

ABSTRACT

Title:

Kinesiological analysis of upper limb punch strike in sports karate.

Aim of work:

The aim of this thesis to describe and characterize the muscle involvement in direct punch strike in karate. Then compared with the exercises, which are characteristic to karate – strikes with resistance and push-up exercise.

Methods:

Work is processed by a comparative analysis of selected movements based on the determination of muscle activation. The surface electromyography method synchronized with video and accelerometer was used in this work.

Results:

The result is description of selected movements on the basis of muscle activation and function of selected muscles. The prove that the forearm extensors are activated as the last of the selected muscles was managed. On the basis of karate technique and anatomy we confirmed important role of forearm extensor by direct punch in karate. The difference between onset time muscle activation by strikes and push up was found. Maximum speed of acral part of the upper limb by direct punch was established.

Keywords:

Electromyography (EMG), karate, direct punch – gyakucuki, accelerometer