

OVERVIEW OF SYMPTOMS

Musicians may perceive the early symptoms of dystonia as the result of their having faulty technique or lack of sufficient preparation. As a result, many musicians intensify rehearsal and practice sessions and do not seek medical help until the condition is quite pronounced.

The Musicians with Dystonia group is dedicated to providing musicians and health care professionals with medical and educational resources.

The first signs of dystonia are lapses in the usually instinctive ability to perform on the instrument. These lapses may show up in technical passages, formerly not problematic, which become resistant. With brass players, they may start in one register.

Over the course of three to six months, the performance problems become progressively worse. Increasing practice or taking time off does not help, and there is usually no pain associated with dystonia. Playing the instrument triggers the muscle spasms. The spasms are not usually present at rest.

Pianists usually are affected in the right hand, and the spasms may cause the fingers to contract and curl under when attempting to play. String players are typically affected in their left hands, and dystonia has been detected in guitarists and percussionists in either hand. Woodwind players can develop dystonia in their embouchure or hands. Brass players are usually afflicted in the corners of the mouth and the jaw.

Dystonia is task-specific to playing the instrument and does not usually spread to other activities. Since dystonia is a neurological disorder, massage therapy, acupuncture, and other methods of muscle function therapy do not usually provide relief. A visit to a neurologist who is a specialist in movement disorders is highly recommended.

Musicians with Dystonia was founded in 2000 by Glen Estrin, a former professional French Horn player afflicted with focal dystonia, and Steven Frucht, M.D., a neurologist at Columbia-Presbyterian Medical Center in New York.

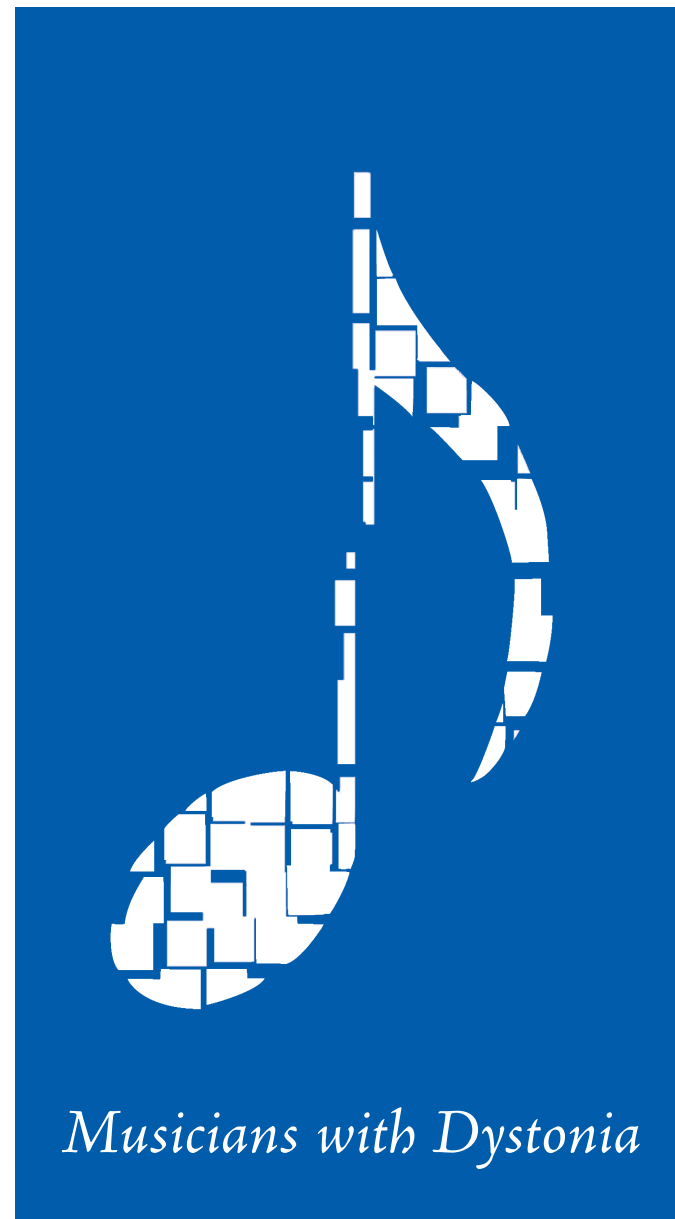
The program has established a worldwide network of health care practitioners knowledgeable in the disorder that are available for recommendation to afflicted patients.

For more information or to locate a healthcare professional who specializes in dystonia, please contact:



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Musicians with Dystonia



**DYSTONIA
MEDICAL
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-serving all dystonia-affected persons

MUSICIANS WITH DYSTONIA

Over the past 30 years, musicians and health professionals alike have taken an increased interest in the study of disorders that affect a performer's ability to play music. Considering the vigorous demands of practicing and performing at an expert level, the constant repetition of precise movements over the course of many years, and the need to earn a living through music, professional musicians are susceptible to a variety of specific occupational injuries.

One disorder to which musicians are susceptible is task-specific focal dystonia. Dystonia is a neurological movement disorder characterized by involuntary muscle contractions and postures.

The term focal indicates that only one part of the body is affected. The term task-specific indicates that the dystonia occurs only in the context of a specific task, such as playing an instrument.

