

# Tourette Syndrome: non-drug therapy to reduce tics

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The use of cognitive-behavioural therapy to treat tics in Tourette syndrome may be as effective as and even superior to medication in certain cases. According to a new study published in a special edition of the *International Journal of Cognitive Therapy* by researchers from the Fernand-Seguin Research Centre of the Louis-H. Lafontaine Hospital affiliated with Université de Montréal, it was observed that therapy has an effect not only on tics, behaviour and thoughts, but also on brain activity.

"This discovery could have major repercussions on the treatment of this illness. In some cases, the physiological measures could allow for the improvement of the therapy in order to tailor it to a specific type of patient," states Dr. Marc Lavoie, certified researcher at Fernand-Seguin Research Centre of the Louis-H. Lafontaine Hospital and with the Psychiatry Department of Université de Montréal, who conducted this study with his PhD student Tina Imbriglio and his clinician collaborators, Dr. Kieron O'Connor, psychologist, and Dr. Emmanuel Stip, psychiatrist.

Tourette syndrome is a complex neuropsychiatric disorder characterized by motor and vocal tics that worsen during childhood and reach a peak around the age of 11. The condition affects between 0.05 and three percent of children of school age and in certain cases, can persist into adulthood.

The research team invited two groups to take part in the study:

- One group of 10 adults affected by Tourette syndrome
- Another group of 14 adults matched for age and intelligence with no neurological or psychiatric problems.

The participants were asked to perform a series of experimental tasks to stimulate specific regions of the brain. During one task, the subjects had to respond to or inhibit their responses to traffic lights presented on a computer screen. An electroencephalogram was recorded in conjunction with each task. The patients were seen again six months later, after having received the therapy, to perform the same test. The results showed a significant reduction of tics following the therapy. Moreover, after behavioural treatment, it was possible to observe a quantifiable normalization of the brain activity, linked to the improvement of the symptoms in patients with Tourette syndrome. The originality of the results of Dr. Marc Lavoie's team lies in the discovery of a measurable cerebral change following these cognitive and behavioural changes in symptoms

"On the one hand, therapy leads to cognitive restructuring, and on the other, to behavioural and physiological modifications. This promising study is the first to demonstrate the physiological effects of cognitive-behavioural therapy for patients with [Tourette syndrome](#). However, other studies will need to confirm these results using a larger sample," added Dr. Lavoie.

**More information:** Lavoie, M.E., Imbriglio, T.V., Stip, E., O'Connor, K.P. (2011). « Neurocognitive changes following cognitive-behavioral treatment in the Tourette syndrome and chronic tic disorder". International Journal of Cognitive Psychotherapy. Special section: cognitive and neuroscientific approaches to obsessive-compulsive and

related phenomena. (4)1, 34-50. [www.atypon-link.com/GPI/doi/ab...  
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