INTRODUCTION

Ankle injuries are among the most common sports injuries. A study of the 2004 Olympic Games in Athens revealed that a total of 49 ankle injuries occurred across indoor team sports whereas the largest ankle injury rate was seen in team-handball [1]. A potentially applicable approach to reduce the likelihood of injury is to reduce the friction between the foot and the surface when the foot is exposed to extreme inversion positions. “Spraino”-patches provide a low friction tape attached to the lateral edge of the outsole which is claimed to reduce likelihood of injury.

The purpose of the current study was to investigate the effects of “Spraino”-patches on foot surface interaction during a handball specific cutting task.

METHODS

Fourteen female elite handball players participated in the study. Data from nine participants is being presented in this abstract, while five samples were discarded due to methodological issues. Four patch conditions were tested when applied to the outsole of a commercially available handball shoe (Adidas “Stabil Boost”) during a 90°-cutting manoeuvre while receiving a pass. (Fig. 1)

Each subject carried out five trials for each patch condition. Four patch conditions were examined (Fig. 2). The first condition (1) involved a 1cm wide patch with applied straight along the sole of the shoe. The second condition (2) involved a 3mm wide patch applied straight along the sole of the shoe. In the third condition (3) a patch was applied in a sinusoidal pattern. The fourth (4) control condition involved no patch application.

RESULTS AND DISCUSSION

The patches did not affect contact times or maximum and minimum GRF of the cutting foot (Fig. 3). There was no significant effect on the GRF, ankle kinematics or ankle moments during EC and LC. (Fig. 4)

These preliminary results indicate that the early contact phase is not affected by adding these patches to a handball shoe when performing a cutting move to the medial side. The overall GRF was not affected and the movement technique was not altered.

No definitive conclusion may be offered at this early stage, although the intervention provides some interesting and potentially beneficial results with regards to the loads being exerted on ankle joint during handball.

It should, however, be investigated how different player actions are affected by such interventions. Such future testing needs to include performance relevant measures to attest the applicability to handball training and games.

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REFERENCES