

# Tourette Syndrome and Driving

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## Objective

To determine the interference of tics in Tourette's syndrome on driving.

## Background

Driving ability may be impaired in patients with various movement disorders, but it has not been studied in patients with Tourette syndrome (TS). There have been many reports of the impact of various, mostly parkinsonian, movement disorders on driving performance, but hyperkinetic disorders have not been well addressed in studies of driving and movement disorders. Specifically, the phenomenological effects of TS tics on driving have not been well studied and have been only addressed in one case report<sup>1</sup> and a study attributing driving impairment in Tourette's to comorbid ADHD.<sup>2</sup> In the current case series, we aim to characterize driving impairment in patients with TS related to their tics.

## Methods

We included patients with TS ages 16 to 65 followed at our Movement Disorders Clinic in whom severe tics have had interfered with their driving abilities. We analyzed the clinical phenomenology of the patients and its impact on driving.

Case	Age	Sex	Clinical Phenomenology	Impairment in Driving
1	17	F	Whiplash tics, shoulder shrugging, abdominal patting, back tensing, head beating, snorting, foot inversion	Urge to tense up back and turn wheel abruptly pulling vehicle off the road
2	21	M	Frequent eye blinks, right neck flexion, right hand touching forehead, head nodding movements, popping sounds, ankle popping, nail biting, grunting, throat clearing	Excessive eye blinks, ankle popping movement during driving
3	17	F	Stereotyped eye rolling, facial grimacing, jerk-like neck flexion-extension, quick bilateral wrist flexion, foot inversion movements	Premonitory urge/restlessness preceding eye-rolling interfered with keeping eyes on road
4	22	M	Involuntary movements of hands and legs, neck flexion, back tensing, squealing noises or words, coprolalia	Truck driver, whole body complex tics affected driving, had a collision
5	31	M	Eye rolling and blinking for several seconds, transient blepharospasm, teeth chipping	Unable to drive because of intermittent blepharospasm
6	23	M	Shoulder rolling, facial twitch, blocking tics, eye blinking, oculogyric tics, eversion of right foot, sniffing, coprolalia	Unable to drive because of oculogyric tics and foot eversion

**Table 1.** Case Series of Patients with TS-related Impaired Driving

## Results

We found six patients (Table 1) that fulfilled the criteria in our case series and included them in the study. Patients were videotaped and one patient described her driving impairment in video after a standard informed consent was signed. The motor tics involved facial muscles and caused visual impairment because of frequent blinking and blepharospasm, but limb and truncal tics also seriously impacted their driving.

## Conclusions

Motor tics may adversely affect driving ability of patients with TS potentially causing danger to themselves and others. Screening for such impairments should be considered in patients with TS, particularly in teenagers who are being evaluated for driver's licensing.

## References

1. Brunnauer A, Segmiller FM, Volkamer T, Laux G, Müller N, Dehning S. Cannabinoids improve driving ability in a Tourette's patient. *Psychiatry Res.* 2011;190(2-3):382.
2. Mataix-Cols D, Brander G, Chang Z, Larsson H, D'Onofrio BM, Lichtenstein P, et al. Serious transport accidents in Tourette syndrome or chronic tic disorder. *Mov Disord.* 2021;36(1):188-95.