Like anyone whose life and career are affected by dystonia, musicians may feel the impact of the disorder at a very deep level. A decreased ability to perform may strike at the very core of a musician's livelihood and personality. The development of dystonia may elicit intense psychological distress. The Musicians with Dystonia program was established to serve the unique needs of musicians whose lives and careers are affected by the disorder.

Musicians with Dystonia is a group of individuals committed to dystonia awareness, education, patient support, and research on behalf of both individual musicians and the greater dystonia community.

FOCAL HAND DYSTONIA

Focal hand and limb dystonia usually manifests as a painless loss of muscular control in highly practiced movements. A genetic predisposition is surmised in less than 5% of all cases of focal dystonia.

Many professions require repeated and intricate hand movements. However, focal hand dystonia is strikingly more common in musicians than any other group of professionals, including dentists, surgeons, and writers. This disorder is often referred to in medical literature as writer's cramp or occupational dystonia. It is suspected that the higher prevalence of hand dystonia among musicians versus other professionals is related to the specific qualities of sensory motor skills.

Of all human sensory motor activities, playing an instrument is perhaps the most complicated. Furthermore, music making is closely linked to emotions, to the limbic system. It appears that dystonia usually affects movements that are practiced most intensely. The development of dystonia may be related to intense and prolonged practice of fast and highly precise movement patterns of the hands.

Most affected musicians describe symptoms in musical terms. A musician may notice:

- Subtle loss of control in fast passages
- Lack of precision
- Curling of fingers
- Fingers "sticking" to keys
- Involuntary flexion of bowing thumb in strings
- A tremor may or may not be associated with the spasms

In most cases the dystonia is present only in the context of specific tasks. For example, some woodwind doublers report the dystonia may be present while playing the clarinet but not while playing the saxophone.

The dystonia may appear extremely sensitive to somatosensory input: a pianist may experience symptoms while playing on ivory keys but not while playing on plastic keys. Sometimes the modification of posture and even facial expressions may affect dystonic spasms in the hand.

There is no one isolated cause of hand and limb dystonia. A variety of pathological conditions may lead to similar symptoms. As a child develops, he/she learns many different movements (such as walking, writing, or playing an instrument) that are stored in the brain as motor programs. Instances of hand dystonia that are highly task-specific and that do not progress to other body areas have been described as a "computer virus" or "hard drive crash" in the sensory motor programs that are essential for playing music. However, additional factors, such as a genetic predisposition, are likely to play a significant role in the development of such a sensory-motor dysfunction. Why this "computer virus" cannot be easily overcome by establishing a new and improved sensory-movement pattern remains an important question for researchers.

There is no cure for dystonia at this time, and although treatment of the disorder may be challenging, there are several available options. The different causes of hand dystonia may warrant different treatments.

Anticholinergic drugs, such as Artane (trihexyphenidyl), can be helpful in treating focal dystonias by affecting the transmission of messages from the brain to the muscles. Botulinum toxin injections may be used to compel the body to create new programs by blocking the nerve impulses to the contracting muscles. The injections temporarily weaken the muscle so that the spasm is reduced and a different wrist position is necessary to compensate for the relaxed muscle. In this case, the injection itself is not the solution but rather a tool to facilitate the musician developing a modified motor program.

The ultimate aim of treatment is to establish new sensory motor programs to accomplish the tasks required for playing music. It might be possible to modify the instrument, for example, by altering the position of keys in woodwinds or reversing the posture with left hand bowing in string players. Changing motor programs for pianists is more challenging.

EMBOUCHURE DYSTONIA

Embouchure Dystonia is a type of dystonia that affects brass and woodwind players. The term embouchure refers to the adjustment of the mouth to fit the mouthpiece of a wind instrument. The anatomy of this form of dystonia includes muscles of the mouth, face, jaw, and tongue.

The abnormal movements that characterize embouchure dystonia are often very subtle and occur only while the

musician is playing, buzzing into the mouthpiece, or forming the embouchure. Most brass and woodwind players use a combination of puckering and smiling to play. At least twelve muscles are involved in positioning the mouth in this way, not including the equally complicated structure of the tongue and jaw. Pinpointing the most important muscles necessary for shaping the mouth to play a brass or woodwind instrument is difficult.

Symptoms of embouchure dystonia may include:

- Air leaks at the corners of the mouth—sometimes worse in higher registers and accompanied by a noticeable tremor
- Involuntary abnormal contractions of the muscles in the face including involuntary puckering, excessive elevation of the corners of the mouth and involuntary closing of the mouth

Some musicians' difficulties are limited to sustained notes in particular registers or to certain passages at specific speeds. The dystonia is typically painless but may elicit intense psychological stress.

The treatment of embouchure dystonia, like the treatment of all dystonias, is purely symptomatic at this stage. The following therapies may be attempted, but typically provide little relief for embouchure dystonia:

- Oral medications such as Artane (trihexyphenidyl), Klonopin (clonazepam), and Lioresal (baclofen)
- Botulinum toxin injections--the anatomy of the area must be carefully considered to avoid unacceptable oral weakness

DYSTONIA MEDICAL RESEARCH FOUNDATION

Musicians with Dystonia is a program entity of the Dystonia Medical Research Foundation. The goals of Musicians with Dystonia are to fund research, to spread awareness and education, and to provide medical referrals and practical assistance to afflicted musicians.

