CONDITION

Tourette syndrome

Tourette syndrome is a nervous system condition that causes repeated movements and sounds called tics.

WHAT IT IS
Childhood-onset condition causing involuntary motor and vocal tics

BODY SYSTEM
Nervous system

MAIN SYMPTOMS
Blinking, facial movements, throat clearing, repeated sounds

WHAT CAUSES IT
Genetic and developmental differences in brain circuits

HOW IT IS DIAGNOSED
Clinical history and examination; no confirmatory laboratory test

MAIN TREATMENT
Behavioral therapy, practical support, and medicines

CAN IT BE CURED?
No - the underlying tic tendency may persist

IS IT AN EMERGENCY?
Sometimes - breathing trouble or serious injury

LONG-TERM OUTLOOK
Often improves after adolescence; some tics continue

Overview

Tourette syndrome, also called Tourette's syndrome, is a nervous system condition that begins during childhood. It causes tics: repeated movements or sounds that a person does not fully control.

Movement tics are called motor tics. Sound-based tics are called vocal tics. For a diagnosis of Tourette syndrome, a person must have had both motor and vocal tics, although they do not need to happen at the same time.

Tics often change over time. A tic may disappear and be replaced by another. Its frequency and intensity may also rise and fall, known as waxing and waning.

Tourette syndrome does not affect intelligence. However, tics and related conditions can

affect comfort, confidence, sleep, education, work, or relationships. Attention deficit hyperactivity disorder (ADHD), obsessive-compulsive symptoms, anxiety, and learning difficulties are more common among people with Tourette syndrome.

Symptoms

Simple motor tics involve a small number of muscles and are usually brief. Examples include:

Complex motor tics involve a sequence of movements. A person may jump, twist, repeat a gesture, touch objects in a certain way, or copy another person's movements.

Simple vocal tics include throat clearing, sniffing, coughing, squeaking, humming, or making other brief sounds. Complex vocal tics may include repeating words or phrases. Some people repeat their own words or words spoken by somebody else.

Coprolalia means involuntarily saying socially unacceptable or obscene words. It can occur with Tourette syndrome, but it is not required for diagnosis and does not affect everyone. When it happens, it is a tic rather than a deliberate insult.

Many people feel an uncomfortable sensation before a tic. This is called a premonitory urge. It may feel like pressure, tension, itching, or a need for something to feel "just right." Performing the tic may briefly relieve the sensation.

Some people can hold back a tic for a short time, especially in certain social situations. This can require considerable concentration and may become uncomfortable. Tics are not simply bad habits or attention-seeking behavior.

Stress, excitement, tiredness, and illness can make tics more noticeable. This does not mean that stress causes Tourette syndrome. Some people tic less while concentrating on an enjoyable or demanding activity.

- Eye blinking, grimacing, or nose movements
- Head jerking or shoulder shrugging
- Arm, hand, or abdominal movements
- Touching or tapping

Causes and risk factors

The exact cause of Tourette syndrome is not fully understood. It appears to involve differences in brain circuits that help control movement and behavior. Brain chemicals,

including dopamine, are involved in these circuits.

Genes play an important part. Tourette syndrome can run in families, but its inheritance is complex. There is no single pattern that predicts whether a child will develop it or how noticeable the symptoms will be.

A person may inherit a tendency toward tics without developing Tourette syndrome. Relatives may instead have a different tic condition, obsessive-compulsive symptoms, or no symptoms.

Tourette syndrome is not caused by parenting, vaccines, diet, or a lack of self-control. Everyday stress may affect existing tics, but it does not create the underlying condition.

Diagnosis

There is no blood test, brain scan, or genetic test that confirms Tourette syndrome. Diagnosis is based on the history and pattern of the tics.

The usual diagnostic features are:

Motor and vocal tics do not have to occur together. A person may also have tic-free periods during the year.

A healthcare professional may ask when the movements or sounds began, how they have changed, and whether they interfere with daily life. Home videos can sometimes be helpful if tics do not happen during the appointment.

Tests may be used when symptoms are unusual or another cause is possible. For example, an examination or selected tests may help distinguish tics from seizures, medication effects, compulsive behavior, or other movement conditions. Normal test results do not rule out Tourette syndrome because the diagnosis is clinical.

Assessment should also consider ADHD, obsessive-compulsive symptoms, anxiety, mood, sleep, learning, and behavior. These concerns may affect daily life more than the tics themselves.

- Multiple motor tics and at least one vocal tic at some point
- Tics beginning before age 18
- Tics continuing for more than one year after they first began
- Symptoms not better explained by a medicine, substance, or another condition

Treatment and management

Not everyone needs treatment for tics. If tics are mild and are not causing pain, injury, distress, or difficulty with daily activities, education and monitoring may be enough.

Treatment should focus on the symptoms that matter most to the person. The goal is usually to reduce disruption and discomfort rather than to remove every tic.

Comprehensive Behavioral Intervention for Tics, or CBIT, is a structured therapy. It includes habit reversal training, awareness of tic urges, and changes to situations that make tics harder to manage. A person may learn a competing response-an action that is physically incompatible with a particular tic. CBIT does not suggest that tics are voluntary or anyone's fault.

