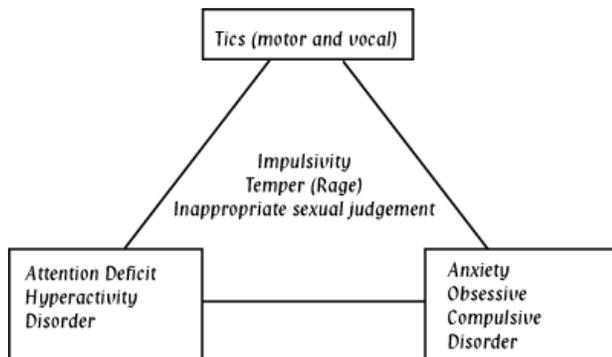


MEDICAL MEMO

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What Is Tourette's Disorder ?

Georges Gilles De La Tourette first described this group of signs and symptoms, which was soon named after him and called (inaccurately) a syndrome, in 1885. In DSM-5, published May 2013, the full name of Tourette's has been changed from Syndrome to Disorder to be more accurate. Either way we are referring to the same condition.



The core feature, which must be present for the diagnosis of **Tourette's**, is the presence for at least a year of at least two motor and one vocal tic, not necessarily at the same time. The diagnosis, and any treatment, is only appropriate if the tics cause social, emotional, and/or physical problems. Tourette's occurs in up to 1% of the population, is 3 to 4 times more common in boys, almost always begins before the age of 18 and usually begins in elementary school age children. **Transient or Chronic Tic disorders** are more common (up to 15% of people at some time in their lives) and do not meet the criteria for the more significant Tourette's disorder. The cause of Tourette's is clearly a biological one in certain parts of the brain, particularly connections involving the basal ganglia, and usually runs in families. Tourette's may be very mild, very severe, or anywhere in between.

It is often easiest to think about Tourette's Disorder diagramed as an equilateral triangle where tics are on the top (required for the diagnosis), Attention Deficit Hyperactivity Disorder at the front or

leading corner (ADHD often presents first or along with the tics), and anxiety or Obsessive Compulsive Disorder at the back corner (anxiety and/or OCD often begin after or along with the tics). Inside the triangle, as part of or associated with Tourette's, but not diagnostic of Tourette's, are often problems with impulsivity, temper, and/or inappropriate sexual or seemingly sexual behavior. Persons with Tourette's may have unusual preoccupations, learning disorders, sensory integration problems, and/or the full range of symptoms seen in ADHD or OCD. The life course of the tics is that they frequently begin in elementary school or even earlier, increase to a peak in frequency and intensity around puberty, and then decrease again and become easier to control as the youth moves through adolescence and into adulthood.

Tics are best described as quick, twitching semi-involuntary, repetitive movements of individual muscle groups. Tics typically occur in "bouts" where one or several types of tics will occur repeatedly over minutes to hours, days, or weeks. Tics are often preceded by an uncomfortable feeling in a body area that the movement or sound makes "just right". Tics can be simple or complex and affect motor or vocal areas. **Motor tics** are observable muscle movements. **Vocal tics** are sounds emitted when small muscle groups twitch in the area of the nose, mouth, and/or throat thereby producing a sound. **Simple tics** are the movements of small muscles or groups usually in the face, throat, head, neck or shoulders and are typically not seen as having a purpose. Examples of simple motor tics are eye blinking, squinting, forehead frowning, nose wrinkling, lip pursing, gaping, grimacing, head nods or shakes, arm jerking, kicking without purpose, jaw twitches, teeth clicking, muscle tensing, and shoulder shrugs. Examples of simple vocal tics may be sniffs, coughs, throat clearing, spitting, screeching, barking, grunting, brief whistles, hissing, and monosyllabic non-word sounds. You can see how some of these can be confused with allergy

or other health symptoms. **Complex tics** are bigger more purposeful seeming movements or sounds that often involve more muscle groups or combining sounds. Examples of complex tics may include gyrating, twisting, hopping, uttering or repeating words, touching, throwing, biting oneself, repeating short phrases like, "oh boy", "all right", "you're fat", etc. **Coprolalia** is the use of obscene or other socially inappropriate words or phrases in a complex tic. Persons with the coprolalia of Tourette's generally try to avoid such expressions or bury them in hidden ways. It is important to remember that most nail biting, scab picking name calling, and cussing generally have nothing to do with Tourette's. In fact, I usually do not count possible complex tics toward the diagnosis of Tourette's unless I am convinced of the presence of simple tics, as well.

