

## 外野からの送球における投球速度を高めるための教示および股割トレーニングの 即時的効果 -投球速度の遅い1名の大学野球選手を対象として-

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キーワード: 送球, 投球動作, 助走, ステップ, 体重移動

### 【要旨】

本事例の大学野球外野手 A 選手は, 外野からの送球動作において, 加速局面(踏込脚接地からリリースまで)以前のステップ幅が小さく, 投球方向への勢いがないという特徴がみられた. このことから, 本事例では, 加速局面以前の動作に焦点をあて, 投球速度を高めることを目的とした「助走の移動距離を大きくする」ための教示および股割トレーニングプログラムを検証することとした.

その結果, 投球速度は, Pre I 測定(教示およびトレーニング前)が  $111.0 \pm 1.4$  km/h, Post I 測定(教示後)が  $114.8 \pm 1.2$  km/h, Post II 測定(トレーニング後)が  $120.7 \pm 1.9$  km/h であった. 送球動作は, 教示および股割トレーニングプログラムによって, 第一準備期(動作が開始した時(左足 0 歩目)から左足が接地した時)および第二準備期(左足 1 歩目から右足が接地した時)の変位量が増大した. また教示後では, 各時点の動作に変化は見られなかったが, 股割トレーニングプログラムによって, 加速局面の踏込み脚膝の伸展動作や体幹の前傾姿勢が改善された.

よって, 外野からの送球動作において, 踏込接地時以前のステップ幅が小さく, 投球方向への勢いがないという特徴がみられる選手に対しては, 有効な教示およびトレーニングであると考えられる.

スポーツパフォーマンス研究, 7, 267-277, 2015 年, 受付日:2015 年 6 月 16 日, 受理日:2015 年 10 月 5 日

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### **Effects of a teaching and *matawari* training program for increasing the speed of balls thrown from the outfield in baseball**

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Key words: throwing a ball, throwing motion, approach stride, step, weight shift

### **[Abstract]**

The participant in the present research was a university baseball outfield player whose problem was that when throwing the ball from the outfield, the span of his step before the acceleration phase from landing on the stepping foot to releasing it was too small to get sufficient momentum in the direction of the throw. The present study tested a teaching program and *matawari* training for expanding the travelling distance of his approach stride, aiming at eventually increasing the speed of the thrown ball. *Matawari* is a form of exercise in which the athlete sits on the ground with his legs wide apart, and then lowers his torso to touch the ground between his legs.

After the training, the speed of balls thrown increased from  $111.0 \pm 1.4$  km/h when measured before the teaching and training program to  $114.8 \pm 1.2$  km/h at the first measurement after the teaching and training program, and to  $120.7 \pm 1.9$  km/h at the second measurement after the training. Also after the teaching and *matawari* training program, the displacement of the athlete's throwing motion increased in the first preparation period (from the start of the motion with his left foot with 0 step to landing on his left foot) and in the second preparation period (from the first step of his left foot to landing on his right foot). At each period after the teaching program, no change in his motion was observed, but in the acceleration phase, the extension motion of the knee of his stepping leg and the forward lean of the trunk of his body improved after the *matawari* training.

The present results suggest that this teaching and training program may be effective for baseball players whose step span before landing on their stepping foot is too small for them to be able to get momentum in the direction of their throw.