

Seasonal Body Composition Changes in male NCAA D1 Basketball

Athletes: Impact on Performance

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PRACTICAL APPLICATION

Fluctuation of **lean mass** during a season appears to **influence performance outcomes**, particularly in the latter half of the season. Optimizing *nutrition and training* to maintain lean mass, may be advantageous for performance.

Season Start/ 1st game (November) →

NCAA Tournament (April)



Body Composition Timepoints:	Average Lean Mass:	Average eFG%
November	188.9 lbs	.38
January	188.2 lbs	.34
March	186.7 lbs	.35
April	185.9 lbs	.25



Table 1. The trends for the average change in lean mass and eFG% across the season.

In season, 30+ games are played giving more opportunity to lose body mass or lean mass due to vigorous activity. It is important aim to maintain lean mass throughout the season.

INTRODUCTION

Tracking body composition changes throughout a rigorous 5-month athletic season can be useful to understand the impact on performance outcomes, training, and injury prevention. The relationship between body composition and performance can provide insight for nutrition and training strategies to optimize player health.

PURPOSE

To examine the impact of a 5-month basketball season on body mass, lean mass (LM), and fat mass (FM), and to examine the relationship with performance statistics among elite male basketball athletes.

PARTICIPANTS

Collegiate Basketball Players (n=12)

Age (years)	20.7 ± 1.23
Height (cm)	195.45 ± 7.16
Weight (kg)	93.26 ± 10.43

Table 1. Participant demographics presented as mean ± standard deviation

RESULTS

Figure 1. Body Composition Measurements

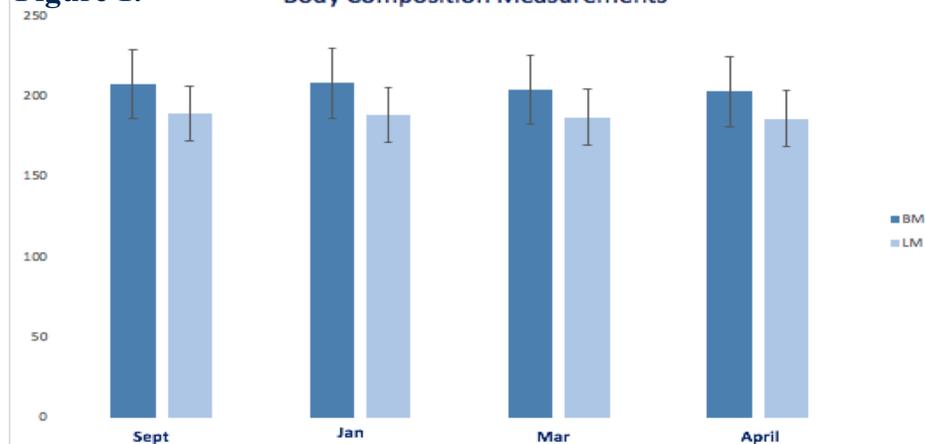


Figure 1. Average body mass (BM) and lean mass (LM) for the team across the season.

Figure 2. eFG%

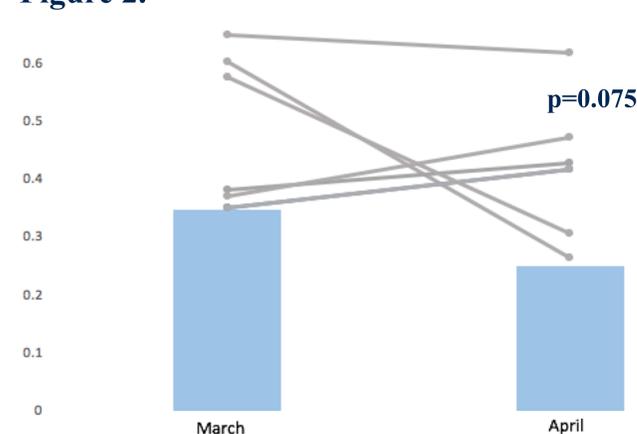


Figure 2. Average eFG% for first-string for March and April.

Figure 3. Seasonal TOV% Averages

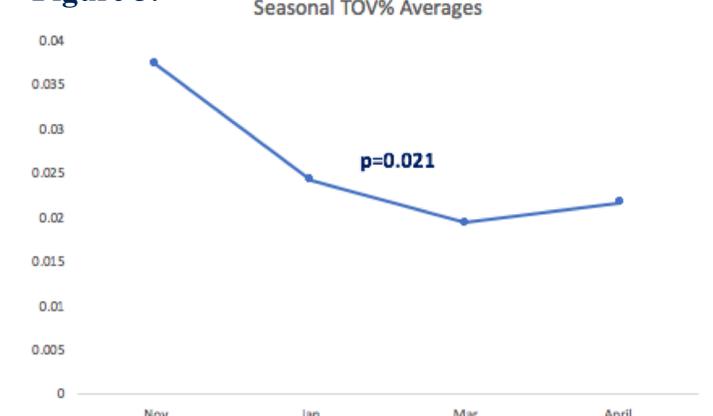


Figure 3. Trends for the first-string average turnover% (TOV%).

METHODS



Body Composition:
 Four measurements were taken from a standing multi-frequency bioelectrical impedance analyzer following a minimum of a 2 hr fast, with no exercise 24 hrs prior.

Performance:

The following statistics were recorded at each game: percentage of field goals (eFG%), turnovers (TOV%), and free throws (FT%).

CONCLUSION

Over the 5-month basketball season, eFG% was highest with a more stable lean mass and body mass. Consistency of body composition outcomes aligned directly with performance throughout the majority of the season. Understanding individual changes in body mass and lean mass, while optimizing nutrition and training, may be advantageous for maintaining peak performance at the end of the season.