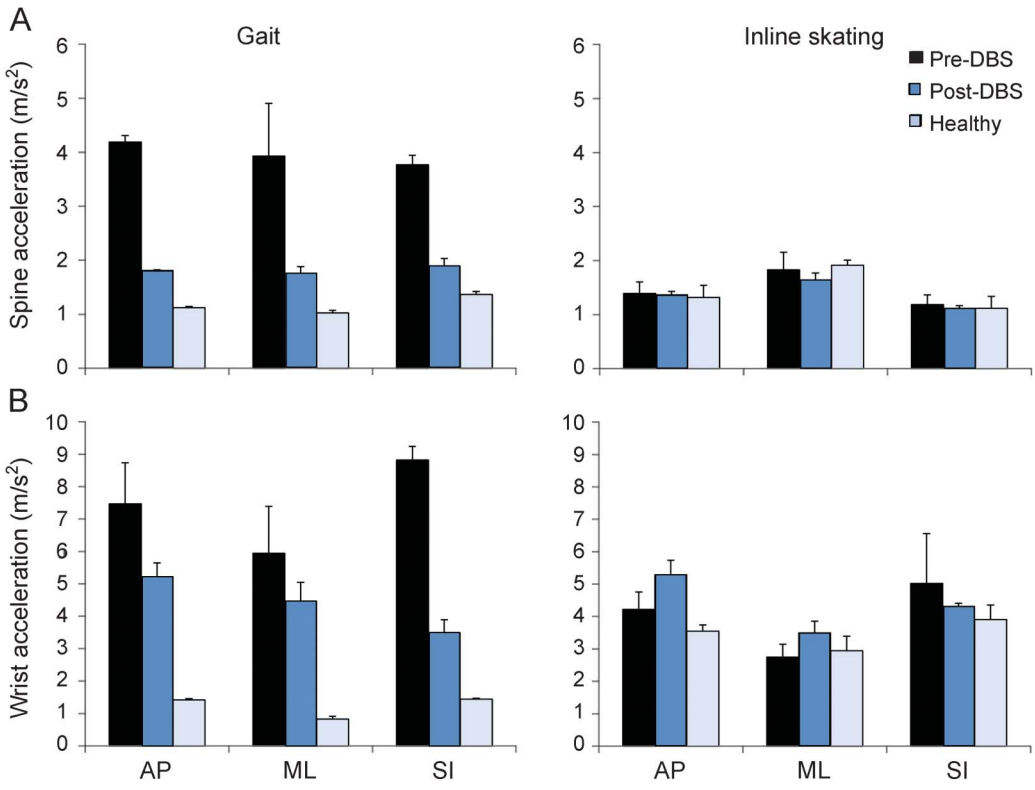
Dramatic improvement of tardive dyskinesia movements by inline skating

Figure 1 Spine and wrist acceleration during gait and inline skating of the patient and her sister



In gait analysis (A), the patient showed higher average acceleration for spine (upper trunk) and wrist compared to her healthy twin sister, even after deep brain stimulation (DBS). In inline skating (B), the values for the patient were similar to her healthy sister independent of DBS. AP = anteroposterior; ML = mediolateral; SI = superoinferior.

A 25-year-old woman with severe tardive dyskinesia (TD) due to neuroleptics had substantial improvement of movements while inline skating (video at Neurology.org). She received pallidal deep brain stimulation (DBS), and gait and inline skating were assessed before and after DBS; her twin sister served as a control (figures 1 and 2). Possible explanations for her improvement include (1) balance stability required by inline skating provides external cues that are less prominent during gait[1]; and (2) dystonia consistently responds to geste antagoniste.[2] Since TD has variable response to treatments, we propose research into alleviating factors in TD that may advance treatment and rehabilitation in this incapacitating disorder.