Practical support can make a major difference. At school, this may include permission for movement breaks, a quiet place to release tics, extra time, or alternatives to tasks made difficult by tics. Punishing or repeatedly calling attention to tics is unlikely to help.

Medicine may be considered when tics cause significant pain, injury, distress, or functional difficulty. Options include medicines that affect dopamine and certain medicines that also help ADHD. Different medicines have different possible effects, such as sleepiness, changes in blood pressure, weight gain, restlessness, or other movement symptoms. Treatment requires monitoring and shared decisions about benefits and side effects.

Associated conditions need their own assessment and treatment. Managing ADHD, obsessive-compulsive symptoms, anxiety, depression, or sleep problems may improve daily life even if tics remain.

Botulinum toxin injections may occasionally be used for a severe, localized tic. Deep brain stimulation is an uncommon specialist procedure reserved for carefully selected adults with severe symptoms that have not responded to other treatment.

Complications

Repeated forceful movements can cause muscle pain, headaches, skin injury, or joint problems. Tics involving biting, hitting, or sudden neck movements may sometimes cause more serious injury.

Vocal or motor tics can be misunderstood by other people. Teasing, exclusion, punishment, or pressure to suppress tics may contribute to anxiety, low mood, school avoidance, or social withdrawal.

Tics can interfere with reading, handwriting, speaking, driving, or falling asleep, depending on their pattern. However, difficulty in these areas is not inevitable. Appropriate adjustments can reduce their effect.

ADHD and obsessive-compulsive symptoms may create additional difficulties with attention, organization, impulse control, or repetitive thoughts and actions. Recognizing these as separate but related concerns helps ensure that support is not focused only on visible tics.

Prevention

Tourette syndrome cannot currently be prevented. It is a neurodevelopmental condition with a strong genetic component, not the result of something a person or parent did.

There is no established diet, supplement, or lifestyle change that prevents it. Good sleep, manageable routines, and reducing unnecessary stress may help some people cope with tic fluctuations, but these steps do not remove the underlying condition.

Injury prevention may be possible when a particular tic is forceful or self-injurious. Protective adjustments and timely treatment can be discussed with a healthcare professional.

Living with it and what to expect

Tourette syndrome usually begins in childhood. The type, frequency, and intensity of tics may change over months and years. New tics can appear while older ones fade.

Tics often become most noticeable around later childhood or early adolescence. Many people experience a substantial reduction during the later teenage years or early adulthood. Some continue to have tics as adults, and a smaller group has symptoms that remain disruptive. An individual's course cannot be predicted with certainty.

A temporary increase in tics does not necessarily mean the condition is permanently worsening. Changes may happen during stress, excitement, tiredness, illness, or major life transitions.

People with Tourette syndrome attend school, work, build relationships, drive, play sports, and live independently. Some need few adjustments, while others benefit from ongoing therapy, medicine, educational support, or workplace accommodations.

Open explanations can reduce misunderstanding. It may help to tell teachers, employers, friends, or family that tics are involuntary and can become more noticeable when somebody feels watched or pressured.

Routine follow-up is useful when symptoms change, treatment causes side effects, or related concerns begin to interfere with life. Follow-up may become less frequent when symptoms are stable and manageable.

When to get medical help

Arrange a routine appointment if repeated movements or sounds have lasted for several weeks, are becoming more frequent, or are affecting comfort, education, work, sleep, or relationships. An assessment can clarify whether they are tics and check for related concerns.

Seek a prompt medical review if:

Seek emergency help for trouble breathing, choking, a serious head or neck injury, loss of consciousness, or immediate danger of severe self-injury. Loss of consciousness is not a typical tic and needs urgent assessment.

If there are thoughts of suicide or an immediate risk of self-harm, contact local emergency services or a crisis service immediately. This is urgent regardless of whether the person has Tourette syndrome.

- A tic causes pain, bleeding, repeated falls, or other injury
- Movements begin suddenly after starting or changing a medicine
- Anxiety, obsessive thoughts, low mood, or sleep problems are worsening
- Tics are making eating, speaking, school, work, or driving unsafe
- Treatment appears ineffective or causes troublesome side effects

Common questions

Does everyone with Tourette syndrome swear?

No. Involuntary swearing, called coprolalia, affects only some people with Tourette syndrome. More typical vocal tics include throat clearing, sniffing, humming, or brief sounds.

Can Tourette syndrome go away?

There is no guaranteed cure, but tics often become less noticeable after adolescence. Some people have few or no troublesome tics as adults, while others continue to experience them.

Can I stop a tic if I try hard enough?

Some people can suppress a tic temporarily, but this may take effort and cause discomfort. Tics are not a choice. Behavioral therapy teaches practical ways to respond to urges without blaming the person.

Is Tourette syndrome a mental illness?

It is primarily a neurodevelopmental and neurological condition, meaning it relates to how the brain develops and controls movement. Mental health or behavioral conditions can occur

alongside it and may need separate support.

Is Tourette syndrome inherited?

Genes contribute strongly, so it can run in families. Inheritance is complex, and having an affected relative does not predict exactly who will develop tics or how severe they will be.

Can someone with Tourette syndrome drive or work?

Many people can. The effect depends on the specific tics and any associated attention or sleep problems. If movements interfere with safe control of a vehicle or equipment, an individual safety assessment and practical adjustments may be needed.

Sources

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