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CHILDREN AND ADULTS WITH
ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

ADHD and Tics or Tourette Syndrome

ADHD frequently co-occurs in children with Tourette Syndrome. Less than 10 percent of those with ADHD have Tourette's, but 60 to 80 percent of children with Tourette Syndrome have ADHD. The ADHD diagnosis usually precedes the onset of the motor or vocal tics of Tourette's, although sometimes the two occur together. Some children with ADHD may develop a simple motor tic disorder that first appears during the course of their treatment for ADHD. While these two conditions appear linked in time, most experts believe that the co-occurrence in most cases is purely coincidental and not caused by ADHD or its treatment.

What is a tic?

Tics are defined as sudden, rapid, non-rhythmic movements or sounds that people do repeatedly. They may commonly include such behaviors as eye blinking, mouth opening, sniffing or throat clearing. Tics are common in childhood but do not continue into adulthood in most cases. Males are more affected than females in a ratio of 4.4 to 1. The occurrence of tics can be temporary, lasting less than 12 months, or chronic.

Tics can be either simple or complex. Simple tics are short in duration and involve a single muscle group. Complex tics are longer in duration and often include a series of simple tics. Motor tics may range from simple movements such as eye blinking, lip licking, or mouth opening to more complex movements like facial grimacing, head movements, shoulder shrugging or combinations of these. Vocal tics many include throat clearing; coughing; barking; unnecessary belching; or more complex vocalizations such as repeating parts of words or phrases or, in rare cases, saying obscene words.

Tic Disorders and Tourette Syndrome

The *Diagnostic and Statistical Manual, Fifth Edition (DSM 5)*, outlines the symptoms of three tic disorders: provisional tic disorder, persistent (chronic) motor or vocal tic disorder, and Tourette's disorder. Each of these disorders is characterized by the presence of motor or vocal tics, and which disorder is diagnosed is determined by the severity of the symptoms.

The most severe of these is Tourette's disorder or Tourette's Syndrome.



Tourette Syndrome is a complex, genetically inherited disorder whose primary symptoms include tics (both motor and vocal) lasting for more than one year, beginning before age 18. Tourette Syndrome is usually mild, and a large number of patients tend to improve as they get older. Tourette Syndrome is often accompanied by other conditions including ADHD and obsessive-compulsive disorder in more than half of the patients as well as learning disabilities and mood disorders. More than half (57.1 percent) of patients with Tourette Syndrome have a family history of the disorder.

Diagnosis

As part of the diagnostic process for ADHD, the health care professional must determine whether there are any other conditions affecting the individual. Often, the symptoms of ADHD may overlap with other disorders. The challenge for the professional is to figure out whether a symptom belongs to ADHD, to a different disorder or to both disorders at the same time.



In the case of tics, the intermittent nature of the condition may make it difficult to identify in its early stages. However, over time, a pattern of motor tics and other behaviors will emerge. During the assessment process, it is important to determine the frequency of the symptoms and the degree to which the tics and other behaviors impair functioning. Patterns associated with the tics (for example, are they brought on or made worse by stress or tiredness) may also be key in recommending appropriate modifications or strategies to deal with them.

Treatment

In many cases when a child has both ADHD and tics, the health care professional may elect to treat the ADHD first because primary treatment of ADHD may reduce stress, improve attention and sometimes reduce tics by enhancing the individual's ability to suppress tics. Treatment options for ADHD include medication, skills training, counseling, behavior therapy, and school supports and accommodations. These interventions can help the patient control symptoms, cope with the disorder, improve overall psychological well-being and manage social relationships.

Tics may only need to be treated if they are causing significant problems. In mild cases of tics or Tourette Syndrome, education and reassurance for the patient and family may be sufficient. Psychological interventions, including counseling, behavior modification and skills training, should be guided by an individual treatment plan that includes family and school needs.

The use of medications, however, may be considered when symptoms interfere with peer relationships, social interactions, academic or job performance or with activities of daily living. Therapy should always be geared to the

individual's needs, and the most troublesome symptoms should be targeted first.

Behavioral Intervention

For many children with ADHD and Tourette Syndrome, medicating the tics may not be necessary. Growing evidence shows that behavioral interventions can cause a substantial reduction of tics. Practice on how to control tics in everyday situations can be part of therapy sessions, and self-monitoring (counting tics) has been shown to have temporary but significant benefit. Habit reversal therapy is an intervention consisting of awareness training and competing response training. A competing movement is done for three minutes after each tic and after each sensation that a tic is about to occur.

Comprehensive behavioral intervention for tics (CBIT) includes guidance for parents on what makes tics better or worse, relaxation techniques and strategies to reduce tic severity. CBIT is based on the fact that tics are preceded by a warning sensation that signals that a tic is on its way. The Tourette Syndrome Association also recommends counseling for individuals and their families on dealing with tic symptoms, rejection by peers, school problems and a host of other issues.

Medication

After a proper assessment and trying behavior therapy, medication may still be necessary in children with ADHD and Tourette Syndrome. Mild symptoms can usually be treated with clonidine or guanfacine. Clonidine can be given by skin patch or in pill form. Clonidine or guanfacine have the advantage of treating all the symptoms of TS—the tics, the ADHD, obsessive-compulsive behaviors, and oppositional and other behaviors. The major side effect of these two medications is falling asleep or tiredness if the dose is too high or raised too rapidly.

Any treatment with stimulant medications should be closely monitored for side effects, especially the presence or increase of tics. In the past, the use of stimulants

had not been recommended when tics or Tourette Syndrome was present; however, recent studies report that short-term use of stimulant medications, especially methylphenidate (Ritalin, Concerta), seem to be safe and well tolerated in children with chronic tics or Tourette Syndrome with co-occurring ADHD. Children who were given methylphenidate did not develop more frequent tics when compared with those who were not given the medication. However, frequency of tics seems to be higher with dextroamphetamines (Dexedrine, ProCentra) than compared with methylphenidate.



If a child has already been diagnosed and treated with stimulants and significant tics develop, the physician may elect to stop treatment with stimulants, decrease the dose or change to other stimulant medication until the tics are treated and under control. In some cases, the benefits of the stimulant medication outweigh the mild impact of the tics. Other medications may also benefit the ADHD symptoms and have some impact over the tics.

For more information on Tourette Syndrome:

National Tourette Syndrome Association

<http://www.tsa-usa.org/>

National Institute of Neurological Disorders and Stroke

Tourette Syndrome [factsheet](#)

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