

AREA COVERED BY DIVING ACTION PERFORMANCE BY SOCCER GOALKEEPERS

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Introduction

Although soccer goalkeepers must sometimes dive to defend the goal against an incoming shot, few studies have performed technical analysis of these crucial plays. This research investigated the area covered by soccer goalkeepers' diving motions (reaching area).

Methods

Experiments were conducted in which goalkeepers dove toward a randomly directed and positioned ball in response to an electronic display indicating the ball's direction. To examine the characteristics of the goalkeepers' diving motions toward different ball positions, the time needed to reach the ball (reaching time) was measured, as well as the velocity and trajectory of the diving motion.

Results & Discussion

In comparing reaching time at each height of the ball (upper, medium, and low) when the goalkeepers dove toward only a short distance, statistically significant differences were observed in attempts to stop the ball, with times increasing in the following order: medium, upper, low height. When the goalkeepers dove farther distances, significant difference in reaching time were found as well, with time increasing in the order of medium, low, and upper height.

Conclusion

It is concluded that at close distances, more time is needed for relatively lower heights, but at farther distances, more time is needed to reach balls at relatively upper heights (Fig. 1).

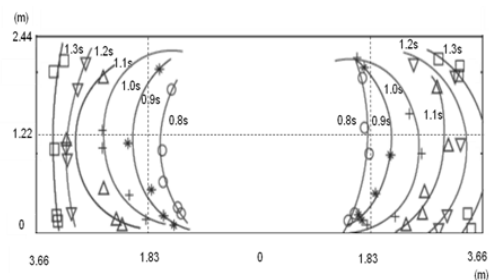


Fig.1 The estimated range of time needed to reach the ball.