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The Application of Biomechanics to Penalty Corner Drag-Flick Training: a Case Study

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ABSTRACT

The penalty corner is one of the most important game situations in field hockey with one third of all goals resulting from this tactical situation. The aim of this study was to develop and apply a training method, based on previous studies, to improve the drag-flick skill on a young top-class field hockey player. A young top-class player exercised three times per week using specific drills over a four week period. A VICON optoelectronic system (Oxford Metrics, Oxford, UK) was employed to capture twenty drag-flicks, with six cameras sampling at 250 Hz, prior and after the training period. In order to analyze pre- and post-test differences a dependent t-test was carried out. Angular velocities and the kinematic sequence were similar to previous studies. The player improved (albeit not significantly) the angular velocity of the stick. The player increased front foot to the ball at T1 ($p < 0.01$) and the drag-flick distances. The range of motion from the front leg decreased from T1 to T6 after the training period ($p < 0.01$). The specific training sessions conducted with the player improved some features of this particular skill. This article shows how technical knowledge can help with the design of training programs and whether some drills are more effective than others.

Key words: Hitting/batting, biomechanics, techniques, field hockey, training.

Key Points

- This article adds information about the drag-flick kinematics.
- This article adds information about how to train the drag-flick.
- The drag-flick is the most efficient technique shooting for goal after a penalty corner.

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