

Abstract

Thesis title: Conduction of interferential currents by human body tissues

Work objectives: The aim of this work was to determine the effect of electric stimulation on distant muscle groups and to verify, whether the response of muscles depends on the current frequency.

Methods: Master's thesis was worked up on the basis of the pilot experimental study which 6 healthy volunteers from FTVS UK were included in. Interferential currents were applied to their paravertebral muscles in thoracolumbar parts on the frequency of 50 Hz and 100 Hz and 120 - 200 Hz. Electrical activity in distant muscle groups was registered by surface electromyography. EMG records were analyzed by spectral analysis in MyoResearch XP Master program and evaluated visually. Extended essay is authorized by the FTVS UK ethics committee.

Results: It was found that the interferential currents do not spread to distant muscle groups and the current frequency has no effect on their conduction. Research has brought another unexpected result, and that the applied current frequency occurs in the tissues in its multiples in a very broad frequency band.

Keywords: electrotherapy, interferential currents, surface electromyography, spectral analysis