



Essential tremor

Essential tremor is a movement disorder that causes involuntary, rhythmic shaking (tremor), especially in the hands. It is distinguished from tremor that results from other disorders or known causes, such as Parkinson disease or head trauma. Essential tremor usually occurs alone, without other neurological signs or symptoms. However, some experts think that essential tremor can include additional features, such as mild balance problems.

Essential tremor usually occurs with movements and can occur during many different types of activities, such as eating, drinking, or writing. Essential tremor can also occur when the muscles are opposing gravity, such as when the hands are extended. It is usually not evident at rest.

In addition to the hands and arms, muscles of the trunk, face, head, and neck may also exhibit tremor in this disorder; the legs and feet are less often involved. Head tremor may appear as a "yes-yes" or "no-no" movement while the affected individual is seated or standing. In some people with essential tremor, the tremor may affect the voice (vocal tremor).

Essential tremor does not shorten the lifespan. However, it may interfere with fine motor skills such as using eating utensils, writing, shaving, or applying makeup, and in some cases these and other activities of daily living can be greatly impaired. Symptoms of essential tremor may be aggravated by emotional stress, anxiety, fatigue, hunger, caffeine, cigarette smoking, or temperature extremes.

Essential tremor may appear at any age but is most common in the elderly. Some studies have suggested that people with essential tremor have a higher than average risk of developing neurological conditions including Parkinson disease or sensory problems such as hearing loss, especially in individuals whose tremor appears after age 65.

Frequency

Essential tremor is a common disorder, affecting up to 10 million people in the United States. Estimates of its prevalence vary widely because several other disorders, as well as other factors such as certain medications, can result in similar tremors. In addition, mild cases are often not brought to medical attention, or may not be detected in clinical exams that do not include the particular circumstances in which an individual's tremor occurs. Severe cases are often misdiagnosed as Parkinson disease.

Genetic Changes

The causes of essential tremor are unknown. Researchers are studying several areas (loci) on particular chromosomes that may be linked to essential tremor, but no specific genetic associations have been confirmed. Several genes as well as environmental factors likely help determine an individual's risk of developing this complex condition. The specific changes in the nervous system that account for the signs and symptoms of essential tremor are unknown.

Inheritance Pattern

Essential tremor can be passed through generations in families, but the inheritance pattern varies. In most affected families, essential tremor appears to be inherited in an autosomal dominant pattern, which means one copy of an altered gene in each cell is sufficient to cause the disorder, although no genes that cause essential tremor have been identified. In other families, the inheritance pattern is unclear. Essential tremor may also appear in people with no history of the disorder in their family.

In some families, some individuals have essential tremor while others have other movement disorders, such as involuntary muscle tensing (dystonia). The potential genetic connection between essential tremor and other movement disorders is an active area of research.

Other Names for This Condition

- benign essential tremor
- familial tremor
- hereditary essential tremor

Diagnosis & Management

Genetic Testing

- Genetic Testing Registry: Hereditary essential tremor 1
<https://www.ncbi.nlm.nih.gov/gtr/conditions/C1860861/>

Other Diagnosis and Management Resources

- Johns Hopkins Movement Disorders Center
https://www.hopkinsmedicine.org/neurology_neurosurgery/centers_clinics/movement_disorders/conditions/essential_tremor.html
- MedlinePlus Encyclopedia: Essential Tremor
<https://medlineplus.gov/ency/article/000762.htm>

General Information from MedlinePlus

- Diagnostic Tests
<https://medlineplus.gov/diagnostictests.html>
- Drug Therapy
<https://medlineplus.gov/drugtherapy.html>
- Genetic Counseling
<https://medlineplus.gov/geneticcounseling.html>
- Palliative Care
<https://medlineplus.gov/palliativecare.html>
- Surgery and Rehabilitation
<https://medlineplus.gov/surgeryandrehabilitation.html>

Additional Information & Resources

MedlinePlus

- Encyclopedia: Essential Tremor
<https://medlineplus.gov/ency/article/000762.htm>
- Health Topic: Movement Disorders
<https://medlineplus.gov/movementdisorders.html>
- Health Topic: Tremor
<https://medlineplus.gov/tremor.html>

