

Effects of Electrical Muscle Stimulation on Waist Circumference in Adults with Abdominal Obesity: A Randomized, Double-blind, Sham-Controlled Trial

Eun Jung Choi, Yun Jun Kim, Sang Yeoup Lee

Obesity is an epidemic that although highly preventable, often proves fatal. Abdominal fat is more strongly associated with comorbidities, including coronary heart disease. There are many approaches to lowering risk and fat all together, one of these being exercise. This study shows that EMS can be just as effective as traditional exercise at helping to reverse unhealthy and life-threatening body measurements.

Researchers looked at the effects of electrical muscle stimulation (EMS) vs. transcutaneous electrical nerve stimulation (TENS) on waist circumference of adult men and women with clinically established abdominal obesity. The subjects were 18-65 years old with waist circumferences of over 90cm (men) and over 80cm (women) and received 12 weeks of either EMS or TENS treatment to the abdominal area. In addition to decreases in visceral fat and total abdominal fat, 70% of participants lost more than 4cm around their waists. They also reported high self-rated satisfaction scores, which shows that they enjoyed the EMS protocol.

EMS treatments have been investigated because of their (suspected and suggested) effects on the body including increased promotion of ATP formation (cellular energy), improved blood circulation, stimulation of cell regeneration, *increased metabolism and decreased body fat resulting from the increase of muscle strength and tissue*. This study supports the hypothesis that EMS can aid in the prevention and reversal of obesity by reducing visceral and total abdominal fat via muscle building.