalmarijuanainc.com/delaware-marijuana-laws/), [Florida](http://www.medicalmarijuanainc.com/florida-marijuana-laws/), [Georgia](http://www.medicalmarijuanainc.com/georgia-marijuana-laws/), [Hawaii](http://www.medicalmarijuanainc.com/hawaii-marijuana-laws/), [Illinois](http://www.medicalmarijuanainc.com/illinois-marijuana-laws/), [Louisiana](http://www.medicalmarijuanainc.com/louisiana-marijuana-laws/), [Maine](http://www.medicalmarijuanainc.com/maine-marijuana-laws/), [Massachusetts](http://www.medicalmarijuanainc.com/massachusetts-marijuana-laws/), [Michigan](http://www.medicalmarijuanainc.com/michigan-marijuana-laws/), [Minnesota](http://www.medicalmarijuanainc.com/minnesota-marijuana-laws/), [Montana](http://www.medicalmarijuanainc.com/montana-marijuana-laws/), [Nevada](http://www.medicalmarijuanainc.com/nevada-marijuana-laws/), [New Hampshire](http://www.medicalmarijuanainc.com/new-hampshire-marijuana-laws/), [New Jersey](http://www.medicalmarijuanainc.com/new-jersey-marijuana-laws/), [New Mexico](http://www.medicalmarijuanainc.com/new-mexico-marijuana-laws/), [New York](http://www.medicalmarijuanainc.com/new-mexico-marijuana-laws/), [North Dakota](http://www.medicalmarijuanainc.com/north-dakota-marijuana-laws/), [Ohio](http://www.medicalmarijuanainc.com/ohio-marijuana-laws/), [Oregon](http://www.medicalmarijuanainc.com/oregon-marijuana-laws/), [Pennsylvania](http://www.medicalmarijuanainc.com/pennsylvania-marijuana-laws/), [Rhode Island](http://www.medicalmarijuanainc.com/rhode-island-marijuana-laws/), [Vermont](http://www.medicalmarijuanainc.com/vermont-marijuana-laws/), and [Washington](http://www.medicalmarijuanainc.com/washington-marijuana-laws/) legally allow medical marijuana for the treatment of cancer, including tumors.

Currently, no states have approved medical marijuana specifically for the treatment of stroke.

However, in [Washington D.C.](http://www.medicalmarijuanainc.com/washington-dc-marijuana-law/), any condition can be approved for medical marijuana as long as a DC-licensed physician recommends the treatment. Plus, various other states will consider allowing medical marijuana to be used for the treatment of neurological disorders with the recommendation from a physician. These states include: [California](http://www.medicalmarijuanainc.com/california-marijuana-laws/) (any debilitating illness where the medical use of marijuana has been recommended by a physician), [Connecticut](http://www.medicalmarijuanainc.com/connecticut-marijuana-laws/) (other medical conditions may be approved by the Department of Consumer Protection), [Massachusetts](http://www.medicalmarijuanainc.com/massachusetts-marijuana-laws/) (other conditions as determined in writing by a qualifying patient’s physician), [Nevada](http://www.medicalmarijuanainc.com/nevada-marijuana-laws/) (other conditions subject to approval), [Oregon](http://www.medicalmarijuanainc.com/oregon-marijuana-laws/) (other conditions subject to approval), [Rhode Island](http://www.medicalmarijuanainc.com/rhode-island-marijuana-laws/) (other conditions subject to approval), and [Washington](http://www.medicalmarijuanainc.com/washington-marijuana-laws/) (any “terminal or debilitating condition”).

