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Body Composition Values Of Division 1 Men’s Lacrosse Players Derived From Dual Energy X-Ray Absorptiometry
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(No relationships reported)

Total and regional body compositions are key components of sport performance. Dual energy X-ray absorptiometry (DXA) allows for precise measurements of body composition parameters between athletes who experience different competitive demands. Yet, accurate interpretation of DXA data is dependent on the availability of reference values. Despite the widespread use of DXA to measure body composition in collegiate athletes, positional reference values for men’s lacrosse do not exist.

PURPOSE: To generate descriptive data for total and regional body composition in men’s collegiate lacrosse players using DXA, and examine differences between positions.

METHODS: Members of an NCAA Division 1 Men’s Lacrosse team underwent DXA scanning and were categorized according to position. Descriptive statistics were calculated for total and regional body composition measures and differences between positions were examined using a one-way ANOVA or a Kruskal-Wallis test.

RESULTS: A total of 98 players (age: 19.2±1.0yrs; height: 181.1±7.0cm; total mass: 82.4±9.2kg) completed the study (Attack; n=24, Midfield; n=44, Defense; n=25, Goalkeeper; n=6). The mean total body fat percentage (BF%) was 18.9±3.4% (range: 11.0-27.6). No differences in BF% between positions were identified (Attack=18.9±3.9%, Midfield=18.8±4.2%, Defense=18.9±3.7%, GK=20.5±2.9%; p=0.79). For the android region, no differences between positions were identified for fat mass (Attack=1.0±0.5kg, Midfield=1.0±0.5kg, Defense=0.9±0.4kg, GK=1.1±0.5kg; p=0.9), or lean mass (Attack=4.3±0.5kg, Midfield=4.3±0.4kg, Defense=4.4±0.3kg, GK=4.4±0.8kg; p=0.7). For the gynoid region, no differences between positions were noted for fat mass (Attack=2.6±0.8kg, Midfield=2.5±0.7kg, Defense=2.7±0.8kg, GK=0.3±1.0kg; p=0.48), or lean mass (Attack=10.3±1.6kg, Midfield=10.4±1.0kg, Defense=10.5±0.7kg, GK=10.4±1.4kg; p=0.79).

CONCLUSION: Total and regional body composition measures did not vary across positions in a group of men’s collegiate lacrosse players. These data suggest that the athletic demands across positions of men’s collegiate lacrosse are not related to differences in body composition. Therefore, training programs tailored to specific positions may not be needed in order to achieve athletic success.

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Somatotype Of Female And Male Field Athletes: Comparing Between Sexes And Among Select Events
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Anthropometrics (e.g. BMI, mass, limb lengths) have their place in the discussion of sports performance, but their unidimensional view prevents whole-athlete evaluation. Classical somatotyping categorizes the human body into ectomorph (Ecto), mesomorph (Meso), and endomorph (Endo) according to stature and mass distribution. Somatotyping may offer clues as to desirable physique when investigating human performance in a diverse athletic group like field athletes.

PURPOSE: The aim was to compare the somatotype of Division II field athletes between sexes and among select events.

METHODS: Somatotyping data were collected on competitive female (n=9, age: 20±0.7yrs., ht.: 173.4±6.5 cm, body fat: 18.8±5.2%) and male (n=16, age: 19.9±1.1 yrs., ht.: 183.4±3.4 cm, body fat: 9.0±2.8%) field athletes nearing the conference championship; an assumption was made that athletes were in peak form. Raw data included stature (cm), mass (kg), skinfolds (mm), girths (cm), and breadths (cm) and were converted into ECTO, MESO, and ENDO scores. Independent t-tests were used to test significance. Data are represented as means and standard deviations.

RESULTS: Data for female athletes were: ECTO=2.7±1.30, Meso=3.3±2.16, and ENDO=8.0±2.04 and for males were: ECTO=2.78±0.74, MESCO=4.4±0.75, and ENDO=5.0±0.96. Between the sexes, there was a difference for ECTO (t(23)=7.33, p<0.000), but not MESCO (t(23)=0.05, p=0.958) or ENDO (equal variance not assumed; t(9.91)=2.01, p=0.073) scores. Among the multi-field athletes (female heptathletes=3 and male decathletes=5) there were not any differences for ECTO (2.9±0.56 vs. 3.0±0.54, p=0.907) or MESCO (2.9±0.31 vs. 3.1±0.73, p=0.153) scores, but there was a difference for ENDO (7.8±1.10 vs. 4.7±0.97, p=0.003) scores. The jumpers (long, high, and triple; female=3 and males=7) were not different on ECTO (2.37±0.65 vs. 2.8±0.76, p=0.396), but they differed on both MESCO (2.7±0.94 vs. 4.5±0.72, p=0.011) and ENDO (7.0±0.42 vs. 5.28±0.96, p=0.200) scores.

CONCLUSIONS: Evidence regarding somatotype among competitive athletes is interesting but ambiguous. Investigating scores between multi-field athletes and uni-field athletes and aligning somatotype with performance data to ascertain potential predictive relationships are the next steps in this inquiry.

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Somatotyping Male And Female Sprinters and Endurance Sprinters
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Coaches and athletes plan for peak physical condition to occur at specified times during the competitive season (e.g. conference championship). Depending upon the event, athletes may or may not have similar somatotypes (endomorph=Ecto, mesomorph=Ecto, and mesomorph=Meso). It is currently unclear whether competitive, Division II sprinters and endurance sprinters differ in somatotype.

PURPOSE: The aim was to calculate somatotype of male and female collegiate sprinters and endurance sprinters proceeding their outdoor conference championship.

METHODS: Athletes (n=18) were tested near the end of their outdoor season. Somatotype data were calculated, for sprinters (n=10; 100m and 200m) and endurance sprinters (n=8; 400m), according to the Heath-Carter manual [breadths (cm), girths (cm), stature (cm), mass (kg), and skinfolds (mm)]. Comparisons were made by independent t-tests. Means and standard deviations are presented.

RESULTS: Male sprinters (n=5, age: 19.8±0.5yrs., ht.: 180.3±10.5 cm, wt.: 73.2±10.2 kg, body fat: 6.1±2.9%) displayed as Ecto=4.7±0.7, Meso=3.7±0.7, and Endo=2.0±0.5kg. Male endurance sprinters (n=4, age: 19.5±0.6yrs., ht.: 181.0±6.9 cm, wt.: 82.4±9.2 kg, body fat: 6.2±1.6%) displayed as Ecto=4.0±0.7, Meso=3.1±0.4, and Endo=2.4±0.7kg. Male sprinters were not significantly different on Ecto (t(9.79)=52, p=0.628), or Meso (t(9.79)=117, p=0.830) scores. Female sprinters (n=5, age: 19.2±1.3yrs., ht.: 166.4±5.4 cm, wt.: 60.8±4.6 kg, body fat: 15.5±5.3%) displayed as Ecto=7.45±1.21, Meso=2.50±0.75, and Endo=3.21±0.94 and endurance sprinters (n=4, age: 19.8±1.7yrs., ht.: 167.9±5.0cm, wt.: 58.6±2.7 kg, body fat: 15.8±5.5%) displayed as Ecto=7.39±1.37, Meso=3.13±0.74, and Endo=2.70±0.67. Female sprinters and endurance sprinters were not significantly different on Ecto (t(7)=0.08, p=0.942), Ecto (t(7)=1.27, p=0.245), or Meso (t(7)=9.1, p=0.393) scores.

CONCLUSIONS: There was no difference in the somatotype of male and female sprinters and endurance sprinters. Further research should be conducted to analyze the relationships between early season somatotype, late season somatotype, and performance season long.