

ABSTRACT

Title: Effect of strength training on posture in triathletes aged 30-45 years

Objectives: To examine the effect of incorporating strength-endurance training on posture in triathletes aged 30-45 years.

Methods: Effect of strength-endurance training 2-3 times a week for 6 weeks on posture in triathletes.

Thirteen amateur triathletes (3 women, 10 men) were selected for the research. After the input testing, the triathletes were randomly divided into groups ES 1 (n=8) and KS 1 (n=6). This was followed by a 6-week intervention programme for ES 1 that added 2-3 training units per week to their normal training activities. During this period, KS 1 was only allowed to do their normal training activities (no strength training). After the control testing, the groups were switched and KS 1 became ES 2 and 6-week intervention programme started for this group. During this period, ES 1 continued with normal training activities but was not to allowed to continues with strength training. The research was completed with output testing ES 2 and ES 1. For the assessment of posture in triathletes a set of tests was used which consisted of Body posture assessment by Jaroš and Lomíček, selected DNS (dynamic neuromuscular stabilization) tests by Kolář, selected tests of hypermobility and movement stereotypes by Janda.

Results: A statistically significant difference was found between the pre-test and the post-test in the Body posture assesment by Jaroš and Lomíček, where ES 1 improved in three out of six tested areas, on the contrary, KS 1 did not improve in any of the parameters. A substantively significant shift between pre-test and post-test results in the selected DNS tests by Kolář was again observed in favour of ES 1 that achieved a substantively significant improvent of at least 1 point for each test. KS lags behind ES 1 by 1.2 points on average in all tests. Testing hypermobility by Janda has shown that the strength-endurance program has no effect on mobility change in the selected triathletes. At the end, a statistically significant difference was found between the pre-test and post-test in the movement stereotypes by Janda, where each of the ES 1 probands achieved improvement in at least one movement stereotype. Comparing ES 1 and KS 1, there are significant differences in all tested samples in favour of ES 1.

Conclusion: Strength-endurance training is beneficial for amateur triathletes due to compensation muscle imbalances, improving HSS (deep stabilization system) activation and thus possibly extending triathlon careers.

Key words: strength training, triathlon, posture, strength endurance