

Thesis Title            THE STUDY OF EFFECTS OF INTERFERENTIAL  
                              CURRENT ON THE CONTRACTILE PROPERTIES  
                              OF THE ISOMETRIC CONTRACTION OF THE  
                              SLOW AND FAST MUSCLE IN NORMAL

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#### ABSTRACT

In Physiotherapy clinic, the interferential current (IFC) is used for re-education of the muscle. The IFC used in this study was performed by the 2 alternating currents of 2,000 Hz., interfering at a frequency from 0-50 Hz. , using 4 electrodes.

Twenty normal volunteer female subjects received the IFC stimulation in the left adductor pollicis muscle (slow muscle) and left brachioradialis muscle (fast muscle) for 10 minutes per day, 5 times a week, 8 weeks

whereas the control group (n=20) received no IFC stimulation. The contractile properties were recorded in isometric myograms for both muscles. The rectangular interrupted direct current used for stimulating of the test muscles was supramaximum with a pulse width of 0.1 msec. 1 Hz. The skin temperature was controlled at 25°C.

The results showed a significant increase of the twitch contraction time (CT) of adductor pollicis muscle (slow muscle) at the end of the 6th. week whereas no cross-effects occurred. No effect was shown on the contractile properties of the brachioradialis muscle (fast muscle). The increase of the CT. values in slow muscle may be due to an increase in higher aerobic capacity of the muscle. It could be concluded that the IFC might alter the type I muscle to become even slower.