

Effects of a Triphasic Block Method on Power in Collegiate Basketball Players

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ABSTRACT

Implementing a non-traditional method for a training cycle may serve as an alternative means of developing maximal strength and power. Seven male Division I intercollegiate basketball players (age=21.0±0.63 yrs, ht=191.86±7.24cm, wt=94.8±14.9kg, training experience = 2.2 ± 1.3 yrs) who recently completed a 5-month competitive season were recruited for this study. The testing took place during the off-season, when the players were not involved in NCAA competition. Subjects underwent a three-week preparation phase, followed by a pre-test vertical jump (CMJ), standing broad jump (SBJ), and back squat 1-repetition max (1RM). Prior to all testing sessions, the participants participated in a dynamic warm-up, and were allowed to familiarize themselves with each test. The training methods were developed as three, two-week phases, with the triphasic and plyometric methods included "French contrast training" along with the barbell back squat (BBS). The first phase had an eccentric emphasis, the second phase an isometric emphasis, and the third phase had a concentric emphasis. With the respective phase, the contraction emphasis was applied to the BBS, either completing 6-second eccentric portions, 3-second isometric portions, or dynamic concentric portions of the exercise. Each set was followed by a series of both reactive plyometrics, followed by resisted plyometrics. The triphasic emphasis was rotated throughout a 6-week period. At the end of six weeks, the participants had a recovery week, then underwent post-testing. Data was analyzed between the pre-test and post-test CMJ, SBJ and 1RM. There was a significant difference between CMJ improvement following a Triphasic Block Method (TBM) vs. a traditional method of training ($p<.05$), with TBM having negative effect on CMJ performance. There was a significant difference ($p<.05$) in SBJ improvement following a TBM vs. a traditional training method, showing that the TBM had a positive effect on SBJ performance. While the results suggest that this method may not benefit CMJ, its important to note that the primary means of plyometric stimuli during the TBM were horizontal jumps (i.e. continuous broad jumps, mini hurdle hops for distance). The average increase in 1RM was 20 kg, which is a significant increase. TBM did increase power output (SBJ) and Maximal strength (1RM). Maximizing the ability to generate power is important in basketball. Future research on other populations is needed.