

Match demands of professional Futsal players

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INTRODUCTION

Futsal is a professional sport that is played in many countries around the world; nonetheless there is scarce information in literature about the demands of professional Futsal players during competition. To our knowledge it is important to know the specific demands of this sport to build up specific training programs for these kinds of players in the best way possible.

PURPOSE: To describe the physical characteristics and the physiological demands of Futsal professional players during matches.

METHODS: 10 elite Spanish Futsal players (Age: 30.1 ± 2.8 yrs, experience: 11.1 ± 3.0 yrs, BMI: 23.9 ± 1.4 kg·m⁻², and body fat: 7.3 ± 1.3 %) carried out some physical tests to assess the aerobic metabolism (Probst test to measure the maximal aerobic speed (MAS), total distance covered (TDC), and maximum heart rate (HR_{max})) during a first day; and to measure some strength qualities (peak power in ½ squat (PO_{peak}), height in a Squat Jump (SJ), and in a Counter Movement Jump (CMJ)) during the second week of the pre-season. After that, during the beginning of the 2008-2009 training pre-season, some physiological and physical parameters during 8 consecutive matches were recorded (Activity periods (rotations): Number of rotations (NRot), average time (RotTime_{avg}), heart rate peak (HR_{peak}), heart rate average (HR_{avg}), and percentage of maximum heart rate (%HR_{max}) of HR_{peak} and HR_{avg}; recovery periods: Number of recovery periods (NRec), and average time (RecTime_{avg}). It was performed a descriptive analysis of all data, and it was expressed as mean \pm SD.

RESULTS: Physical profile of Futsal players was: MAS: 13.7 ± 0.5 km·h⁻¹, TDC: $1,372 \pm 77$ m, HR_{max}: 190 ± 7 bpm, PO_{peak}: 806 ± 213 W, SJ: 39.8 ± 4.9 cm,

CMJ: 42.7 ± 7.2 cm. Physiological and physical demands during matches were: NRot: 2.8 ± 0.9 , RotTime_{avg}: $4:37 \pm 2:06$ min, HR_{peak}: 185 ± 4 bpm corresponding to %HR_{max}: 96 ± 2 %, HR_{avg}: 168 ± 6 bpm corresponding to %HR_{max}: 88 ± 4 %, NRec: 1.8 ± 0.9 with a RecTime_{avg}: $13:18 \pm 17:12$ min.

CONCLUSION: These results show that professional Futsal players have moderate levels of aerobic but high and explosive qualities of strength , moreover Futsal played at professional level have to develop high-intensity exercise during, ds of time, although they provide of few periods of rest to recover moderately the fatigue accumulated during rotations or periods of exercise.