

Case Reports

“Club-Cutting” Dystonic Tremor: a Case Report

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**Abstract**

**Background:** Focal task-specific dystonic postures are well recognized. Often a tremor may be the main feature with little or no dystonia. These have been well reported in writers, musicians, and sportspeople.

**Case Report:** Herein we report a novel task-specific dystonic tremor in a 44-year-old Irish hairdresser due to club-cutting, a standard haircutting technique.

**Discussion:** Hairdresser’s dystonia is a novel task-specific dystonia.

**Keywords:** Tremor, dystonia, task-specificity, hair-dressing, club-cutting

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**Introduction**

**Case report**

Dystonia is a syndrome of sustained muscle contractions, frequently causing twisting and repetitive movements or abnormal postures.<sup>1</sup> Focal task-specific dystonias (FTSDs) and occupational cramps are well recognized. They typically affect the hand, as in classical writer’s cramp<sup>3</sup> and musician’s dystonia<sup>4</sup>. FTSDs have also been reported in golfers, tennis players, and craftsmen.<sup>5</sup>

Although dystonia is characterized by twisting spasms, it may also have additional myoclonic or tremulous components, and many patients with dystonia show true rhythmic tremors.<sup>6</sup> In fact, it is also possible to have task-specific tremor with little or no dystonia.<sup>7</sup> The first report of a task-specific tremor was “primary writing tremor” described by Rothwell in a 20-year-old man with writing difficulty due to bursts of tremor, elicited by active pronation of the forearm but not by other movements (action-specificity) and unaccompanied by other neurological signs.<sup>8</sup> There have been many subsequent reports of task-specific tremors, predominantly in musicians and sportspeople.<sup>9</sup>

We present the case of a focal task-specific dystonic tremor in a hairdresser. To our knowledge no such patient has been reported previously.

A 44-year-old right-handed professional hairdresser from Dublin complained of left-hand tremor present only while styling hair (Video 1). She had worked as a hairdresser since her early teens. Her symptoms had begun at age 38 years and progressed until they significantly interfered with her career and she had to reduce her working hours. Propranolol and mysoline were tried for a presumed diagnosis of benign essential tremor (BET), but had little effect. One paternal uncle was diagnosed with Parkinson’s disease in his sixties, and one maternal uncle had a tremor thought to be secondary to alcohol.

The tremor was evoked only on styling hair and it only affected the index and middle fingers of her left hand (non-scissor hand). Her right scissor hand was unaffected. It was only evident when she was “club-cutting” (Video 1). Club-cutting is a standard technique of cutting hair where the non-dominant hand/fingers hold up strands or sections of hair to allow the scissor hand to make a straight cut. While holding taut a portion of hair off the scalp between the index and middle fingers of the left hand, the jerky 5 Hz tremor appeared in her left index and middle fingers. The problem occurred mainly cutting women’s or longer hair. With men’s shorter hair she had learned to



**Video 1. Hairdresser's tremor whilst club-cutting.** A 44-year-old right-handed hairdresser with a task-specific dystonic tremor of the index and middle finger of her left hand, more pronounced on cutting women's or longer hair as she has to sustain a hand posture in mid-air, off the scalp. There is neither rest tremor, nor any tremor of the outstretched hands or on finger-nose testing.

adapt or control the tremor by placing the fourth and fifth fingers flat on the head, which steadied her hand. It is likely that this is a sensory trick. Alcohol had no effect on the tremor. On examination there was no rigidity or bradykinesia. There was no rest tremor or tremor of the outstretched arms or on finger-nose testing. The rest of the neurological examination was normal.

### Discussion

We describe a novel report of an occupational, task-specific dystonia or task-specific tremor, in this case in a hairdresser due to club-cutting. It is likely her tremor is a focal dystonia, as the task specificity of her tremor is similar to the "task-specific dystonias".<sup>2</sup> These occupational dystonias were first described over a century ago and affect people who use their hands for different skilled activities involving their trade or hobby.<sup>2</sup> They often have an associated tremor. Sheehy and Marsden<sup>3</sup> found tremor in 48% of their writer's cramp patients. McDaniel et al.<sup>5</sup> found tremor in 8% of their patients with the "yips", a focal dystonia of golfers.

Soland et al.<sup>7</sup> described nine cases of focal task-specific tremor, all involving repetitive and frequently performed movements. Like the occupational dystonias, the tremors only occurred when doing a specific repetitive task. Cases included a horn player, a golfer, a darts player, a rifle shooter, a bricklayer, and a pediatric cardiologist. Like our patient, none of these patients exhibited overt dystonia on examination, nor was there any cerebellar signs, akinesia, rigidity or spasticity. Cleeves et al.<sup>9</sup> described a professional violinist with a 10-year history of tremor of the right hand that occurred only during bowing.

Studies of the pathophysiology of task-specific dystonia have found abnormalities within the basal ganglia or its connections,<sup>10,11</sup> decreased inhibition at various levels of sensorimotor systems,

abnormal plasticity,<sup>12</sup> and impaired sensorimotor processing. Occupational dystonia is frequently seen in highly skilled musicians, which is probably related to intensive practice, misuse of muscles with extensive and forceful use of the digits, or excessive tension during playing.<sup>13</sup> Hairdressing involves practice of repeatedly skilled movements of the small hand muscles. The club-cutting technique would have been performed on average 50–100 times per client, 10–20 clients per day, 5 days per week for nearly 35 years, resulting in a lifetime repetitive manoeuvre number of between 4 and 17 million. This practice therefore puts her at risk for developing dystonia.

Hairdressing using the club-cutting technique should be added to the list of occupational task-specific dystonias.

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