

Andersson H, Ekblom B, Krustrup P. Elite football on artificial turf versus natural grass: movement patterns, technical standards, and player impressions. J Sports Sci. 2008 Jan 15;26(2):113-22.

Abstract

The aim of the present study was to examine the movement patterns, ball skills, and the impressions of Swedish elite football players during competitive games on artificial turf and natural grass. Time - motion analyses (36 observations) and technical analyses (16 team observations) were performed and 72 male and 21 female players completed a questionnaire. No differences were observed between artificial turf and natural grass in terms of total distance covered (mean 10.19 km, s = 0.19 vs. 10.33 km, s = 0.23), high-intensity running (1.86 km, s = 0.10 vs. 1.87 km, s = 0.14), number of sprints (21, s = 1 vs. 22, s = 2), standing tackles (10, s = 1 vs. 11, s = 1) or headers per game (8, s = 1 vs. 8, s = 1), whereas there were fewer sliding tackles ($P < 0.05$) on artificial turf than natural grass (2.1, s = 0.5 vs. 4.3, s = 0.6). There were more short passes (218, s = 14 vs. 167, s = 12) and midfield-to-midfield passes (148, s = 11 vs. 107, s = 8) (both $P < 0.05$) on artificial turf than natural grass. On a scale of 0-10, where 0 = "better than", 5 = "equal to", and 10 = "worse than", the male players reported a negative overall impression (8.3, s = 0.2), poorer ball control (7.3, s = 0.3), and greater physical effort (7.2, s = 0.2) on artificial turf than natural grass. In conclusion, the running activities and technical standard were similar during games on artificial turf and natural grass. However, fewer sliding tackles and more short passes were performed during games on artificial turf. The observed change in playing style could partly explain the male players' negative impression of artificial turf.