Genetic and Rare Diseases Information Center

- Essential tremor
<https://rarediseases.info.nih.gov/diseases/5910/essential-tremor>

Additional NIH Resources

- National Institute of Neurological Disorders and Stroke: Essential Tremor Fact Sheet
<https://www.ninds.nih.gov/Disorders/All-Disorders/Essential-tremor-Information-Page>

Educational Resources

- Baylor College of Medicine
<https://www.bcm.edu/healthcare/care-centers/parkinsons/conditions/essential-tremor>
- Disease InfoSearch: Benign Essential Tremor Syndrome
<http://www.diseaseinfosearch.org/Benign+Essential+Tremor+Syndrome/793>
- MalaCards: essential tremor
http://www.malacards.org/card/essential_tremor

Patient Support and Advocacy Resources

- International Essential Tremor Foundation
<https://www.essentialtremor.org/>

ClinicalTrials.gov

- ClinicalTrials.gov
<https://clinicaltrials.gov/ct2/results?cond=%22essential+tremor%22>

Scientific Articles on PubMed

- PubMed
<https://www.ncbi.nlm.nih.gov/pubmed?term=%28Essential+Tremor%5BMAJR%5D%29+AND+english%5Bla%5D+AND+human%5Bmh%5D+AND+%22last+360+days%22%5Bdp%5D>

OMIM

- TREMOR, HEREDITARY ESSENTIAL, 1
<http://omim.org/entry/190300>

Sources for This Summary

- Blair MA, Ma S, Phibbs F, Fang JY, Cooper MK, Davis TL, Hedera P. Reappraisal of the role of the DRD3 gene in essential tremor. *Parkinsonism Relat Disord*. 2008 Aug;14(6):471-5. doi: 10.1016/j.parkreldis.2007.11.002. Epub 2008 Mar 3.
Citation on PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/18316228>
Free article on PubMed Central: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2576470/>
- Deng H, Le W, Jankovic J. Genetics of essential tremor. *Brain*. 2007 Jun;130(Pt 6):1456-64. Epub 2007 Mar 12. Review.
Citation on PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/17353225>
- Hawley JS, Robottom BJ, Weiner WJ. Essential tremor. *Rev Neurol Dis*. 2010 Spring-Summer; 7(2-3):e69-75. Review.
Citation on PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/20944525>
- Jasinska-Myga B, Wider C. Genetics of essential tremor. *Parkinsonism Relat Disord*. 2012 Jan;18 Suppl 1:S138-9. doi: 10.1016/S1353-8020(11)70043-8. Review.
Citation on PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/22166413>
- Lorenz D, Deuschl G. Update on pathogenesis and treatment of essential tremor. *Curr Opin Neurol*. 2007 Aug;20(4):447-52. Review.
Citation on PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/17620881>
- Louis ED. Essential tremor. *Handb Clin Neurol*. 2011;100:433-48. doi: 10.1016/B978-0-444-52014-2.00033-1. Review.
Citation on PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/21496600>
- Shill HA, Adler CH, Beach TG. Pathology in essential tremor. *Parkinsonism Relat Disord*. 2012 Jan; 18 Suppl 1:S135-7. doi: 10.1016/S1353-8020(11)70042-6. Review.
Citation on PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/22166412>

- Testa CM. Key issues in essential tremor genetics research: Where are we now and how can we move forward? Tremor Other Hyperkinet Mov (N Y). 2013;3. pii: tre-03-105-1843-1. Epub 2013 Jan 22.
Citation on PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/23450143>
Free article on PubMed Central: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3582856/>
 - Zeuner KE, Deuschl G. An update on tremors. Curr Opin Neurol. 2012 Aug;25(4):475-82. doi: 10.1097/WCO.0b013e3283550c7e. Review.
Citation on PubMed: <https://www.ncbi.nlm.nih.gov/pubmed/22772877>
-

Reprinted from Genetics Home Reference:
<https://ghr.nlm.nih.gov/condition/essential-tremor>

Reviewed: June 2013

Published: May 22, 2018

Lister Hill National Center for Biomedical Communications
U.S. National Library of Medicine
National Institutes of Health
Department of Health & Human Services