

Tourette Syndrome: Parenteral Attention

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Abstract

Tourette syndrome (TS) is a group of disorders of the developing nervous system called tic disorders. It involves repetitive movements or unwanted sounds (tics) that can't be easily controlled. Tics have typically seen between the ages of 2 to 15 years. Males are about three to four times more likely than females to develop TS. A detailed history of the child's behavior from parents and teachers, in addition to observations of the child's behavior, contributes to making the diagnosis. Many people with TS don't need treatment till symptoms aren't troublesome and there's no cure for TS. Many children and adolescents who have TS also have attention problems and academic difficulties. However, most have normal intelligence and do not usually have primary learning. Parenteral attention is needed to confirm the early diagnosis and create awareness to control tics. A comprehensive evaluation of the child or adolescent's psychological, social, and educational status is recommended, as well as a thorough medical, developmental, and family assessment needed to promote the well-being of children.

Keywords: Tourette Syndrome; Tics; Behavior; Attention problems; Counselling.

INTRODUCTION

The inheritance pattern of Tourette Syndrome (TS) is unclear. Although the features of TS identified the genetic and environmental factors are likely to be involved. A diagnosis of TS is generally made before the child reaches his or her 18th birthday.¹ In the majority of cases, a child is diagnosed within the age of 7 years. Tic behaviors seen in TS change over time and vary in frequency

and complexity. TS is not a degenerative condition (one that continues to get worse) and individuals with TS have a normal life expectancy.² Tics are irregular, uncontrollable, unwanted, and repetitive movements of muscles that can occur in any part of the body that can be hard to control. Tics can happen randomly and they may be associated with something such as stress, anxiety, tiredness, excitement, or happiness. They tend to get worse if they are uncontrolled.³

Definition

Tourette (too-RET) syndrome (TS) is a neurological disorder characterized by sudden, repetitive, rapid, and unwanted movements or vocal sounds called tics. Tics behaviors vary in type, frequency, location, and severity. In Tourette syndrome, a person has multiple motor tics and at least one vocal tic happening for more than a year.⁴

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Statistics

Children with diagnosed and undiagnosed TS have estimated that 1 of every 162 children has TS. In the United States, 1 of every 360 children at 6 to 17 years of age has been diagnosed with TS, based on parent reports. This suggests that about half of children with TS are not diagnosed. TS can affect people of all racial and ethnic groups. In sex, males are about three to four times more likely than females to develop Tourette syndrome.⁵

Causes

The exact cause of TS isn't known. It's a complex disorder likely caused by a combination of inherited (genetic) and environmental factors. The risk factors are, that having a family history of TS or other tic disorders might increase the risk of developing TS.⁶

Classifications^{2,7,8}

Not all tics indicate Tourette syndrome. Many children develop tics that go away on their own after a few weeks or months. But whenever a child shows unusual behavior, it's important to identify the cause and rule out a serious health problem. The severe symptoms might significantly interfere with communication, daily functioning, and quality of life. The motor (involving movement) or vocal (involving sound) tics of Tourette syndrome are classified as either simple or complex. Motor tics usually begin before vocal tics, but the spectrum of tics that people experience is diverse. They may range from very mild to severe, although most cases are mild. In addition, tics can occur during sleep, and vary in type, and frequency. Tics are classified as,

Simple tics: Sudden, brief, repetitive movements that involve a limited number of muscle groups. They are more common than complex tics.

Complex tics: Distinct, coordinated patterns of movement involving several muscle groups.

Table 1: Examples of motor tics in Tourette syndrome

Simple Motor tics	Complex Motor tics
Eye blinking	Touching or smelling objects
Head jerking	Repeating observed movements
Shoulder shrugging	Stepping into a certain pattern
Eye darting	Obscene gesturing
Nose twitching	Bending or twisting
Mouth movements	Hopping/Jumping

Table 2: Examples of vocal (phonic) tics in Tourette syndrome

Simple tics	Complex tics
Grunting	Repeating one's own words or phrases
Sniffing /Coughing	Repeating others' words or phrases (echolalia)
Throat clearing, Barking	Using vulgar, obscene, or swear words (Coppola)

Symptoms of Tourette syndrome^{2,4,9}

The symptoms usually begin when a child is 5 to 10 years of age. The first symptoms often are motor tics that occur in the head and neck area. Tics usually are worse during times that are stressful or exciting. They tend to improve when a person is calm or focused on an activity. Even though the symptoms might appear, disappear, and reappear, these conditions are considered chronic. In most cases, tics decrease during adolescence and early adulthood and sometimes disappear entirely. However, many people with TS experience tics that can become worse during adulthood. Although the media often portray people with TS as involuntarily shouting out swear words (called coprolalia) or constantly repeating the words of other people (called echolalia), these symptoms are rare and are not required for a diagnosis of TS.

