

## FIVE THINGS TO KNOW ABOUT ...

## Tourette syndrome

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**Most people with Tourette syndrome have mild to moderate tics that typically wax and wane in severity over time**

Tourette syndrome is a familial neuropsychiatric condition, starting before 18 years of age, and characterized by multiple motor tics and at least one phonic tic. The tics must be present consistently for at least 1 year.<sup>1</sup> The prevalence of Tourette syndrome is about 1%,<sup>1</sup> and most patients have mild to moderate tics. The differential diagnosis includes other movement disorders (e.g., myoclonus, stereotypies), restlessness or fidgetiness, compulsions and conversion disorder.

**About one-third of patients with Tourette syndrome have comorbid obsessive-compulsive disorder, and one-half have attention-deficit/hyperactivity disorder<sup>1,3</sup>**

Obsessive-compulsive disorder, attention-deficit/hyperactivity disorder and other comorbidities often cause more impairment than tics. In addition, comorbid conditions may not improve on their own during adolescence to the same extent as tics.<sup>4</sup> Therefore, appropriate intervention for comorbid conditions is often the focus of treatment.

#### Resources

Additional resources can be found at the websites of the Tourette Syndrome Foundation of Canada ([www.tourette.ca](http://www.tourette.ca)) and the Tourette Syndrome Association ([tsa-usa.org](http://tsa-usa.org)).

**Tics typically peak in severity around 11 years of age; for most patients, they gradually decrease during adolescence**

Tics are involuntary movements or vocalizations that are stereotyped, repetitive, nonrhythmic and often preceded by a premonitory urge. Patients may be able to suppress them, but only briefly. Over time, different tics may appear and subside. The cause of tics is related primarily to heritable and neurobiological factors, but environmental factors also contribute.<sup>1</sup> Although anxiety can exacerbate tics, it does not cause them. Patients should be told that even without specific treatment, their tics are likely to improve by early adulthood.<sup>2</sup>

**Education and reassurance is sufficient for many patients with Tourette syndrome**

Patients, families and school staff should be given information about Tourette syndrome, including its natural history and associated conditions.<sup>3</sup> People with Tourette syndrome should not be told to suppress their tics. Rather, it is usually best to ignore the tics (except in the context of behavioural therapy).

#### References

1. Abi-Jaoude E, Kideckel D, Stephens R, et al. Tourette syndrome: a model of integration. In: Carlstedt R, editor. *Handbook of integrative clinical psychology, psychiatry and behavioral medicine: perspectives, practices and research*. New York (NY): Springer Publishing; 2009. p. 549-88.
2. Leckman JF, Zhang H, Vitale A, et al. Course of tic severity in Tourette syndrome: the first two decades. *Pediatrics* 1998;102:14-9.
3. Peterson BS, Cohen DJ. The treatment of Tourette's syndrome: multimodal, developmental intervention. *J Clin Psychiatry* 1998;59(Suppl 1):62-72.
4. Gorman DA, Thompson N, Plessen KJ, et al. Psychosocial outcome and psychiatric comorbidity in older adolescents with Tourette syndrome: controlled study. *Br J Psychiatry* 2010;197:36-44.
5. Steeves T, McKinlay BD, Gorman D, et al. Canadian guidelines for the evidence-based treatment of tic disorders: behavioural therapy, deep brain stimulation, and transcranial magnetic stimulation. *Can J Psychiatry* 2012;57:144-51.
6. Pringsheim T, Doja A, Gorman D, et al. Canadian guidelines for the evidence-based treatment of tic disorders: pharmacotherapy. *Can J Psychiatry* 2012; 57:133-43.

**Treatment of tics is appropriate when they cause substantial physical pain, emotional distress or functional impairment**

When tics warrant treatment, behavioural management should be considered a first-line intervention. Behavioural management that includes habit-reversal training is supported by randomized controlled trials.<sup>5</sup> If pharmacotherapy is required,  $\alpha_2$  agonists are usually first-line medications because of their relatively few adverse effects.<sup>6</sup> Antipsychotic agents have the strongest evidence for efficacy, but these drugs are reserved for the most severe cases given their associated risks (e.g., metabolic problems, tardive dyskinesia).<sup>6</sup>

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