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Essential tremor

Essential tremor is the term for having uncontrolled shaking movements in parts of your body – most commonly your arms and hands.

What is essential tremor?

Essential tremor is the term for having uncontrolled shaking movements in parts of your body – most commonly your arms and hands – with no other symptoms and no underlying cause. It is more common with increasing age. It tends to occur in families. It is mild in some people but can become severe and disruptive to daily activities in others. There is good treatment available in the form of medication and occasionally surgery.

Essential tremor is also called familial essential tremor. It is different from [physiological tremor](#). It usually starts in the hands and arms. It can sometimes become quite severe so that everyday activities like holding a cup can be difficult. The tremor is usually not there at rest. However, it becomes noticeable when your affected body part is held in a position, or with movement.

The term 'essential' means that there is no associated disease that causes the tremor.

What causes essential tremors?

Essential tremor is known to be familial condition, meaning that it runs in families. At least 5-7 out of 10 people with essential tremor have other members of the family with the same condition. Genes are passed on to a child from each parent and determine what we look like, how our body functions and even what diseases we get. Particular genes have been shown to have certain changes present in families with essential tremor.

It is not clearly understood how this genetic change leads to essential tremor. However, it is likely that it somehow affects some parts of the brain that are responsible for controlling movement.

How common is essential tremor?

Studies have shown different rates of essential tremor. Some have shown it to be present in 1 in 250 people. However, other studies have shown it may affect as many as 1 in 17 people. It is equally common in men and women and is more common with increasing age. Most people who develop essential tremor are aged over 40 but it can occur in younger people.

Essential tremor symptoms

The only symptom in essential tremor is tremor. If you have other symptoms then you may have a different condition.

In essential tremor, the tremor usually begins in one arm or hand. Within 1-2 years, your other arm is likely to be affected. Very occasionally, it may also spread to involve your legs. 3 in 10 people with essential tremor have a tremor of the head. Your voice, jaw or face may also be involved.

At first, the tremor may not be present all the time. Eventually it will be present all the time when the affected body part is held in a position or with certain movements. It may be worse with stress, tiredness, hunger or certain emotions such as anger. Extremes in temperature may also make the tremor more severe. For many people, drinking alcohol actually improves their tremor.

You may be able to control the tremor to an extent. It may be less noticeable when you are working with the affected body part. For example, when you use your hand the tremor may ease off. It is not present when you are resting or sleeping.

How is essential tremor diagnosed?

There is no test to diagnose essential tremor. Your doctor can usually diagnose essential tremor based on your explanation of the tremor and an examination. It is important for your doctor to make sure that there are no other conditions present that are causing tremor. In some cases, this may mean that you need to have some tests to rule out other conditions. For example, blood tests or a brain scan. You may also be referred to a doctor with a special interest and expertise in the brain and nerves (a neurologist).

Essential tremor treatment

Essential tremor cannot be cured. Treatment reduces the severity of the tremor, sometimes greatly. There are various treatments that are used. Some people only take medication when they are in situations in which their tremor worsens. For example, if they are giving a presentation or going to a job interview.

No treatment is an option

If your tremor is mild, you may not need any treatment. You may find that certain foods will worsen your tremor, such as caffeine. Keeping a diary may help identify the triggers. Avoiding those substances is advisable.

Intermittent treatment

Some people with essential tremor only wish to have treatment for specific times: for example, prior to going to a social engagement or before a particularly important meeting. In these situations a single dose of propranolol may ease the tremor satisfactorily for the occasion.

Alcohol

About half of all people with essential tremor find that alcohol is helpful in reducing their tremor. Two units of alcohol may suppress tremor for about four hours. Having too much alcohol may make the tremor worse. It needs to be used with caution to avoid developing an alcohol problem. It is **not advisable to drink more** than the normal recommended amount of alcohol. That is:

- Men and women should drink no more than 14 units of alcohol per week, spread over several days.

- People drinking close to the upper weekly limit should have at least two alcohol-free days a week.
- Pregnant women and women trying to become pregnant should not drink alcohol at all.

One unit is in about half a pint of normal-strength beer, or two thirds of a small glass of wine, or one small pub measure of spirits.

