

Effects of Short-Term Plyometric Training during the In-Season on Young Tennis Players' Agility and Explosive Power

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The purpose of the study was to examine the changes of young male tennis players' agility and explosive power after a short-term in-season plyometric training program. Eighteen elite national level young tennis players who voluntarily participated in the study (age 16.44 ± 0.51 years; height 1.68 ± 0.06 m; weight 62.78 ± 5.78 kg) were allocated into two groups at random: the plyometric training group (PG; $n = 10$) and the control group (CG; $n = 08$). Regular tennis practice and plyometric training additionally added to PG group as three days a week for six weeks, consisting of sets of 2 to 5 and 4 to 16 repetitions, with 2 to 5 minutes of rest between each plyometric exercise. Before and after the training session, power was tested using the vertical jump (VJ) and the standing long jump (SLJ) tests, while agility was evaluated using the agility t-test (ATT) and the 505-agility test (505AT). Two-way analysis of variance (ANOVA) was used to find significant group differences. It was identified the PG group significantly improved ($P < 0.05$) in agility, with improvements in ATT and 505AT from 11.34 ± 0.21 s to 10.53 ± 0.34 s and 3.33 ± 0.11 s to 2.84 ± 0.14 s (7.14% and 14.71%) respectively and explosive power, with VJ rising from 30.2 ± 2.97 cm to 35.4 ± 3.86 cm (17.21%) and SLJ rising from 2.19 ± 0.06 m to 2.40 ± 0.07 m (9.58%). Taken together, the findings conclude that a change of direction deficit can be significantly improved through a short-term plyometric training programme. This training approach assists for tennis players and coaches to improve overall athletic prowess throughout the competition phase.

Keywords: Change of Direction, Jump, Sports Training, Tennis Practice