

# THREE-WEEK INTENSIVE NEUROMUSCULAR TRAINING IMPROVES POSTURAL CONTROL IN PROFESSIONAL MALE SOCCER PLAYERS

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## Abstract

**Introduction.** The purpose of this study was to determine the impact of a short-term, three-week intensive neuromuscular training programme on the postural stability of professional soccer players and to establish whether lower-limb dominance affects one-leg stability. **Material and methods.** The experimental group consisted of 16 professional male soccer players, and the control group included 20 professional soccer players who did not undergo any additional training. The experimental group was provided with three-stage progressive training twice a day over a three-week period during the preparatory period and then trained twice per week in-season for a period of 5 months. The experimental subjects were evaluated with the use of a stabilographic platform before the programme, 3 weeks into the programme, and finally after 5 months from its commencement. Total centre of pressure (COP) sway path was measured during one leg stance for the dominant and non-dominant leg with eyes open and closed. **Results.** After three weeks of training, the experimental group showed a significantly shorter COP path for the measurements taken with both open ( $p < 0.001$ ;  $\eta^2 = 0.28$ ) and closed eyes ( $p < 0.05$ ;  $\eta^2 = 0.09$ ) compared to the initial results. It was found that the training effects were sustained five months into the training programme for the tests with eyes open ( $p < 0.001$ ) and eyes closed ( $p < 0.05$ ). The control group, however, showed no such improvement during that time. No differences were found between the limbs in either of the groups. **Conclusions.** Neuromuscular training can be effective for postural control improvement in professional male soccer players within a short period of time. Leg dominance does not affect one-leg stability.

**Key words:** proprioception, balance, injury prevention, training