



Oral DHEA Supplementation and Tennis Performance in Female Players

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Scientific data on the performance of collegiate female tennis players during the menstrual phases are scarce. Double-blind, counter-balanced, crossover trials were conducted to examine whether tennis performance was affected during menstruation, with and without dehydroepiandrosterone sulfate (DHEA-S) supplementation. Ten Division 1 collegiate tennis players (aged 18-22 years) were evenly assigned into placebo-supplemented and DHEA-supplemented (25 mg/day) trials. Treatments were exchanged among the participants after a 28-day washout. Tennis serve performance was assessed on the first day of menstrual bleeding (day 0/28) and on days 7, 14 and 21. Mood state was unaltered during the menstrual cycles in both trials. The lowest tennis serve performance score (speed times accuracy) occurred on day 14 ($P=0.06$ vs day 0; $P=0.01$ vs day 21) in both placebo and DHEA trials. Decreased performance on day 14 was explained by decreased accuracy ($P=0.03$ vs day 0/28; $P=0.01$ vs day 21), but not velocity itself. Isometric hip strength, but not quadriceps strength, was moderately lower on day 14 ($P=0.08$). Increasing plasma DHEA-S (by ~65%) during the DHEA-supplemented trial had no effects on mood state, sleep quality or tennis serve performance. We have shown that menses does not affect serve performance of collegiate tennis players. However, the observed decrement in the accuracy of serve speed near ovulation warrants further investigation.