

GRONINGEN LECTURES IN *MOVEMENT SCIENCES*

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Speech movements as markers of health

Neural control of speech monitors incoming sensory information to guide and adapt speech movements. Specifically, the generation of appropriate speech sounds depends on the ability to detect changes in auditory and somatosensory (tactile/proprioceptive) sensory feedback and generate the correct movements. This comprehensive process is referred to as sensorimotor control of speech. Given the speed and precision required for speech movements to result in the correct sounds (e.g., the position of the tongue), speech patterns can be an early indicator of disruptions to neural control. In this talk, I will review how sensory function and movement control play a role in speech and how this process can reflect neural changes, particularly in the movement disorder Parkinson's disease.