

Does the Body Composition of Collegiate Male Lacrosse Players Differ by Position?

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There are distinct roles for each playing position in men's lacrosse, which often results in apparent anthropometric differences between playing positions. However, little research has examined whether body composition, namely body fat percentage, differs by playing position.

PURPOSE: To determine whether or not the body composition of collegiate male lacrosse players differs across playing positions.

METHODS: 71 NCAA Division I competitive male lacrosse players (age 18- 23y) participated in the study. Athletes underwent a whole body dual energy x-ray absorptiometry (DEXA) scan to measure whole body lean and fat mass. Total body fat percentage was then computed. A linear mixed effects model was used to determine whether body fat percentage differed by playing position. Playing position was entered as a fixed factor, and height and body mass were included as covariates into the full factorial model.

RESULTS: Mean \pm standard deviations were: height 180.5 \pm 6.6cm, body mass 84.3 \pm 8.2kg, and body fat percentage 18.2 \pm 3.5%. Body fat percentage did not differ by position (main effect: $p=0.318$; attack: 18.9 \pm 4.4%, midfield: 18.2 \pm 3.7%, defense: 18.3 \pm 2.8%, goal: 17.0 \pm 2.5%). However, body fat percentage was dependent upon height ($p<0.001$) and body mass ($p<0.001$). Further analysis revealed no significant differences across playing positions for height ($p=0.087$; attack: 177.3 \pm 3.9cm, midfield: 180.2 \pm 6.6cm, defense: 183.4 \pm 6.8cm, goal: 179.4 \pm 6.9cm) or total body mass ($p=0.072$; attack: 79.6 \pm 8.2kg, midfield: 85.0 \pm 8.5kg, defense: 86.9 \pm 6.6kg, goal: 81.2 \pm 8.0kg).

CONCLUSIONS: Although not statistically significant, there were trends for height and body mass to differ between positions. It is possible that there was insufficient statistical power to detect position-specific differences between these parameters. This data might be slightly skewed because the sample included more midfielders ($n=34$) than attack ($n=11$), defense ($n=19$), or goal ($n=7$) players. Nonetheless, no clear position-specific trends were observed for body fat percentage. However, statistically significant covariates indicate that heavier and shorter players tended to have greater body fat percentages. Further research is needed to determine if body composition differs between lacrosse players across a larger cohort from multiple teams.