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Supplemental data at Neurology.org

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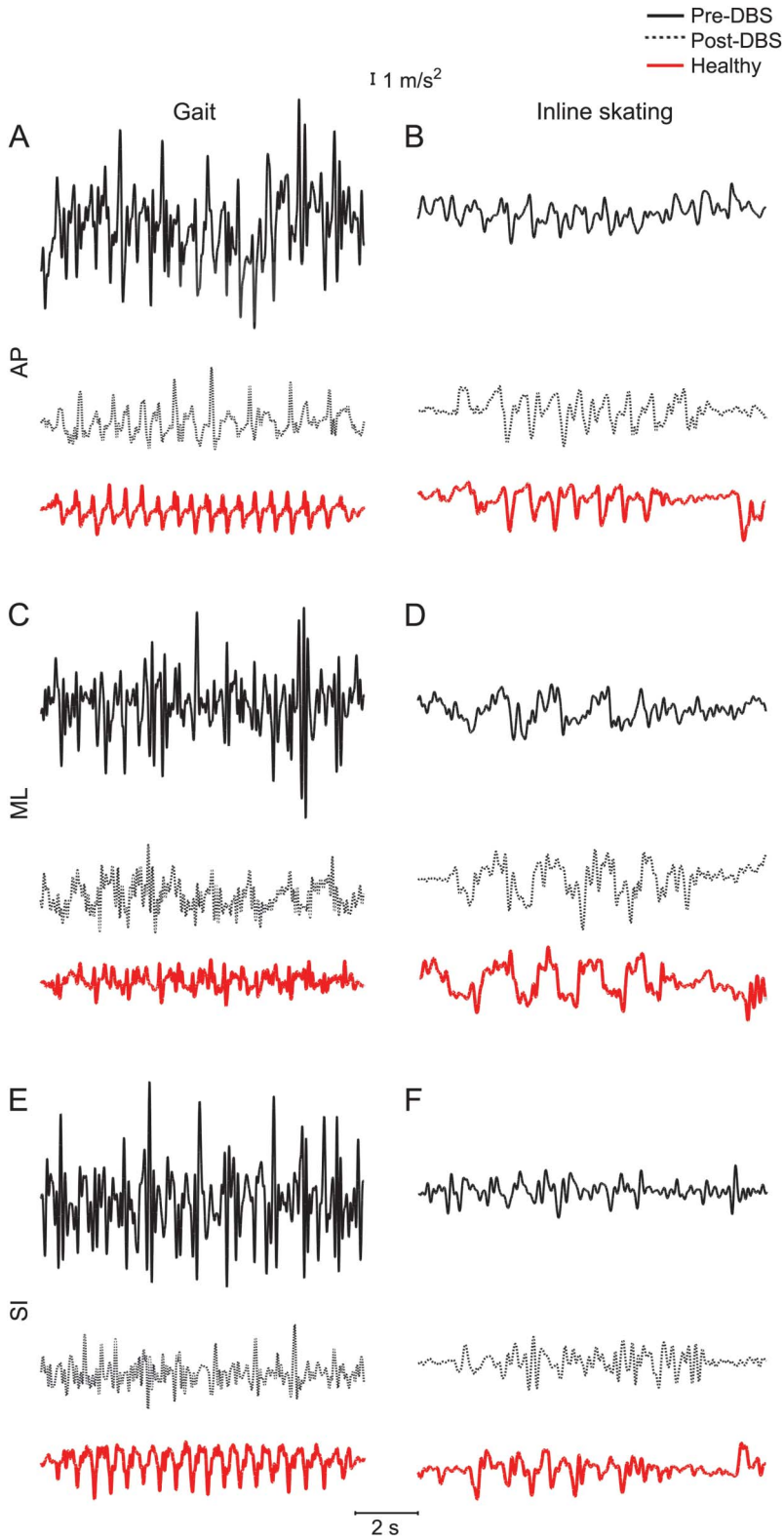
Figure 2 Spine acceleration curves of the patient and her twin sister during gait and inline skating



Individual trials show representative spine acceleration profiles in the performance of gait (left panels) and inline skating (right panels), comparing the signals from the patient before and after deep brain stimulation (DBS) in reference to her healthy twin sister. AP = anteroposterior (A, B); ML = mediolateral (C, D); SI = superoinferior (E, F).

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