EFFECTS OF PLAYING POSITION ON THE ANAEROBIC FITNESS OF FEMALE BASKETBALL PLAYERS

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Introduction: Recent studies have shown that the metabolic load experienced during a basketball game varies according to playing position (Rodriguez-Alonso et al., 2003). This suggests that fitness training programmes should be individualised and focus on the specific skills required by every playing position. Research on the effects of playing position on the performance of basketball players to several tests of anaerobic fitness is limited, and most of these tests have been used in one study only (LaMonte et al., 1999; Hoare et al., 2000). In this context, the aim of the present study was to investigate the effect of playing position on the performance of female basketball players to a wide range of tests of anaerobic fitness.

Methods: Thirty subjects playing at a national level participated in this study. They were divided into three groups according to playing position: guards (positions 1 and 2), forwards (positions 3 and 4) and centres (position 5). Each subject performed 8 tests of anaerobic fitness, presented in a random order: the 30-s Wingate Anaerobic test (WAnT), isokinetic testing of the knee extensors and flexors, two types of jump tests, a 20-m sprint, the agility T-test, a suicide run and a basketball chest pass. Statistical difference between playing positions was assessed by a one-way analysis of variance (ANOVA) and Scheffe post hoc analyses.

Results: Results showed that guards performed significantly better than centres for the Peak and Mean power achieved during the Wingate test, the peak torque of knee extensors, single-leg jump and agility T-test (P<0.05). In addition guards achieved significantly better performances than forwards to the suicide run test and forwards were characterised by a greater peak torque of the knee extensors compared to centres.

Discussion-conclusion: These results indicate that specific fitness training must be undertaken by playing position. The development of lower limb power, single leg jump height and the different movement involved in the agility T-test must be developed in priority for guards. In contrast, speed and upper body development could be performed simultaneously by all playing positions.

References: