Exercise Science

Alterations in Body Mass and Vertical Jump Height Throughout a Collegiate Baseball Season

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Baseball has one of the longest competition seasons of all sports with seasons ranging from six to nine months. The length of the season and the amount of games being played limits the amount of time baseball players can spend participating in strength and conditioning activities. As a result, many speculate that the adaptations gained from off season training are lost throughout the season. Therefore, the purpose of this investigation was to evaluate the changes in body mass and jump height throughout a collegiate baseball season. 42 NCAA Division III collegiate baseball players participated in this investigation (18 pitchers and 24 position players). Body mass and vertical jump height were collected pre-season, mid-season, and on the last week of the season. Body mass was collected with a digital scale and jump height was collected with a switch mat (PROBIOTICS, Just Jump, Huntsville, AL). Statistical comparisons between the pre-season, mid-season, and end of season in body mass and jump height values were completed with paired samples t tests and a Bonferonni correction along with Cohen's d effect size estimates and 95% confidence intervals. No statistical or practical differences were observed in body mass at mid-seaon or the end of season. Statistical differences were observed in jump height during mid-season ($p=0.00$, $d=0.47$) in the pooled sample and statistical as well as practical differences were observed in jump height of position players at mid-season ($p=0.000$, $d=0.65$) and end of season ($p=0.014$, $d=0.59$). No statistical or practical differences were found when assessing the pitchers alone. While no changes in body mass were observed, alterations in jump height indicate a drop-off in power. This may indicate tissue transformation or possibly muscle fiber-type alterations. Further research should continue to investigate and possibly validate these notions.