

# Tremor



## Involuntary Trembling or Shaking

A tremor is an involuntary, repetitive muscle movement that may result from a neurologic disease, the use of a medication, an inherited condition, or an unknown cause. Tremors take many forms, including rocking motions, fine rhythmic motions, coarse back-and-forth movements, and twisting or repeated shaking. Tremors may affect the muscles in the extremities, trunk, head, face, or larynx.

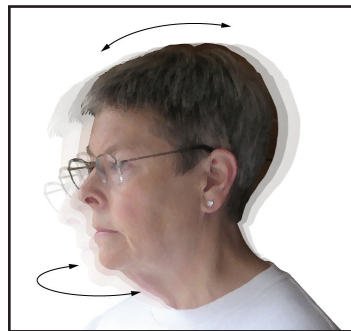
The most common type of tremor is benign essential tremor. Essential tremor, which has no known cause, is often inherited and typically occurs in older adults. The hands are most often affected, although the head, tongue, voice, trunk, or legs may be involved. The tremor may remain mild or progress to the point of interfering with simple activities such as walking or writing. Many people feel self-conscious about their tremor and restrict their activities as a result.

Tremor with an identifiable cause is treated, if possible. If the tremor is a side effect of a medication, the drug can often be switched to one that does not cause tremor. If the tremor is inherited or has no known cause, it may be eased through the use of beta-blockers, seizure medication, or muscle relaxants. Many people obtain relief from biofeedback or other methods of reducing stress. Physical or occupational therapy is useful for improving the patient's ability to perform daily self-care and work-related activities. If essential tremor does not improve with standard therapies, a neurostimulator—which uses electrical stimulation to block the signals from the brain to the affected muscles, thereby controlling the tremor—can be implanted.

## Tremors Can Interfere With Everyday Tasks, Such as Eating and Writing

A tremor is an uncontrollable, rhythmic trembling or shaking of the muscles. There are many different types of tremor, but the most common form is *benign essential tremor*. The most common risk factor for developing essential tremor is a family history of tremor. Age is another risk factor for essential tremor, which is more common in people aged 40 years and older.

There are many areas of the body in which a tremor can develop, but most commonly the hands are affected. Although tremors are not dangerous, they can make it difficult to perform everyday tasks, such as eating and drinking, tying shoelaces, walking, and even speaking. Often, the individual feels self-conscious about the tremor. The tremor may remain mild throughout the person's life or become increasingly severe over time. Tremors can be triggered or worsened by lack of sleep, low blood sugar, stress, fever, extreme hot or cold environments, or stimulants. Depending upon the cause, some tremors worsen with deliberate actions, while others become worse at rest.



*Tremor occurs most frequently in the hands, but it may also involve other parts of the body.*

### Diagnosis

Tremor is diagnosed through physical examination and laboratory testing. During the physical examination, the doctor will observe how well the patient can perform certain activities, and the patient's reflexes, muscle strength, and sensations may be evaluated. Details about the first sign of abnormal muscle movement, the type of tremor, its location, and any exacerbating triggers are important for ruling out other conditions that can cause tremor.

Tremor is one symptom of Parkinson's disease. This type of tremor is distinctive because it usually affects the hands, is more pronounced at rest, and is accompanied by a stooped posture and a shuffling walk. These characteristics typically do not occur in other types of tremor disorder. Patients suffering from a movement disorder known as *dystonia* may experience tremors, as well as twisting movements and muscle contractions that result in painful muscle positions.

### Management

The first step in treating a tremor is to identify and try to eliminate the cause, if there is one. Although essential tremor has no known cause, other types of tremor could be a symptom of a condition that may be treatable. For tremors that are caused by a medication, it may be effective to substitute a different drug.

There is no cure for essential tremor. Simple lifestyle changes—avoiding stimulants such as caffeine, using relaxation techniques, and getting refreshing sleep—can make a difference in the severity of a tremor.

Medications and physical therapy can help control muscle movements and make everyday activities easier to perform. Beta-blockers such as propranolol (used to treat high blood pressure, angina, and migraines) are highly effective for helping control tremor. Primidone, an anticonvulsant, is also used to treat certain types of tremor. Muscle relaxants such as diazepam have been used to treat tremor, but they may cause drowsiness and have the potential for addiction. Botulinum toxin A (Botox) injections have been used successfully for certain types of tremor, but the effects last only a few months. If avoidance of stimulants, elimination of any identifiable cause of the tremor, and medication therapy to relieve the muscle movement do not provide relief, the patient may be a candidate for a neurostimulator, a surgically implanted device that uses an electrical current to stimulate the part of the brain that controls movement. This stimulation temporarily blocks nerve signals from the brain that cause the tremor.