

Scientists discover likely cause of most common involuntary movement disorder

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Researchers from the CHUQ research center and Université Laval have discovered the likely cause of essential tremor (ET), a neurological disorder that affects more than 10 million North Americans. The team's promising findings were published in a recent edition of the scientific journal *Brain*.

Frequently confused with Parkinson's disease, ET is the most common involuntary movement disorder. An estimated 4% of the population over 40 is affected by this neurological condition which manifests as muscle tremors, normally in the face, neck, and vocal chords.

The research team noticed a decrease in the concentration of GABA receptors in the cerebellum of patients suffering from ET. GABA receptors relay "[chemical messages](#)" which transmit inhibitory information to the different [parts of the brain](#) and play an essential role in the human body. A loss of GABA receptors in the cerebellum could affect the function of the cerebellum, an organ beneath the brain that manages communication between the brain and muscles and coordinating movements.

"This is one of the first demonstrations of [biochemical changes](#) in the cerebellum in patients with ET. It's a real step forward that opens the doors to new avenues of research, and perhaps to new treatments down the road. It's possible that stimulating GABA receptors could help patients control, or even reduce, [essential tremor](#)," said Dr. Frédéric Calon, researcher at the CHUQ research center and professor at

Université Laval's Faculty of Pharmacy. "This is one of the first times such large sample groups have been used to study ET," he continued.

Provided by Universite Laval

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