In addition, various states have approved medical marijuana for symptoms commonly associated with neurological disorders. Many states have approved medical marijuana specifically to treat chronic pain. These states include: [Alaska](http://www.medicalmarijuanainc.com/alaska-marijuana-laws/), [Arizona](http://www.medicalmarijuanainc.com/arizona-marijuana-laws/), [California](http://www.medicalmarijuanainc.com/california-marijuana-laws/), [Colorado](http://www.medicalmarijuanainc.com/colorado-marijuana-laws/), [Delaware](http://www.medicalmarijuanainc.com/delaware-marijuana-laws/), [Hawaii](http://www.medicalmarijuanainc.com/hawaii-marijuana-laws/), [Maine](http://www.medicalmarijuanainc.com/maine-marijuana-laws/), [Maryland](http://www.medicalmarijuanainc.com/maryland-marijuana-laws/), [Michigan](http://www.medicalmarijuanainc.com/michigan-marijuana-laws/), [Montana](http://www.medicalmarijuanainc.com/montana-marijuana-laws/), [New Mexico](http://www.medicalmarijuanainc.com/new-mexico-marijuana-laws/), [Ohio](http://www.medicalmarijuanainc.com/ohio-marijuana-laws/), [Oregon](http://www.medicalmarijuanainc.com/oregon-marijuana-laws/), [Pennsylvania](http://www.medicalmarijuanainc.com/pennsylvania-marijuana-laws/), [Rhode Island](http://www.medicalmarijuanainc.com/rhode-island-marijuana-laws/) and [Vermont](http://www.medicalmarijuanainc.com/vermont-marijuana-laws/). The states of [Nevada](http://www.medicalmarijuanainc.com/nevada-marijuana-laws/), [New Hampshire](http://www.medicalmarijuanainc.com/new-hampshire-marijuana-laws/), [North Dakota](http://www.medicalmarijuanainc.com/north-dakota-marijuana-laws/), [Montana](http://www.medicalmarijuanainc.com/montana-marijuana-laws/), [Ohio](http://www.medicalmarijuanainc.com/ohio-marijuana-laws/) and [Vermont](http://www.medicalmarijuanainc.com/vermont-marijuana-laws/) allow medical marijuana to treat “severe pain.” The states of [Arkansas](http://www.medicalmarijuanainc.com/arkansas-marijuana-laws/), [Minnesota](http://www.medicalmarijuanainc.com/minnesota-marijuana-laws/), [Ohio](http://www.medicalmarijuanainc.com/ohio-marijuana-laws/), [Pennsylvania](http://www.medicalmarijuanainc.com/pennsylvania-marijuana-laws/) and [Washington](http://www.medicalmarijuanainc.com/washington-marijuana-laws/) have approved cannabis for the treatment of “intractable pain.” [Alaska](http://www.medicalmarijuanainc.com/alaska-marijuana-laws/), [Arizona](http://www.medicalmarijuanainc.com/arizona-marijuana-laws/), [Arkansas](http://www.medicalmarijuanainc.com/arkansas-marijuana-laws/), [California](http://www.medicalmarijuanainc.com/california-marijuana-laws/), [Colorado](http://www.medicalmarijuanainc.com/colorado-marijuana-laws/), [Delaware](http://www.medicalmarijuanainc.com/delaware-marijuana-laws/), [Hawaii](http://www.medicalmarijuanainc.com/hawaii-marijuana-laws/), [Louisiana](http://www.medicalmarijuanainc.com/louisiana-marijuana-laws/), [Maryland](http://www.medicalmarijuanainc.com/maryland-marijuana-laws/), [Michigan](http://www.medicalmarijuanainc.com/michigan-marijuana-laws/), [Minnesota](http://www.medicalmarijuanainc.com/minnesota-marijuana-laws/), [Montana](http://www.medicalmarijuanainc.com/montana-marijuana-laws/), [Nevada](http://www.medicalmarijuanainc.com/nevada-marijuana-laws/), [New Hampshire](http://www.medicalmarijuanainc.com/new-hampshire-marijuana-laws/), [North Dakota](http://www.medicalmarijuanainc.com/north-dakota-marijuana-laws/), [Ohio](http://www.medicalmarijuanainc.com/ohio-marijuana-laws/), [Oregon](http://www.medicalmarijuanainc.com/oregon-marijuana-laws/), [Pennsylvania](http://www.medicalmarijuanainc.com/pennsylvania-marijuana-laws/) (intractable seizures), [Rhode Island](http://www.medicalmarijuanainc.com/rhode-island-marijuana-laws/), [Tennessee](http://www.medicalmarijuanainc.com/tennessee-marijuana-laws/) (intractable seizures), [Vermont](http://www.medicalmarijuanainc.com/vermont-marijuana-laws/) and [Washington](http://www.medicalmarijuanainc.com/washington-marijuana-laws/) have approved medical marijuana to treat seizures. [Arizona](http://www.medicalmarijuanainc.com/arizona-marijuana-laws/), [Arkansas](http://www.medicalmarijuanainc.com/arkansas-marijuana-laws/), [California](http://www.medicalmarijuanainc.com/california-marijuana-laws/), [Colorado](http://www.medicalmarijuanainc.com/colorado-marijuana-laws/), [Delaware](http://www.medicalmarijuanainc.com/delaware-marijuana-laws/), [Florida](http://www.medicalmarijuanainc.com/florida-marijuana-laws/), [Hawaii](http://www.medicalmarijuanainc.com/hawaii-marijuana-laws/), [Maryland](http://www.medicalmarijuanainc.com/maryland-marijuana-laws/), [Michigan](http://www.medicalmarijuanainc.com/michigan-marijuana-laws/), [Minnesota](http://www.medicalmarijuanainc.com/minnesota-marijuana-laws/), [Montana](http://www.medicalmarijuanainc.com/montana-marijuana-laws/), [Nevada](http://www.medicalmarijuanainc.com/nevada-marijuana-laws/), [New Hampshire](http://www.medicalmarijuanainc.com/new-hampshire-marijuana-laws/), [Oregon](http://www.medicalmarijuanainc.com/oregon-marijuana-laws/), [Rhode Island](http://www.medicalmarijuanainc.com/rhode-island-marijuana-laws/) and [Washington](http://www.medicalmarijuanainc.com/washington-marijuana-laws/) have approved medical marijuana for the treatment of spasms.

