

# 5 neurological conditions you can treat with Botox

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Credit: Sasha Wolff/Wikipedia

You might know botulinum toxin as Botox: one of many brand names for the injectable drug that smooths wrinkles and facial creases. What

you might not know is that botulinum toxin can also be used to treat migraines and ease the symptoms of many other neurological conditions.

In these cases, as with wrinkles, your doctor simply injects [botulinum toxin](#) at or near the site of the symptom. The results are usually quick, and the benefits can last up to three months.

We asked several Rush neurologic specialists to explain how they use botulinum toxin to help their patients get relief from pain and other symptoms—and why it's such an [effective treatment](#) for a wide range of conditions.

## 1. Chronic migraines

One of the most exciting therapeutic uses for botulinum toxin is in treating chronic migraines.

Anyone who suffers from migraines knows how debilitating and disruptive they can be. And treatment used to mean taking over-the-counter pain killers, analgesics or beta blockers.

Iulia Dorneanu, DO, a neurologist at Rush Oak Park Hospital, says botulinum toxin treatment is simple and straightforward. "After injection, the botulinum toxin is 'taken up' by the pain receptors in the muscles of the face, head and neck. Pain receptors are sensory neurons that send your brain chemical signals, called neurotransmitters, that result in your feeling pain. The botulinum toxin blocks the neurotransmitters, which decreases the intensity of migraine pain," Dorneanu explains.

The treatment consists of multiple pin-prick injections around the areas of the face stimulated during a migraine. Once the treatment is completed, the pain relief can last for weeks, if not months. Most

patients get injections every three months or so. In many cases, patients can discontinue ongoing treatment with medications or further injections for chronic migraine because the botulinum toxin eliminates their symptoms.

## 2. Spinal cord injuries

Daniel Bunzol, MD, a [physical medicine](#) and rehabilitation (PM&R) specialist at Rush University Medical Center, uses botulinum toxin to treat traumatic, inflammatory or cancer-related spinal cord injuries.

As part of the central nervous system, the spinal cord is like a highway connecting signals to and from the brain into the peripheral nervous systems—and, ultimately, the muscles. Damage to the spinal cord disrupts the pathway between the brain and the body, causing the muscles to get irregular signals, which can then cause irregular [muscle](#) movement.

Botulinum toxin can't heal spinal cord injuries, so it's not a cure. But it can relieve muscular tension in the arms and legs that inhibits motion. Getting the muscles to relax can help improve both symptoms and quality of life.

"The goal is balance," Bunzol explains. "If the condition is severe enough and doctors don't think some of the more conservative options, like muscle relaxers, are working, then we would consider injecting botulinum toxin into one or more of the specific muscles of concern."

## 3. Spasticity

Botulinum toxin can also be used to treat spasticity, or abnormal muscle tightness, in patients with multiple sclerosis, cerebral palsy, brain or head

trauma, and amyotrophic lateral sclerosis (ALS, or Lou Gehrig's disease).

How it works is simple: A small amount botulinum toxin is injected in or around the target muscles or muscle groups. "It blocks the signal coming from the nerves into the muscles," Bunzol explains, "which helps prevent the muscles from spasming or stiffening up."

#### **4. Hypersalivation (sialorrhea)**

Abhimanyu Mahajan, MD, a movement disorder neurologist at Rush University Medical Center, uses botulinum toxin to treat multiple conditions, including hypersalivation, or sialorrhea, which is when you produce too much saliva. Hypersalivation is sometimes associated with Parkinson's disease, ALS and cerebral palsy, among other conditions.

"Hypersalivation can result in uncontrollable drooling, which can cause extreme discomfort and profoundly affect a person's quality of life," Mahajan says.

When conservative options like anticholinergic medications or postural changes don't work, Mahajan says using botulinum toxin to treat the condition is as simple as injecting the salivary glands one time, on each side.

"Injecting with the right dose leads to more regular saliva production. This benefit may last for up to 3 months or in some cases, longer," he explains.

#### **5. Cervical dystonia and related conditions**

Mahajan also uses botulinum toxin to treat dystonia, including [cervical](#)

[dystonia](#), focal limb dystonia and blepharospasm.

Cervical dystonia, the most common type of dystonia seen at Rush, causes involuntary neck muscle contractions, which can make your neck twist to one side and/or forward and backwards. Some people may also experience shaking of the head and neck. Blepharospasm causes eye twitching or uncontrolled blinking.

"The good news is these conditions can be well managed with botulinum toxin in intervals of a few months," Mahajan says. "Most people require injections every three months. What we do is identify the muscles that are overactive, by careful clinical examination or EMG (electromyography), and inject those muscles to make them normally active. This leads to relief in symptoms, including pain."

## **Is botulinum toxin right for you?**

Botulinum toxin has come a long way. Now it's one of the most promising treatments available for neurological pain and muscle malfunction.

Anyone with the above [neurological conditions](#) who has not gotten relief from more traditional treatments could consider trying botulinum toxin. And, in some cases, it may be considered as your first line of treatment.

As with any kind of medicine, the dosing is key: Only a small amount may be needed to provide tremendous relief. Mahajan emphasizes that any potential side effects of the injections, if present, are temporary and go away quickly.

It's also essential to make an accurate diagnosis and properly identify the right muscles for injection. For appropriate conditions, [botulinum toxin](#) injected directly into the affected muscle or muscle groups is a highly

effective treatment. "For symptom relief, it's as targeted a therapy as you could ask for," Mahajan says.

So if neurological pain or spasticity linger after more conservative treatments, it might be time to rethink what you know about Botox.

Provided by Rush University Medical Center

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