

# MISOKINESIA IN TOURETTE SYNDROME

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## Introduction:

- Our previous research into misophonia in Tourette Syndrome (TS) has shown that children can report intense distress/irritability with specific sounds which negatively impact the frequency and severity of tics.
- Misokinesia is a condition in which significant distress or irritability is experienced when observing specific movements in others.
- We discuss the experiences of children with TS and related tic disorders who reported misokinesia phenomenon and their clinical relevance.

## Methods:

- We systematically asked about misophenomena over an 8-week period in our Neurodevelopmental Movement Disorders (TANDeM) clinic.
- 6 children with TS reported significant misophenomena.
- They were interviewed regarding common trigger movements, severity of misokinesia, presence of other misophenomena such as misophonia and we asked questions around emotional regulation.

Results: Table 1

Case	Sex	Age in years at			Diagnoses	Trigger Movements when Observing Others	Specific Person Trigger	Reaction to Trigger Movements	Misophonia Present	Treatments
		Assessment	Tic onset	Misokinesia Identification						
1	M	10	5	8	Simple Motor and Phonic Tics, Complex Motor Stereotypies, OCB	Rubbing Arms/Legs	Mother	Anger, Stress, Tic Exacerbation	Yes	None Trialled
2	F	13	5	13	TS, OCD, Anxiety, Avoidance Behaviours, Self-Harm	People Scratching/Clothes, Doing Up Zips, Chewing, Hair Twiddling	Classmate	Anger, Tic Attacks	"Kh" Sound	Clomipramine – stopped due to seizures
3	M	13	2	13	TS, ADHD, Developmental Language Disorder, ASD, Anxiety, Demand Avoidance	Pen Clicking, Jaw Movements	Brother	Anger	Breathing, Tapping	Guanfacine and Aripiprazole with marked benefit; Habit Reversal Therapy
4	F	11	6	7	TS, OCB, Anxiety, Dyslexia	Chewing, Stimming, Fidgeting, Zips	n/a	Anger, Tic Attacks	Chewing, Alarms	None Trialled
5	F	14	6	6	Chronic Motor and Transient Vocal Tics, Anxiety	Tapping, Scratching, Chewing, Other People's Tics, Stimming, Fidgeting, Pulling at Clothes, Chair Swinging	Younger Sister	Stress, Avoidant Behaviours	Breathing, Chewing, Tapping	None Trialled
6	M	10	4	10	TS, OCD, Anxiety, Sleep Delay, Horseshoe Kidney, Constipation, Overactive Bladder	People Moving in Circles, Tapping, Hair Twiddling, Pen Clicking, Scratching, Facial Movements, Pulling at Clothes, Fidgeting, Chair Swinging	n/a	Anger, Panic, Tic Attacks	Chewing	None Trialled

ASD: Autism Spectrum Disorder; ADHD: Attention Deficit Hyperactivity Disorder; F: Female; M: Male; n/a: Not Applicable; OCD/B: Obsessive Compulsive Disorder/Behaviour; TS: Tourette Syndrome

## Conclusion:

- To our knowledge, this is the first report of misokinesia within a population of children with tics.
- The cases presented show that observing specific movements can cause emotional distress, irritability and rage episodes, sometimes resulting in acute tic exacerbation.
- As with other misophenomena, misokinesia may have an under-appreciated influence on tic expression and feelings of general wellbeing.
- Further research is planned around these phenomena and their optimal management.