Recent Studies on Cannabis’ Effect on Neurological Disorders

Cannabis delays the onset of ALS and slow the progression of the disease.  
Cannabis and amyotrophic lateral sclerosis: hypothetical and practical applications, and a call for clinical trials.  
(<http://journals.sagepub.com/doi/pdf/10.1177/1049909110369531>)

CBD-enriched cannabis reduced seizure frequency in 85% of children and caused complete seizure freedom in 14% of children.  
Perceived efficacy of cannabidiol-enriched cannabis extracts for treatment of pediatric epilepsy: A potential role for infantile spasms and Lennox-Gastaut syndrome.  
(<http://www.epilepsybehavior.com/article/S1525-5050(15)00157-2/fulltext>)

Cannabinoids administered shortly following spinal cord injury limits damage.  
Early endogenous activation of CB1 and CB2 receptors after spinal cord injury is a protective response involved in spontaneous recovery.   
(<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3496738/>)

Smoking cannabis significantly improved tremors, rigidity and bradykinesia in Parkinson’s disease patients.  
Cannabis (medical marijuana) treatment for motor and non-motor symptoms of Parkinson disease: an open-label observational study.  
(<http://journals.lww.com/clinicalneuropharm/pages/articleviewer.aspx?year=2014&issue=03000&article=00001&type=abstract>)

CBD administered shortly following an ischemic event increased the recovery of electrical activity in the brain by about 50% and reduced seizures by 50%.  
Neuroprotective effects of the nonpsychoactive cannabinodi cannabidiol in hypoxic-ischemic newborn piglets.   
(<http://www.nature.com/pr/journal/v64/n6/full/pr2008260a.html>)

Cannabinoids reduced neurological disability and the progression of multiple sclerosis in mice.  
Cannabinoids ameliorate disease progression in a model of multiple sclerosis in mice, acting preferentially through CB1 receptor-mediated anti-inflammatory effects.  
(<http://www.sciencedirect.com/science/article/pii/S0028390812000500>)

Four weeks of cannabis treatment significantly improved spasms in MS patients.  
A randomized double-blind-placebo-controlled, parallel-group, enriched-design study of nabiximols\* (Sativex(®)), as add-on therapy, in subjects with refractory spasticity caused by multiple sclerosis.   
(<http://onlinelibrary.wiley.com/wol1/doi/10.1111/j.1468-1331.2010.03328.x/full>)

Cannabis significantly improves neuropathic pain that was refractory to other treatments.  
The effectiveness of cannabinoids in the management of chronic nonmalignant neuropathic pain: a systematic review.  
(<https://goo.gl/R28LWD>)

Six weeks of cannabis treatment reduced tics in patients with Tourette’s syndrome.  
Cannabinoids reduce symptoms of Tourette’s syndrome.  
(<http://www.tandfonline.com/doi/pdf/10.1517/14656566.4.10.1717?needAccess=true>)

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