Tics are semi involuntary. This is confusing to many parents before they understand Tourette's. When told to stop that irritating repetitive grimace, squint, sniff, cough, etc their child can do so, for a while, minutes, even hours. But it comes back. Parents may note the child has more tics when stressed or when nervous or anxious or excited. Frequently the child suppresses the tic at the doctor's office or at school, seeming to release it with a vengeance later or at home. The type or muscle group affected by a tic often changes with time.

Anxiety, worry, stress or anticipation of a stressful situation may worsen or bring out tics. Intense concentration such as playing a video game or doing difficult task or homework may increase tics due to anxiety/stress or even decrease tics due to distraction or muscle movement.

Recent studies have shown that at least a few cases of Tourette's and OCD are caused or worsened indirectly by certain strep infections. These are known as PANDAS. An infection by beta hemolytic group A streptococcus (most commonly "strep throat") causes the body to develop an antibody auto-immune response to attack the strep bacteria. A few weeks later, these antibodies may attack certain cells in the body they confuse with strep, thereby causing illness. This occurs in Scarlet

Fever, Rheumatic Fever, post-streptococcal Glomerulonephritis, and Sydeham's Chorea depending on whether the skin, heart, kidney, or brain are affected, respectively. When certain areas of the brain are affected tics and/or obsessions and compulsions can result, usually temporarily. Certain severely or repetitively affected individuals may benefit from continually taking penicillin for prevention or using certain other more involved means to decrease the problematic antibodies.

Medication Treatment for Tourette's requires first considering whether or not the tics or associated problems are currently causing enough distress to warrant treatment. Then, one must consider what is the target symptom(s) and how might treating that symptom (eg, tics or attention or impulsivity or anxiety, obsessions and compulsions, etc.) affect other symptoms. For example, if we treat attention deficit symptoms with the usual stimulant medicines we may worsen tics while not helping obsessions at all. Treatment may require multiple interventions as described in the Four Point Treatment Plan I laid out in my ADHD information packet. The most commonly used first line **medicines** to treat tics are guanfacine (Tenex, Intuniv) or clonidine (Kapvay), with guanfacine having better duration, less sedation, and equal benefit for impulsivity and attention. The most powerful anti-tic medicines are all dopamine blockers (antipsychotics) though they are not used for that in Tourette's. Pimozide (Orap) has been shown in a good study to be better than the prior first choice haloperidol (Haldol) with risperidone (Risperdal) and other "atypicals" being good options. Each of these are very good for tics, impulsivity, and rage but do little for ADHD or OCD. The "antipsychotics" are usually monitored for reversible parkinson's like side effects and possibly irreversible Tardive Dyskinesia if they are kept long term. Pimozide may be monitored for possible heart rhythm effects. When problematic tics, ADHD, and OCD occur together in more severe Tourette's a combination of medicines and other treatments, as in my four point plan, is often best. This can generally be done quite safely and with good benefit.

Therapy options include **CBT** (Cognitive Behavioral Therapy), **Relaxation techniques**, and **Habit Reversal**. **CBIT** (Comprehensive Behavioral Intervention for Tics) is a new therapy approach

combining both Habit Reversal and Cognitive Behavioral Therapy (CBT) techniques to teach people to lessen, modify, or even learn to control their tics. CBIT seeks to first increase the patient’s awareness of their tics and then of the “feeling” that comes before a tic so that they can use distraction, substitution, and more to delay, modify, minimize or even totally prevent the tic. Increased knowledge of situations, stresses, triggers and alternate outlets can further expand these benefits. Therapy targeting associated anxiety, OCD, ADHD, impulsivity and other concerns can help further.

Exercise is an often beneficial underused treatment for tics and associated Tourette’s and other mental health (and health) concerns. Rhythmic repetitive exercise that broadly stretches and relaxes multiple muscle groups such as swimming, running, biking, dancing, yoga, and Tai Chi etc. can lessen the urge to tic both during the activity and for hours afterwards.

It is not unusual to have OCD occur along with tics in Tourette's Disorder. The brain pathways and genetic mechanisms that produce tics seem to overlap substantially with those that lead to ADHD and OCD. It can at times be difficult to sort out certain tics from an obsession or compulsion. Please refer to my Medical Memo on [Anxiety and OCD](#), my [information packet on ADHD](#) and my Medical Memo [Trichotillomania and Dermatillomania](#) on my web site.

There are also excellent **internet links** to the local and national **Tourette's Syndrome Association** <http://www.tsa-usa.org/> from my web site in the Mental Health Links section.

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