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Effects of A 6-Week Junior Tennis Conditioning Program on Service Velocity

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ABSTRACT

This study examined the effects of a 6-week strength-training program on serve velocity in youth tennis players. Thirty competitive healthy and nationally ranked male junior tennis players (13 years of age) were randomly and equally divided into control and training groups. The training group performed 3 sessions (60-70 min) weekly for 6 weeks, comprising core strength, elastic resistance and medicine ball exercises. Both groups (control and training) also performed a supervised stretching routine at the end of each training session, during the 6 week intervention. Service velocity, service accuracy and shoulder internal/external rotation were assessed initially and at the end of the 6-week conditioning program for both, control and training groups. There was a significant improvement in the serve velocity for the training group ($p = 0.0001$) after the intervention, whereas in the control group there were no differences between pre and post-tests ($p = 0.29$). Serve accuracy was not affected in the training group ($p = 0.10$), nor in the control group ($p = 0.15$). Shoulder internal/external rotation ROM significantly improved in both groups, training ($p = 0.001$) and control ($p = 0.0001$). The present results showed that a short-term training program for young tennis players, using minimum equipment and effort, can result in improved tennis performance (i.e., serve velocity) and a reduction in the risk of a possible overuse injury, reflected by an improvement in shoulder external/internal range of motion.

Key words: tennis, strength, flexibility, service, performance

Key Points

- A short-term training program for young tennis players, using minimum equipment and effort, can result in improved tennis performance and a reduction in the risk of a possible overuse injury, reflected by an improvement in shoulder external/internal range of motion
- A combination of core stabilization, elastic resistance exercises, and upper body plyometric exercises (i.e., medicine ball throws), focussing on the primary muscle groups

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