ANAEROBIC FITNESS IN BASKETBALL: WHICH TESTS TO ADMINISTER IN THE SELECTION PROCESS OF THE PLAYERS?

Delextrat Anne, Cohen Daniel
(London Metropolitan University, United Kingdom)

Introduction: Physiological testing of team sport players is an essential component in the elaboration of training programmes and the assessment of players’ progresses during the season (McKeag, 2003). It is also very useful in combination with the assessment of technical skills in the selection process of players at the start of the season. However in contrast with some sports, where a test or a battery of tests has been well-accepted, no single test has been acknowledged as a standard evaluation of anaerobic fitness in basketball (Hoffman et al., 2000). Therefore, the main aim of this study was to examine the effect of playing level on the performances of basketball players to the most common tests of anaerobic fitness currently used by coaches.

Methods: Sixteen male basketball players participating in the British Universities Sports Association (BUSA) championship in 2005-06 were divided into first team players and second team players according to their playing level as assessed by the coach. All the subjects took part in a total of 7 tests performed either in the field or in the laboratory: The 30-s Wingate anaerobic test (WanT), isokinetic testing of the knee extensors, vertical jump, 20-m sprint, agility T-test, suicide run and the 1-RM bench press test. The statistical difference between the first team and the second team in the anaerobic performances was assessed by a Student’s t-test.

Results: The main results showed that players of the first team achieved significantly better performances to vertical jump test (+8.8%), agility T-test (+6.2%), 1-RM Bench Press (+18.6%), and peak torques developed by knee extensors at speeds of 60°.s-1 and 180°.s-1 (differences of 20.2% and 19.7% observed at these two speeds, P<0.05). In contrast, no significant effect of playing level was shown on the mean and peak power achieved in the WanT, 20-m sprint and upper body strength assessed by the 1-RM bench press test.

Discussion-conclusion: this study showed that the tests that allow discriminate between different playing levels are the VJ, agility T-test, 1-RM Bench Press and isokinetic testing of the knee extensors. The coaches are therefore advised to use these tests in the selection process and the physiological testing of their players at different period of the season. Further studies examining the relationship between these tests as well as aerobic field tests, and some indices of performances measured during a game, would be needed to establish a standard battery of tests for basketball.

Keywords: Fitness, Basketball