

## Monitoring the Approach Jump of a Female Collegiate Volleyball Team Over Two Seasons

A.C. GENTRY and J.D. MILLER

Human Performance Lab, Department of Exercise and Sport Science, Oklahoma City University, Oklahoma City, OK

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*Category: Undergraduate*

*Advisor / Mentor: Miller, Jason (jmiller2@okcu.edu)*

### ABSTRACT

Of the common jump assessments (countermovement and squat) the sports specific approach jump (AJ) is the jump most predictive of volleyball playing performance. As any jump is predicated on generating muscle force, the incorporation of a resistance program should improve AJ performance. The purpose of this study was to track AJ performance over two collegiate volleyball seasons during which a resistance training program was initiated after the first season. Eleven female collegiate volleyball players ranging from freshman to senior performed the same AJ assessment at five different time points over two years: Pre-season 1 (PRE1), Post-season 1 (POST1), Mid Off-season (MIDOFF), Pre-season 2 (PRE2), and Post-season 2 (POST2). The AJ was measured using a contact mat (Just Jump, Probiotics, Huntsville, AL). Before each assessment began the subjects took part in a dynamic warm-up with jumping incorporated. The subjects had one practice AJ and one recorded jump score. Each subject initiated an AJ at a self-selected distance from the mat. The subject took off and landed on the mat in order to record a valid score. Rest periods between jumps lasted 1-5 minutes. The incorporation of an organized resistance training program occurred after POST1. Data analysis was done using a repeated measures ANOVA ( $p=0.05$ ) and Post hoc paired t-tests ( $p=0.01$ ). The repeated measures ANOVA was significant at  $p<0.01$ . Post hoc analyses using paired t-test revealed significant differences between PRE1 vs. PRE2 ( $19.6\pm 2.4$ in vs.  $22.6\pm 1.8$ in  $p<0.01$ ), PRE1 vs. POST2 ( $19.6\pm 2.4$ in vs.  $22.6\pm 2.2$ in  $p<0.01$ ), MIDOFF vs. PRE2 ( $21.8\pm 2.5$ in vs.  $22.6\pm 1.8$ in  $p<0.01$ ) and MIDOFF vs. POST2 ( $21.8\pm 2.5$ in vs.  $22.6\pm 2.2$ in  $p<0.01$ ). It appears that the incorporation of a resistance training program does contribute to improvements in AJ performance in female collegiate volleyball players. For the subjects in this study, the resistance training program produced the greatest AJ results at the beginning of the season when measures of volleyball playing performance should be peaking.