

What is the Cause?

The cause of spasmodic dysphonia and other dystonias is not known at this time. Scientists believe spasmodic dysphonia symptoms result from improper signals in the nervous system that cause the vocal cord muscles to contract involuntarily. Researchers and doctors do not yet fully understand the neurological mechanisms that cause this abnormal muscle contraction.

Most cases of spasmodic dysphonia are primary, meaning that it is the only apparent neurological disorder a person has, with or without a family history. In most individuals, the cause of spasmodic dysphonia is unknown. Researchers are investigating possible triggers of spasmodic dysphonia including genetic factors, inflammation or infection, and/or injury that may lead to symptoms. In some cases, spasmodic dysphonia appears to occur following a trauma to the larynx such as intubation or direct injury to the larynx or neck.

Spasmodic dysphonia may occur with other dystonias such as blepharospasm, oromandibular dystonia, or cervical dystonia. It may also be part of early onset generalized dystonia. An estimated 12% of individuals with spasmodic dysphonia have a family history of dystonia.

What Is DMRF Canada?

The Dystonia Medical Research Foundation Canada (DMRFC) is a registered non-profit Canadian charity. DMRFC funds medical research toward a cure, promotes awareness and education, and supports the well being of affected individuals and families. DMRF Canada works in partnership with the Dystonia Medical Research Foundation in the United States to ensure funding of the best and most relevant dystonia medical research worldwide and partners with the Canadian Institute of Health Research (CIHR) in funding excellent dystonia research in Canada.

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*Special thanks to Aleksandar Videnovic, MD, MSc
of Northwestern University, Feinberg School of Medicine
for reviewing this publication.*

Created and produced by DMRF (United States)

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Spasmodic Dysphonia/Laryngeal Dystonia

DYSTONIA OF THE VOCAL CORDS



Spasmodic dysphonia (also known as *laryngeal dystonia*) is a form of dystonia, a neurological movement disorder. Spasmodic dysphonia causes involuntary contractions of the vocal cord muscles. These muscle contractions result in patterned, repeated “breaks” or abrupt interruptions in speech, and may affect the voice quality. Most cases of spasmodic dysphonia develop in adults.

One of the most characteristic features of spasmodic dysphonia is the patterned, abrupt interruptions in speech. The voice may sound raspy and strangled, or breathy and whispery. It may take added effort to speak.

Symptoms may improve or disappear when whispering, laughing, or singing. Symptoms may vary during the day, become aggravated by certain speaking—especially talking on the phone—or increase during stressful situations. Symptoms may be reduced after sleep or after consuming alcohol.

Although it can start any time during adult life (and very rarely in adolescence), spasmodic dysphonia seems to begin most commonly in people between 40–50 years old.

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*serving all dystonia-affected persons
déservant toutes personnes atteintes de dystonie*

Are There Different Forms or Varieties?

There are several forms of spasmodic dysphonia. These are classified as:

Adductor spasmodic dysphonia:

This form is the most common.

The muscles that bring the vocal cords together contract involuntarily and excessively during speech. This causes a tight, strangled-sounding voice quality, often with abrupt starting and stopping of the voice resulting in a broken speech pattern and short breaks in speech.

Abductor spasmodic dysphonia:

The muscles that separate the vocal cords contract involuntarily. The vocal cords are held apart, resulting in a breathy, whispering voice.

Adductor breathing spasmodic dysphonia: Also called *respiratory dystonia*, this rare condition affects the muscles that bring the vocal cords together. However, instead of spasming during speaking (like in adductor spasmodic dysphonia described above), the muscles spasm during breathing. These spasms create noisy and difficult breathing. Individuals may also have trouble swallowing due to labored breathing while eating.

A combination of the above: Some individuals have symptoms that resemble more than one classification of spasmodic dysphonia. Some individuals may have a voice tremor and/or tremor that affects other structures in the throat and face.

What Treatments are Available?

The treatment of choice for most cases of spasmodic dysphonia is a regular schedule of botulinum neurotoxin injections into the vocal cord muscles. It is unfortunate that a therapy that has improved the lives of countless individuals with spasmodic dysphonia and other dystonias cannot shed the term “toxin” from its name. Understandably, this idea of injecting a “toxin” into the body may cause concern.

Botulinum neurotoxin injections have decades of research demonstrating that they are a safe and effective medical therapy. Botulinum neurotoxin has been approved for use in Canada since 1990.

Speech/voice therapy is often incorporated into the treatment plan, especially before and after botulinum neurotoxin injections. Voice therapy can help minimize spasms and the effects of the spasms, especially the fatigue associated with the added effort required to speak. Techniques that focus on controlling the breath and using the breath to make the most of the voice may be surprisingly helpful. Weeks or months of voice therapy may be required to achieve full benefit.

Oral medications usually provide little relief from symptoms of spasmodic dysphonia.

A form of surgery called selective laryngeal adduction denervation and reinnervation (SLAD/R) may be an option for some individuals with adductor spasmodic dysphonia/ laryngeal dystonia. Botulinum neurotoxin injections may be needed following the surgery. Benefits from the surgery may not be permanent.

How is This Likely to Change or Progress Over Time?

Individuals with spasmodic dysphonia may first notice symptoms as hoarseness or a sore throat that does not go away. Symptoms evolve over time and then typically stabilize. Symptoms are typically worsened by stress and may improve after sleep. Some individuals develop “tricks” to temporarily relieve symptoms such as humming before speaking or breathing techniques learned in voice therapy.

How is This Going to Affect My Daily Life?

Living successfully with spasmodic dysphonia is possible. The early stages of onset, diagnosis, and seeking effective treatment are often the most challenging. The symptoms may vary from mild to severe, and symptoms often fluctuate from day to day. Fatigue is common due to the exertion required to speak. Individuals may have to learn new ways to accomplish daily tasks, particularly those requiring communication with other people.

Individuals living with spasmodic dysphonia are strongly encouraged to:

- Seek out the best medical care.
- Educate yourself about spasmodic dysphonia and treatment options.
- Develop a multi-layered support system of support groups, online resources, friends, family, and mental health professionals, if needed.
- Investigate complementary therapies.
- Get active within the spasmodic dysphonia and dystonia community.

What Kind of Doctor Treats Spasmodic Dysphonia?

Ideally, the diagnosis and treatment of spasmodic dysphonia is managed by an interdisciplinary team that includes a speech-language pathologist, otolaryngologist (i.e. an ear, nose and throat specialist), and neurologist who specializes in movement disorders.

What Support is Available?

The Dystonia Medical Research Foundation Canada (www.dystoniacanada.org) can provide educational resources, self-help opportunities, contact with others living with spasmodic dysphonia, volunteer opportunities, and connection to the greater dystonia community.