

# TICS AND TOURETTE SYNDROME



## What are tics?

Tics are repetitive, involuntary, stereotyped body movements and vocalizations. Tics may be preceded by a sensation or feeling, such as tingling or itching, which triggers the movement or vocalization. Tics are often worst during times of fatigue, anxiety, or stress, and may improve when the child is relaxed or calm. While some children can consciously suppress or minimize their tics for a brief period of time, tics are involuntary. They are not a “bad habit” or a purposeful behavior.

Motor tics are sudden, brief, repetitive movements, usually involving the head, neck, and face, but can include the body and limbs, as well. The most common movements (simple motor tics) are blinking, eye-rolling, facial grimacing, head turning or jerking, and shoulder shrugging. Complex motor tics involve multiple muscle groups, or may even appear purposeful (jumping, bending, twisting, or touching objects). Vocal tics are repetitive, involuntary vocalizations. Simple vocal tics may include sniffing, throat-clearing, coughing, barking or grunting. Complex vocal tics are more severe and disruptive and include words or phrases. Although rare, vocal tics can include coprolalia (uttering socially inappropriate words) or echolalia (repeating the words of phrases of others).

## What is Tourette syndrome? How is it diagnosed?

Tourette syndrome (TS) is a form of chronic tic disorder, in which a person displays a persistent and disruptive pattern of motor and/or vocal tics for longer than 1 year. Often a child with TS experiences other neurobehavioral or emotional issues, including anxiety, mood instability, obsessive-compulsive (OCD) behaviors, or attention and/or impulsivity problems (ADHD). There are no specific tests or studies that confirm diagnosis of tics or Tourette syndrome. Usually your neurology provider can make the diagnosis through history-taking, and observation and examination of your child. Occasionally, blood work, EEG, or other studies may be ordered to rule out other medical conditions.

## What causes tics? Can they be inherited?

The cause of tics has not been identified, although research suggests that dysfunction in certain areas of the brain (including the basal ganglia and frontal lobes), and imbalances in certain neurotransmitters (chemicals in the brain), may be responsible. Tics and TS can be inherited, or “run in the family”. Tics are also associated with other neuropsychiatric conditions such as ADHD, OCD, learning disability, depression, and anxiety. Children from families with these types of problems may be at higher risk for tics and TS.

## Who gets tics? Do they get better?

Tics are more common in males than females, although both are affected. The average age of onset is 3 to 9 years of age. Tics tend to “wax and wane” over time, and often get worse during periods of stress or illness. Tics also change in appearance, and may grow more complex, over time. They tend to peak in severity during the elementary and middle-school years, and gradually improve through adolescence and young adulthood. However, about 10-15% of people will continue to experience tics throughout adulthood. Tics are not considered to be physically harmful, and do not cause disease or harm to the body (although they can cause muscle soreness or strain, and emotional and social distress). Individuals with tics or TS are expected to live full, healthy lives.

## How are tics and Tourette Syndrome treated?

There is no cure for tics or TS. Because tics are not harmful, the majority of people with tic disorder or TS do not require treatment. However, if the tics cause functional impairment at home or school, or if they cause the child significant social or emotional distress, medicines can be used to suppress the tics. Unfortunately, there is no single medication that works for every person with tics, and medicine generally reduces, but does not eliminate tics. As with all medications, medicines used for tic suppression carry certain risks for side effects or adverse reactions, which should be discussed with your neurology



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provider. Common medicines used to treat tics include neuroleptics, alpha-adrenergic antagonists, antidepressants, and anti-epileptics. Children with co-morbid issues such as depression, anxiety, OCD, or ADHD may have less tics when those problems are properly treated with medication and therapy.

Cognitive behavioral therapies may help reduce tics in certain cases, and psychotherapy often helps children address anxiety associated with the disorder and develop appropriate coping skills. Children may also benefit from formal accommodations in the school setting. Your neurology provider can provide documentation for school. Because tics are involuntary, children should never be punished for the tics or rewarded for tic suppression.

## Resources and References

<http://www.ninds.nih.gov/disorders/tourette/tourette.htm>  
[http://www.ninds.nih.gov/disorders/tourette/detail\\_tourette.htm](http://www.ninds.nih.gov/disorders/tourette/detail_tourette.htm)  
[http://kidshealth.org/teen/diseases\\_conditions/brain\\_nervous/tics.html#cat146](http://kidshealth.org/teen/diseases_conditions/brain_nervous/tics.html#cat146)  
<http://www.ncbi.nlm.nih.gov/pubmedhealth/PMH0001753/>  
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