



# Addressing the psychological aspects of ET

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Our understanding of the psychological effects of essential tremor (ET) is at an early stage even though research on this topic has increased dramatically over the last ten years.

Brain areas often linked with ET, including the basal ganglia, thalamus, and cerebellum, play important roles in cognitive and emotional functions. The discovery that some individuals with ET experience changes in these areas is not too surprising.

ET can affect cognitive and emotional functioning. These changes can significantly impact quality of life by leading to frustration, social withdrawal, caregiver stress, and difficulties performing and participating in usual activities. For these reasons, efforts to improve the education, detection, and treatment of cognitive and emotional changes that can accompany ET are essential.

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**Cognitive Changes in ET** Cognition describes the mental processes we use to perceive, recognize, understand, and navigate the world around us. These specialized processes include learning and memory, decision-making, attention, and language.

Many neurological conditions impact cognition and can result in mild to severe impairment that affects one or more of these processes.

When several aspects of cognition are severely impaired and interfere with the ability to perform usual activities, a diagnosis of dementia may be made.

Based on these definitions, two general questions about the effects of ET on cognition are often on the minds of patients, families, and health providers.

Does a diagnosis of ET increase risk of developing dementia? Two relatively large studies conducted in Spain and in New York reported higher frequencies of dementia in ET groups (Spain: 11.4 percent; NY: 25.0 percent) compared to control groups (Spain: 6.0 percent; NY: 9.2 percent). While these figures should heighten our concern, important questions need to be resolved.

For example, in a follow-up Spanish study, increased risk of dementia was found only in individuals who were older than 65 when they developed ET. This finding raised the question of whether the increased risk for dementia is related to ET or to some other health or neurological issue unique to older age. More studies that track cognition across the age spectrum are needed to better determine risk of dementia in ET.

Since most people with ET do not show dementia, a second question follows.

## Does ET impact milder changes in cognition?

Recent research suggests that some individuals with ET may develop difficulties in cognitive abilities typically referred to as executive functions.

Executive functions refer to the most complex aspects of human thinking, such as our abilities to reason solutions to problems, plan and organize steps to complete tasks, monitor our errors or mistakes, perform mental calculations, multi-task, and prevent distractions from interrupting our train of thought.

Changes in these thinking abilities can significantly disrupt how well a person performs complex tasks at work and at home. ET may also affect the cognitive ability to retrieve memories and words quickly during conversations.

Everyone has experienced a time when a word or thought won't come to mind. These difficulties occur more frequently in ET than normal. Interestingly, changes in executive functions and word retrieval abilities are common to other movement disorders, such as Parkinson's disease, suggesting that similar brain circuits may be involved in these changes.

**Emotional changes in ET** A few months ago, I interviewed a 97-year-old lady who was brought into the clinic for concerns about memory and depression.

When asked if she had been feeling depressed, she smiled and said, "No, I'm fine." Deciding to press a little further, I asked, "If you were feeling depressed, would you tell me?"

She chuckled and without missing a beat, replied, "No, probably not!" We shared a smile, and I kindly thanked her for her honesty.

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Like this lady, many people find it uncomfortable to discuss or acknowledge emotional difficulties. However, research shows that rates of depression, anxiety, and apathy are alarmingly higher in ET compared to the general population.

In a study of 55 male veterans diagnosed with ET, 74 percent admitted to feeling embarrassed by their tremor, and 65 percent acknowledged avoiding social situations because of it. In a study of 349 ET patients seen in an outpatient clinic, 58 percent answered yes to the question “Does your tremor often embarrass you?”

It remains unclear if all of the emotional changes are solely a reaction to ET or also related to neurological changes. Either way, these reactions and emotional challenges are very real and, if ignored or untreated, potentially harmful to one’s health.

**Helpful Strategies** What is the best strategy for managing cognitive and emotional changes? Discussing cognitive and emotional changes with your neurologist is the best place to start. If you have concerns about cognitive or emotional functions, a neuropsychological evaluation can be useful for precise characterization of these changes and tracking them over time. If problem areas are identified, there may be medications or behavioral strategies to improve or compensate for these changes.

Many individuals and families find that a series of counseling sessions with a psychologist can be very helpful to address issues of frustration, embarrassment, and overall coping with cognitive and emotional changes.

Finally, as with everyone, it is important to maximize the benefits to cognitive and emotional health by consistently engaging in mental, physical, and social activities.

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## Parts of the process (terms to keep in mind...)

**Cognition specialized** Mental processes that include learning and memory, decision-making, attention, and language.

**Executive functions** The most complex aspects of human thinking – our abilities to reason solutions to problems, plan and organize steps to complete tasks, monitor our errors or mistakes, perform mental calculations, and other high-level mental functions.



### Our Mission:

The IETF funds research to find the cause of essential tremor (ET) that leads to treatments and a cure, increases awareness, and provides educational materials, tools, and support for healthcare providers, the public, and those affected by ET.