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Analysis of Body Composition Changes in Professional Male Ice Hockey Players

Joseph R. Stanzione, Stella L. Volpe, FACSM, Benjamin Peterson, Nyree Dardarian. Drexel University, Philadelphia PA

Body composition evaluations are used to establish objective goals for athletes. To appropriately make recommendations to athletes, practitioners must know the specific demands of the athlete's sport, age and sex. **PURPOSE:** To establish an average body composition profile for professional male ice hockey players, assess whether yearly fluctuations exist, and examine if there are differences among positions played. **METHODS:** In this cross-sectional study, 36 professional male ice hockey players (25.4±3.8 years of age; body mass index [BMI]: 26.7±1.5 kg/m^2) were measured for: total body mass, percent body fat (PBF), lean body mass (LBM), fat free mass (FFM), total body bone mineral density (TBBMD), and lumbar spine BMD (LBMD) using dual-energy X-ray absorptiometry (DXA). Descriptive statistics were used to determine average age, total body mass, PBF, LBM, FFM, TBBMD, and LBMD. A repeated measures t-test was used to determine if differences existed in these same parameters over a one-year period. A one-way ANOVA was used to determine if differences existed among the positions played (Forwards, Defensemen, and Goalies). Alpha levels were set *a priori* at $p<0.05$. **RESULTS:** Average values at the beginning of one season compared to the beginning of the next season, respectively, were: total body mass: 91.6±6.1 vs. 92.5±6.1 kg; PBF: 14.7.4±2.69 vs. 15.4±2.93%; LBM: 74.3±5.5 vs. 74.2±5.1 kg; FFM: 78.3±5.5 vs. 78.2±5.3 kg; TBBMD: 1.466±0.838 vs. 1.479±0.07g/cm^2; and LBMD: 1.468±0.099 vs. 1.476±0.115 g/cm^2. Significant increases were observed in PBF ($t(35)=-2.451$, $p=0.019$) from the beginning of one season (14.7±2.69%) to the beginning of the next season (15.4±2.93%).There were significant differences among positions for PBF during the second season ($f(2,33)=5.06$, $p=0.012$). No significant changes existed in any other measure between the two seasons or among position type ($p>0.05$). **CONCLUSION:** Our results support a possible standard of body composition for professional male ice hockey players. These data will help drive more objective interventions when addressing body composition goals.