

## **Essential tremor is a single entity**

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Clinical, genetic, electrophysiological, pathologic, and pharmacological evidence show that essential tremor (ET) is quite uniform non-heterogeneous disease. According widely accepted diagnostic criteria of the Tremor Investigation Group, the diagnosis of definite ET is possible only when there is bilateral postural or kinetic tremor in the hands, without other neurologic signs, for at least five years. Ataxia and parkinsonism may accompany in some patients, both mild, but they are seen uniformly at older patients and are likely to be an expression of disease state.

Recent research revealed that action tremor emerging later in life may completely be a different disease entity than ET with its own clinical characteristics (mostly in contrast with ET) like short life span, cognitive deterioration, and other neurodegenerative properties. According to defenders of this assumption age-related tremor (so called ART) is a discrete entity leaving ET a disease with quite uniform age of onset. Nearly all of the treatments that have shown to be effective for ET, to date, involve the enhancement of a single and specific brain neurotransmitter system [i.e. GABA-ergic system]. Recently, a large GWAS of ET cases from Europe and North America detected association with SNPs in three markers (rs12764057, rs10822974, rs7903491) all in the cell-adhesion molecule CTNNA3 Cell adhesion molecules significant in pace making may also give a signal about a uniform nature of ET.