ISSN 0972-0073

THE ANTHROPOLOGIST

International Journal of Contemporary and Applied Studies of Man

PRINT: ISSN 0972-0073 ONLINE: ISSN 2456-6802

Anthropologist, 19(2): 441-447 (2015)
DOI: 10.31901/24566802.2015/19.02.14

Effects of Acute Static Stretching on Electromyography (EMG) and Peak Force Responses

Murat Eliöz

Yasar Dogu Faculty of Sports Science, Ondokuz Mayýs University, Samsun, Turkey
Telephone: +90 362 457 76 00 /5662, Fax: +90 362457 6924,
E-mail: muratelioz@hotmail.com

KEYWORDS Bilateral Deficits. Stretching Induced Deficit. Isometric. Hand Flexion. Force

ABSTRACT The purpose of the present study was to investigate the possibility of an interaction between the stretching-induced-force-deficit and bilateral-deficit during maximal voluntary isometric hand flexion under the stretch and non-stretch, bilateral, and unilateral conditions through measurement of EMG and force production. Force output and associated EMG were recorded during either unilateral or bilateral 3-second maximal voluntary isometric hand flexion (MVC) against a force transducer. The effect of the stretch on the right hand in a unilateral MVC was decreased in force with a decrease in integrated EMG (IEMG) activity. The left hand bilateral force in the stretch condition was significantly smaller than the left hand unilateral force in the non-stretched condition. It was concluded that a cumulative deficit might indicate activation of multiple inhibitory mechanisms or pathways or possibly a greater activation of a single inhibitory mechanism or pathway. Trends were observed that may prove to be significant with a stronger experimental design and greater subject numbers with less variability between subjects.