

Abstract

Title: The force toning in women's softball

Objectives: The aim of this study was to demonstrate post-activation potentiation (PAP) following the muscle toning during the strength training. The toning effect on upper limb explosive force was analyzed following application of two different degrees of resistance.

Methods: In this study, we applied randomized selection for the subject to minimize the effect of possible ambiguities such as gender, training status, and player maturity. A homogeneous group of well-trained women with the most developed technical response was accepted. (Czech national team, Women's softball). We used the contrast method, where the data were analyzed to determine the effect of different resistance degrees and a fixed rest interval for the strength-dynamic exercise. It is a sticking out of medicine ball in sitting position, which was performed by women of the highest player level. The measurement was processed by using the direct method of dynamic efforts. We compared the explosive force with a medicine ball sticking forward in relation to the distance of the sticking medicine ball by the tested person.

Results: The measurement has shown that the PAP generated by toning protocol has a significant impact on enhancing the response in explosive drills. The exercise for toning was a bench press with a resistance of 90 % RM and 100 % RM. The rest interval for potentiation was 10 minutes. In both cases, there was a positive effect on performance for training both hands forward from sitting position with a medicine ball. We applied the „1F-Anova" analysis, which confirms that the increase of monitored values is caused by the toning protocol. Testing has proved that according to our protocol, a reaction to toning occurs.

Conclusion: Based on our results, we determined a protocol for toning verification and set up possible toning parameters. For softball players with strength training experience, toning (PAP) can acutely increase the response to explosive strength training for the upper limbs.

Keywords: Performance, toning, post-activation potentiation, PAP, bench-press, medicine ball, explosive force.