Aids and therapies

If your tremor affects how you write or use a computer mouse, there are weighted options available that will help you cope more easily. You can also see occupational or speech therapy to help with the tremor.

Medication

There are two main medicines used initially for essential tremor - propranolol and primidone. These medicines have been shown to ease the tremor in about half of affected people.

Propranolol is a medicine that is usually used in heart disease. It is in a class of medicines called beta-blockers. It has also been shown to be effective in essential tremor. This medicine should be used with care if you have a heart conduction problem or a lung disease such as **asthma**. The most common side-effects with propranolol are dizziness, tiredness and feeling sick (nausea).

Primidone is a medicine that is primarily used for epilepsy. However, it also works very well in essential tremor. The most common side-effects are sleepiness, dizziness and nausea. These may improve if you continue to take this medicine.

When the diagnosis of essential tremor is made, you may be offered one of these medicines. A low dose is usually started at first and gradually increased until your tremor is eased. If you reach the maximum dose without a satisfactory improvement then the other medicine can be tried. If that also doesn't work, you can try them together. Other medicines can be tried if these two are not effective. A wide range of medicines (for example, **topiramate** or **gabapentin**) have been shown to have some effect on reducing the severity of the tremor.

Surgery

If medicine treatment is not effective and the tremor is severe, a surgical procedure may be an option. There are two main surgical procedures that may be considered - thalamotomy and thalamic deep brain stimulation. They both involve the thalamus. This is a deep part of the brain that organises messages travelling between the body and brain.

Thalamic deep brain stimulation - this procedure involves placing a fine wire (an electrode) into the thalamus on one or both sides of your brain. The electrode is connected to a device called a stimulator. The electrode and stimulator stay in your body. (The stimulator is placed under the skin at the top of the chest.)

The simulator sends electrical impulses down the electrode to your thalamus. It is not known exactly why this device works. It seems to interrupt or block the nerve signals coming through the thalamus that cause the tremor. If you have this procedure, you will need to have regular reviews to make sure that the stimulator setting is correct.

This aims to minimise side-effects and maximise benefit. It may produce a good response in up to 9 out of 10 affected people. Side-effects include loss of sensation, speech problems and weakness. These usually resolve when the stimulator settings are adjusted.

Thalamotomy

In this procedure, the thalamus on one side of the brain is destroyed. The brain tissue is usually destroyed by using a special ultrasound or by using beams of radiation. It has been shown to be very effective. It stops or greatly reduces the tremor in up to 9 out of 10 people with essential tremor. Potential side-effects include muscle weakness, speech problems and memory loss. If the thalamus on both sides of the brain is destroyed, there is a higher chance of side-effects. Therefore this is not usually recommended.

Botulinum toxin (Botox®) injections

There is some evidence that [Botox® injections](#) are helpful in reducing certain tremors. Unfortunately, a Botox® injection into the arm also produces weakness of the arm. This is usually not tolerated. However, Botox® injections can work really well if essential tremor affects your head and neck.

What is the outlook (prognosis)?

Essential tremor is called a progressive disease. This means that it tends to become worse over time. It does not shorten expected lifespan and does not lead on to any more serious brain disorders. Some people have a mild tremor which does not affect daily life very much. If your tremor is more severe, it may significantly disrupt your ability to carry out normal activities such as drinking from a cup.

Those people who develop a tremor when they are younger than 40 years are less likely to have a worsening of their tremor.

However, different treatments work well to ease the severity of the tremor in most people with essential tremor.

Further reading

- [Ferreira JJ, Mestre TA, Lyons KE, et al](#); MDS evidence-based review of treatments for essential tremor. *Mov Disord.* 2019 Jul;34(7):950–958. doi: 10.1002/mds.27700. Epub 2019 May 2.
- [Schwindt G, Rezmovitz J](#); Essential tremor. *CMAJ.* 2017 Nov 6;189(44):E1364. doi: 10.1503/cmaj.170128.
- [Shanker V](#); Essential tremor: diagnosis and management. *BMJ.* 2019 Aug 5;366:l4485. doi: 10.1136/bmj.l4485.

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