The importance of cardiovascular fitness in the prevention and treatment of epilepsy and co-morbidities

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The benefits and risks of physical exercise are seldom discussed in people with epilepsy, and when discussed physical exercise is usually mentioned as a general recommendation without specific instructions. This is understandable because there is a lack of well conducted studies, especially randomized controlled trials, about the benefits of exercise in patients with epilepsy, especially refractory epilepsy Because there are no adequate studies on the benefits of physical training in epilepsy, overprotection, social isolation, low self esteem, anxiety and depression become barriers to spontaneous exercise. That exercise can have a protective impact against the development of epilepsy was recently shown in a publication by Nyberg et al (2013). All Swedish military recruits born between 1957-1987 (n=1,000,178) who at the age of 18 had different stages of cardiovascular fitness (assessed by work rates at standardized exercise, and expressed as stanine scores) when starting their military training were further followed for up to 40 years afterwards. The results showed that the level cardiovascular fitness at age 18 can influence the development of epilepsy over subsequent years. Specifically, men with high cardiovascular fitness at 18 were significantly less prone to develop epilepsy given all other conditions remained the same such as incidence of traumatic brain injury, diabetes, hereditary factors and stroke. Animal studies have confirmed that exercise can have antiepileptogenic as well as anti-seizure activity, through a variety of putative mechanisms Uncontrolled clinical observations also suggest a beneficial effect on seizure control. Conclusion: Cardiovascular fitness can be an important factor in the development and control of epilepsy.