Diagnosis^{3,7,10}

There's no specific test that can diagnose Tourette syndrome. The diagnosis is based on the history of signs and symptoms. The criteria used to diagnose Tourette syndrome include:

- Both motor and vocal tics are present, though it's not necessarily at the same time.
- Tics occur several times a day, nearly every day or intermittently, for more than a year.
- Tics begin before age 18 years.
- Tics aren't caused by medications, other substances, or any medical condition.
- Tics must change over time in a location, frequency, type, complexity, or severity.

In rare cases, neuroimaging studies, such as magnetic resonance imaging (MRI) or computerized tomography (CT), electroencephalogram (EEG) studies, or certain blood tests may be used to rule out other conditions that might be confused with TS. A diagnosis of TS might be overlooked because the signs can mimic other conditions. Eye blinking might be initially associated with vision problems, or sniffing attributed to allergies.

Disorders Associated with TS^{5,8}

The most common co-occurring conditions include,

- Attention Deficit Hyperactivity Disorder (ADHD).
- Obsessive Compulsive Disorder or Behaviors (OCD/OCB): repetitive, unwanted thoughts, ideas, or sensations (obsessions) that make the person feel the need to perform behaviors repeatedly or in a certain way (compulsions). Repetitive behaviors can include handwashing, checking things, and cleaning, and can significantly interfere with daily life.
- Anxiety.
- Learning disabilities.
- Behavioral or conduct issues.
- Problems falling or staying asleep.
- Social skills deficits and social functioning difficulties
- Sensory processing issues

There are effective medications and other treatments for people whose symptoms interfere with daily functioning.

Treatment^{3,4,11,12}

Although there is no cure for TS, there are treatments available to manage the tics. Many people with TS have tics that do not get in the way of their daily life and, therefore do not need any treatment. However, medication and behavioral treatments are available if tics cause pain or injury; interfere with school, work, or social life; or cause stress. When tics aren't severe, treatment might not be necessary.

Medications: It help to control tics or reduce symptoms of related conditions including:

- **Medications that block or lessen dopamine.** *Fluphenazine*, haloperidol (Haldol), risperidone (Risperdal) and pimozide (Orap) can help to control tics. The possible side effects include weight gain and involuntary repetitive movements. Tetrabenazine (Xenazine) might be recommended, although it may cause severe depression.
- **Botulinum (Botox) injections.** An injection into the affected muscle might help relieve a simple or vocal tic.
- **ADHD medications.** Stimulants such as methylphenidate (Metadate CD & Ritalin LA) and medications containing

dextroamphetamine (Adderall XR & Dexedrine) can help increase attention and concentration. However, for some people with TS, medications for ADHD can exacerbate tics.

- **Central adrenergic inhibitors.** Medications such as clonidine (Catapres, Kapvay) and guanfacine (Intuniv) are typically prescribed to control behavioral symptoms such as impulse control problems.
- **Antidepressants.** Fluoxetine (Prozac & Sarafem) might help to control symptoms of sadness, anxiety, and OCD. serotonin reuptake inhibitors (clomipramine, fluoxetine, fluvoxamine, paroxetine, and sertraline) are effective in controlling symptoms of depression, OCD, and anxiety.
- **Anti-seizure medications.** Recent studies suggest that Tourette syndrome responds to topiramate (Topamax), which is used to treat epilepsy.

Supportive management

- **Behavior therapy.** Cognitive Behavioral Interventions for Tics (CBIT), including habit reversal training, can help to monitor tics, identify premonitory urges and learn to voluntarily move in a way that's incompatible with the tic.
- **Psychotherapy.** It can help with accompanying problems, such as ADHD, obsessions, depression, or anxiety.
- **Deep Brain Stimulation (DBS).** For severe tics that don't respond to other treatments, DBS might help. It involves implanting a battery operated medical device in the brain to deliver electrical stimulation to targeted areas that control movement. However, this treatment is still in the early research stages and needs more research to determine if it's a safe and effective treatment for Tourette syndrome.

Coping and support

The tics usually reach their peak in the early teens and improve as get older. School may pose special challenges for children with Tourette syndrome. The school nurse educators teach parents, teachers, school bus drivers, and others with whom the child interacts regularly. The educational need aids in meeting the child's needs through caretakers and also reduces stress and psychological well being.

- *Nurture the child's self-esteem:* The child's interests and friendships both can help to build self-esteem.
- *Find a Social support group:* The child can get support from voluntary social organizations to support their emotional being.

CONCLUSION

People with Tourette syndrome can lead an active life with normal life expectancy. The child with Tourette syndrome will cope differently with its physical, emotional, and social challenges but doesn't have to disrupt everyday life. Early identification and supportive management promote the physical and psychological well-being of the child.

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