

Tourette's Update – Neurohaven (May 2024)

1. Digital Interventions for Tic Disorders:

- A compilation of research has indicated that remote therapies delivered through digital platforms can effectively reduce tic severity in individuals with TS. These therapies have shown high levels of user engagement and adherence, pointing towards the usability and practicality of digital health solutions for managing TS. However, the response rates in adults are less than optimal (under 40% showing significant improvement), suggesting the need for tailored approaches based on individual characteristics such as urge intolerance. This highlights a potential area for future research: targeting premonitory urges more effectively to enhance treatment outcomes ([Frontiers](#)).

2. Genetic Overlap between TS and OCD:

- Research has uncovered substantial genetic links between Tourette Syndrome and obsessive-compulsive disorder (OCD), with studies pointing to specific genetic markers that are shared between the two disorders. These include SNPs in the LINC01122 gene, which might contribute to a shared genetic susceptibility. The findings suggest a complex interplay of genetics and environmental factors, such as post-infection autoimmune reactions and stress, which could exacerbate symptoms. This opens up possibilities for personalized medicine approaches, where treatments are tailored to the genetic profiles of individuals, particularly in how they metabolize drugs, and for exploring the role of epigenetics in these disorders ([Frontiers](#)).

3. Ecopipam as a Treatment for TS:

- Ecopipam is a novel drug being tested for its efficacy in reducing tics in children and adolescents with TS. Unlike traditional treatments that target D2 dopamine receptors and often come with severe side effects, Ecopipam targets D1 receptors and has shown promise in reducing tics without such adverse effects. The D1AMOND study, a multicenter, randomized, double-blind, placebo-controlled trial, has been instrumental in establishing ecopipam's potential, making it a candidate for future use in clinical settings ([AAP Publications](#)).

4. Medicinal Cannabis for Managing TS Symptoms:

- Recent studies have explored the impact of medicinal cannabis on TS, particularly its effects on tic reduction and co-occurring symptoms such as anxiety and OCD. Cannabis operates by engaging the endocannabinoid system in the brain, which may help modulate the neural pathways involved in TS. The findings suggest that this treatment could offer substantial improvements in

quality of life for individuals with TS, although it comes with limitations such as restrictions on driving or operating heavy machinery while using the medication ([MedXpress](#)).

5. Role of Gut Microbiota in TS:

- Emerging research has linked the composition of gut bacteria to the symptomology of TS, identifying significant differences in the microbiota of children with TS compared to those without. Certain bacteria associated with TS have also been linked to other conditions like irritable bowel syndrome and pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections. This suggests that managing gut health through diet or prebiotics might be another avenue for alleviating tic symptoms, making it an interesting field for further study ([Frontiers](#)).

These studies collectively emphasize the multifaceted nature of TS and the ongoing efforts to develop more effective, personalized, and less invasive treatment options.