Effects of Foot Pressure Distribution on the Performance in Archery

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Abstract

An experiment was conducted to collect the foot pressure on the ground in archery. Eight female subjects were recruited. Their stature, body weight, and years of training in archery were 166.13 (±9.35) cm, 61.63 (±11.17) kg, and 5.38 (±1.32) years, respectively. The subjects were requested to shoot a target using their own bow and arrows as if they were participating in an archery competition. Their foot pressure and motion were captured to analyze the relationship between foot pressure distribution and archery performance. The results showed that high score shooting were associated with high foot pressure on the heel. For those with low shooting scores, the foot pressure on the left heel was higher than those in the foot front and middle of the foot. The foot pressure on the foot front was, on the other hand, higher than that on the heel and on the middle of the foot for right foot.

Keyword：archery, foot pressure, center of pressure