

Haruthai Chantham 2012: Effects of Endurance and Speed Training on H-reflex and Physical Fitness in Futsal Players. Master of Science (Sports Science), Major Field: Sports Science, Faculty of Sports Science . Thesis Advisor: Assistant Professor Ratre Ruangthai, Ed.D. 111 pages.

The aims of this research were to study the effects of endurance and speed training on H-reflex and physical fitness in futsal players. The subjects consisted of 25 futsal players aged 14-18 years, from Sport Nakornnon Vitaya. Before training, all subjects performed the H-reflex 20-meter speed test and also an endurance test using the Yo-Yo intermittent endurance Test – Level 2 endurance training was performed 3 times per week over a period of 8 weeks. This was followed by speed training 3 times per week over a period of 4 weeks. All subjects were tested at 8 weeks and 12 weeks using the same procedures as before training. Data were analyzed using mean, standard error and one-way analysis of variance with repeated measurement. Multiple comparisons were performed using the Tukey method at the 0.05 level of significance.

The results showed that there was a significant difference in H-reflex of the subjects before training and after the endurance training at 8 weeks and in speed training after 12 weeks. The Hmax and Hmax:Mmax of H-reflex after 8 weeks were higher than after 12 weeks and there was a significant difference after 8 weeks ($p < 0.05$). Mmax of H-reflex after 12 weeks was higher than before training and after 8 weeks ($p < 0.05$). The endurance fitness after 12 weeks was significantly different from the results for both before training and after 8 weeks, and there was a significant difference between the results after 8 weeks and before training ($p < 0.05$). The speed fitness after 12 weeks was significantly different from after 8 weeks and there was no significant difference between the results after 8 weeks and before training.

The results of this research can be used as guidance for endurance training programs and speed training programs to improve the neuromuscular system in futsal players.

Student's signature

Thesis Advisor's signature