Any discussion of the management of a chronic disorder would not be complete without emphasizing the importance of physical activity. Exercise has been shown to lower blood pressure, reduce obesity, and prevent cardiovascular disease, but there is little data on the role of exercise in essential tremor (ET).

In fact, many patients with ET observe that their tremor markedly increases after strenuous physical activity or exercise, and they understandably wonder if they should avoid such activity.

As long as there is no cardiac, orthopedic or other condition that creates limitations, patients with ET should remain physically active. Be reassured that worsening of tremor after exercise is expected due to the increase of adrenaline (or epinephrine and norepinephrine) during exercise. Adrenaline, released during any physical or psychological stress, leads to increased muscle activity manifested as worsening of tremor. This effect, however, is temporary and the tremor usually returns to its previous state after a few minutes of rest.

Alcohol and propranolol, a beta adrenergic blocker, can reduce stress-induced worsening of ET symptoms; hence the two drugs are often used to “calm” the nervous system. Even professional actors often use propranolol to minimize the tremor effects of anxiety associated with stage fright.

Many studies have shown that exercise benefits not only the body but also the brain. It has been shown to improve learning, memory, and depression. It also appears to protect the brain from neurodegeneration. [Cotman et al, 2007].

Although Parkinson’s disease is different from ET (despite the occasional overlap of the two disorders), studies on exercise in Parkinson’s disease may be relevant to patients with ET.

In a study of 48,574 men and 77,254 women, higher levels of physical activity were associated with lower risk of Parkinson’s disease [Chen et al, 2005]. Based on systematic literature review, the Practice Recommendations Development Group from The Netherlands concluded there is sufficient evidence to recommend physical therapy and exercise to improve balance, joint mobility, and muscle power and to improve physical capacity of patients with Parkinson disease [Keus et al, 2007].

There are many other studies that provide evidence that exercise may be helpful in improving motor function [Kwakkel et al, 2007], although firm evidence that exercise lowers the risk of Parkinson’s disease is still lacking [Logroscino et al, 2006].

Exercise may prolong life not only by preventing or reducing the risk of life-threatening disorders, but by slowing the aging process. One of the most compelling arguments in favor of exercise as an important anti-aging factor is the recent finding about leukocyte telomere length. The length of telomeres, caps on the end of chromosomes in human DNA, is a biological indicator of human aging. Longer telomere length correlates with exercise as well as increased lifespan.
In a study of 2,401 twin volunteers, comprising 2,152 women and 249 men, who were asked to complete detailed questionnaires about their level of physical activity, smoking status, and socioeconomic status, the leukocyte telomere length was 200 nucleotides longer in the most active subjects as compared to the least active subjects during their leisure time (P<.001), even when adjusted for age, sex, body mass index, smoking, socioeconomic status, and physical activity at work.

Long-held beliefs reflect that ET patients live longer than people without it. Russian neurologist Minor suggested in 1935 "that a factor for longevity was also contained in the tremor gamete."

In a study published in 1995, it was found that parents of ET patients who experienced tremor lived on the average 9.2 years longer than those parents who did not have tremor. Because the parents with tremor who lived longer probably had ET, it was concluded that ET confers some anti-aging influence and significantly increases longevity.

While there is no obvious explanation for this striking observation, it is possible that patients with ET have an underlying personality trait that encourages dietary, occupational, and physical habits that promote longevity. The small amounts of alcohol consumed to calm tremor might prolong life, or tremor itself might be viewed as a form of exercise that would have beneficial effects on general health and on longevity.

Further studies are needed on the potential anti-aging effects of ET and whether exercise confers additional benefits by favorably modifying the course of the disease.

References


