

## Introduction

Dystonia is a movement disorder. It causes your muscles to flex involuntarily. This means your muscles contract without you making them do so. This causes twisting and repetitive motions. Sometimes these motions are painful.

Symptoms of dystonia may be mild or severe. They may make it hard for you to perform your normal day to day activities.

This reference summary talks about dystonia and its symptoms. The causes, diagnosis and treatment of dystonia are also covered.



## Dystonia

Dystonia affects muscles and movement. It can affect just one muscle, a group of muscles or all of your muscles. Symptoms of dystonia often start in childhood. They can also start in the late teens or early adulthood. Some cases worsen over time. Others are mild. There are several different types of dystonia. The types are based on which areas of the body are affected.

The main categories of dystonia are:

- Focal dystonia.
- Generalized dystonia.
- Multifocal dystonia.
- Segmental dystonia.
- Hemidystonia.

Focal dystonia only affects one specific part of the body.

Generalized dystonia affects more or all of the body.

Multifocal dystonia affects two or more unrelated body parts.

Segmental dystonia affects two or more parts of the body that are next to each other.

Hemidystonia affects the arm and leg on the same side of the body.



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Focal dystonia is the most common type of dystonia. The most common form of focal dystonia is known as cervical dystonia. Cervical dystonia affects the muscles in the neck that control the position of the head. This causes the head to turn to one side or be pulled forward or backward. Sometimes the shoulder is pulled up.



Cervical dystonia can happen at any age. Most people first experience symptoms in middle age. It often begins slowly. Symptoms often level off after a few months or years. About 10 percent of those with cervical dystonia may have a sudden remission. This means that the symptoms stop. But the remission may not last.

Blepharospasm is the second most common type of focal dystonia. It affects the muscles that control eye blinking. Both eyes are usually affected. Spasms may cause the eyelids to close completely. This may cause functional blindness, even though the eyes are healthy and vision is normal. Functional blindness is a loss of vision. It interferes with a person's ability to do everyday tasks.

Dystonia that affects the muscles of the head, face and neck is known as cranio-facial dystonia. When cranio-facial dystonia and blepharospasm happen at the same time, it is known as Meige syndrome. Oromandibular dystonia affects the muscles of the jaw, lips and tongue. This dystonia may make it hard to open or close the jaw. Speech and swallowing can also be affected. Spasmodic dysphonia involves the muscles that control the vocal cords. It causes strained or whispery speech.

Task-specific dystonia is a type of focal dystonia. It tends to happen only when you are doing a certain activity. An example is writer's cramp. It affects only the muscles of the hand and sometimes the forearm. Writer's cramp only happens during handwriting.

Similar focal dystonia types have also been called typist's cramp and musician's cramp. Musician's dystonia is a focal dystonia that affects musicians. Musician's dystonia affects the ability to play an instrument or to perform. It can involve the hand in keyboard or string players, the mouth and lips in wind players or the voice in singers.



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## Symptoms

Dystonia causes slow, repetitive movements. It can also cause a person to hold abnormal poses. The motions caused by dystonia may be painful. Some people with dystonia may have a tremor.

Symptoms of dystonia usually start in a single area, such as your foot, hand or neck. They may:

- Become more noticeable over time.
- Happen during a specific action, such as handwriting.
- Worsen with stress, fatigue or anxiety.

The effect of dystonia on your daily life depends on the part of your body it affects. It also depends on whether your muscle contractions are mild or severe.

Areas of the body affected by dystonia may include:

- Eyelids.
- Face, head and neck.
- Hand and forearm.
- Jaw and tongue.
- Vocal cords.

The first symptoms can be very mild. Some people with dystonia may think at first that they are just imagining the problem.



Early symptoms may be noticeable only after prolonged exertion. They may also be triggered by stress or fatigue. Over a period of time, the symptoms may become more noticeable or widespread. But sometimes this may not happen.

## Complications

Depending on the type of dystonia, you may experience complications. These can include:

- Physical deformities that may last a lifetime.
- Physical disabilities. These can affect your ability to do daily activities or specific tasks.
- Functional blindness from dystonia that affects your eyelids.

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Other complications may include:

- Abnormal posing of the head. The head may be held to one side, pulled forward or pulled backward.
- Difficulty with jaw movement, swallowing or speech.
- Pain and fatigue due to constant flexing of your muscles.

Problems caused by dystonia may lead to feelings of frustration, depression or anxiety.

## Causes

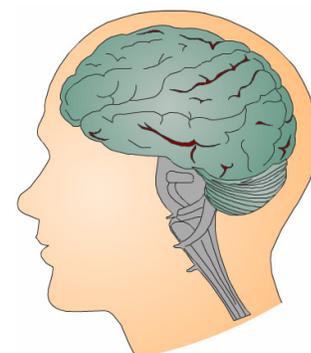
The causes of dystonia can be divided into three groups:

- Idiopathic.
- Genetic.
- Acquired.



Idiopathic dystonia does not have a clear cause. Health care providers don't know what causes most cases of dystonia. It may be the result of multiple factors.

Dystonia may be caused by a problem in the brain. Certain parts of the brain handle messages about muscle contractions. These structures are called the basal ganglia. The basal ganglia help start muscle contractions. Dystonia could be caused by a communication problem between the nerve cells in the basal ganglia.



There are several genetic causes of dystonia. It may be caused by defective genes inherited from one or both parents. Symptoms may vary widely, even among members of the same family. Some people who inherit a defective gene may not develop dystonia. Other genetic or even environmental factors may play a role.

Acquired dystonia is also called secondary dystonia. It is caused by damage to the brain. It could also be caused by exposure to certain types of drugs. Acquired dystonia often levels off and does not spread to other parts of the body. Dystonia caused by taking a medicine often goes away if the drugs are stopped.

