

# Movement control in young soccer players, measured with The Performance Matrix Movement and Performance Screen, before and after a training intervention of 11 weeks.

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**Objective:** To investigate movement control, with emphasis on low back, pelvis and hip region, in young male soccer players before and after an 11 week training intervention.

**Design:** Pilot Intervention study. Subjects carried out a program of training based on the baseline test results and focused on specific motor control training and core training for the low back, pelvis, and hip at low and high threshold levels. Circuit training was supervised by the test leader and home exercises were carried out, all over a period of 11 weeks.

**Participants:** Nineteen young elite soccer players.

**Main Outcome Measure:** The screening tool *The Performance Matrix Movement and Performance Screen* (MPS) was used to measure the player's movement control before and after the training period. MPS identifies the site and direction of uncontrolled movement and whether it's related to low or high threshold muscle activation, which relates clinically to muscle control or strength problems.

**Results:** There was 100 percent improvement in low threshold movement analysis of lumbar extension, side flexion, control of hip flexion and control of hip rotation (knee valgus moment).

A 69% and 64% improvement was noted in control of lumbar flexion and lumbar rotation. Results for high threshold test analysis showed percentage improvements ranging from 76% to 83%. (Control of lumbar flexion (80%), rotation (77%) extension (78%) and side bend (83%), control of hip flexion (83%) and control of hip rotation (76%).

Statistical analysis was measured with Wilcoxon range summary for non parametric data. There was significant improvement ( $p>0.0001$ ) in overall score, high threshold testing ( $p>0.0001$ ) low and threshold testing ( $p>0.0001$ ) for high risk areas.

**Conclusion:** A training intervention of 11 weeks, based on the test results from The Performance Matrix Screen improved the player's movement efficiency greatly. To be considered as Paper or Platform