

Changes in Body Composition Following In-Season Training in Division I Football Athletes

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ABSTRACT

Strength and conditioning programs for football athletes tend to focus on maintaining gains from off-seasoning training. Due to a significant decrease in time spent in the weight room relative to the amount of work on the field, various morphological adaptations may occur. **PURPOSE:** The purpose of this study was to examine the changes in body composition following in-season training in Division I (DI) athletes. **METHODS:** Fifteen DI football athletes (mean \pm sd; age, 20 ± 2 years; height, 189.6 ± 11.6 cm; weight, 114.1 ± 19.5 kg) completed two separate visits to the Human Performance Laboratory immediately before and after in-season training. Using the Jackson and Pollock (1978) 7-site skinfold prediction equation for 18-61 yr male athletes, each athlete's body density could be calculated and then percent body fat estimated using the Siri Equation to further classify the athlete. A Lange Skinfold Caliper was used to assess both preseason and postseason measures. Each individual was instructed to relax and not hold tension while measures were being taken on the right side of their body. Paired samples t-test were used to compare pre and post measures of body composition (i.e. % body fat). **RESULTS:** The results from a dependent t-test revealed a significant difference between preseason and postseason body fat percentage ($15.12 \pm 4.89\%$ vs $13.98 \pm 4.63\%$; $t_{14} = 3.167$; $p < 0.01$), as well as a significant difference between weight (250.98 ± 43.09 lbs vs 242.05 ± 42.32 lbs; $t_{14} = 3.77$; $p < 0.01$). Post-hoc effect sizes indicate that between differences were large preseason for changes in body fat ($d = 1.39$) and weight ($d = 9.16$). **CONCLUSION:** A large effect size suggests that there are meaningful differences between the values. The strength and conditioning program that the athletes were a part of has effectiveness that kept muscle size and strength throughout the season while losing excess body fat.