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Sometimes dystonia may be a symptom of another disorder or condition. Conditions linked to dystonia are:

- Huntington's disease.
- Parkinson's disease.
- Wilson's disease.

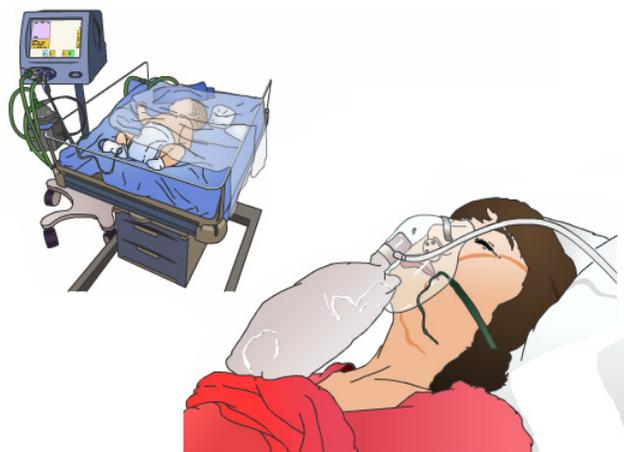
Huntington's disease is an inherited disease. It causes nerve cells in the brain to waste away. Early symptoms may include uncontrolled movements, clumsiness or balance problems. Later, it can take away the ability to walk, talk or swallow.

Parkinson's disease is a disorder of the nervous system. It causes muscle tremors and stiffness. It also causes decreased mobility and stooped posture. The disease gets worse over time.

Wilson's disease is a rare inherited disorder. It prevents your body from getting rid of extra copper. The copper builds up in your liver. The copper is released directly into your bloodstream. This can cause harm to your brain, kidneys and eyes.

Dystonia also may be a symptom of:

- A birth injury.
- A brain injury or tumor.
- A reaction to certain medicines.
- An infection, like tuberculosis.
- Heavy metal or carbon monoxide poisoning.
- Oxygen deprivation.
- Paraneoplastic syndromes.



Tuberculosis is also known as TB. TB is a bacterial infection. The bacteria usually attack the lungs. But they can also harm other parts of the body.

Paraneoplastic syndromes of the nervous system are a group of rare disorders. They develop in some people with cancer. They occur when cancer-fighting agents of the immune system attack nerve or muscle cells.

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## Diagnosis

Your health care provider will first ask about your signs and symptoms. He or she will also ask questions about your medical history and give a physical exam.

You may have other tests done. These can help determine if underlying conditions are the cause of your symptoms.

Some tests that may be done are:

- Blood or urine tests. These tests may reveal the presence of toxins.
- CT scan.
- MRI.
- EMG.



A CT scan uses a series of X-rays to create a detailed view of your brain. An MRI uses powerful radio waves and magnets to create a detailed view of your brain. This test may be done to identify problems in the brain, such as tumors or evidence of a stroke. An EMG is used to check for muscle disorders. Small electrodes are attached to the skin. The electrodes measure the electrical activity within the muscles.

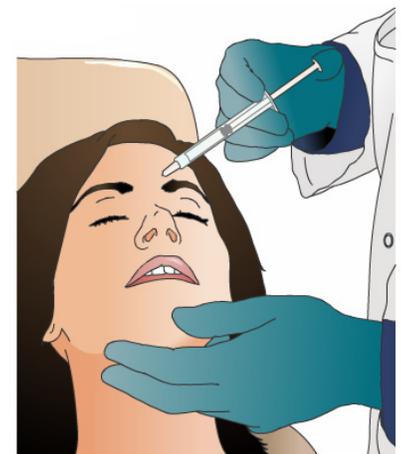
In most cases of dystonia, no abnormalities are seen using MRI or other imaging tests.

## Treatment

There is no cure for dystonia. But health care providers can provide you with treatments to improve some of your symptoms.

Botox is often the most effective treatment for focal dystonia. It is a drug made from a toxin. The toxin is made by a specific type of bacteria. Small amounts are injected into affected muscles. This paralyzes the muscles and prevents the contractions caused by dystonia.

The effect of Botox is often seen a few days after the injections. It can last for several months before the injections must be repeated. As with any treatment, there may be side effects. Ask your health care provider about these.



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Medicines can sometimes improve dystonia symptoms. Some medicines increase dopamine in the brain. Dopamine is a chemical involved with muscle movement.

Certain types of therapy may also help improve your symptoms. Physical therapy can improve your strength, mobility and fitness. If your voice is affected by dystonia, speech therapy may help.

Deep brain stimulation is another treatment option. Surgeons will place electrodes into a specific part of your brain. The electrodes are connected to a generator. The generator is placed under the skin in your chest area. It sends electrical pulses to your brain. This may help control your muscle contractions.

In some more severe cases of dystonia, surgery can disable certain brain regions or nerves. This type of surgery is a rare option. It may be used to treat dystonia if other therapies haven't worked.

Alternative treatments for dystonia have not been well studied. But some people find that some of these therapies are helpful. Alternative treatments include:

- Biofeedback.
- Meditation, yoga or Pilates.
- Acupuncture.

During a biofeedback session, electronic devices monitor your body's functions. They will monitor muscle tension, heart rate and blood pressure. You then learn how to control your body responses. This may help reduce muscle tension and stress.

During acupuncture, tiny needles are placed into certain points on your body. This may help your muscles relax.

Living with dystonia can be hard and frustrating. Your body may not always move the way you would like it to move. You may be uncomfortable in social situations.

You and your family may find it helpful to talk to a therapist or join a support group. Support groups can help you meet others with similar conditions. They can also give you more information about dystonia.



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