

Muscle Imbalance assessment using Functional Movement Screen method in Indonesian sub-elite baseball athletes

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ABSTRACT

Baseball is sport with high incidence of overuse injury. The injury risk will be increased if athlete have muscle imbalance caused by using the dominant side of the body without train the other side. The study aims to identify muscle imbalance of Indonesian sub-elite baseball athletes using Functional Movement Screen (FMS®) test. This descriptive cross-sectional study was recruited male baseball players in Yogyakarta. Fifteen subjects (age 22.27 ± 2.63 y.o, height 167 ± 6.59 cm, weight 66.67 ± 13.40 kg) participated in this study. The subjects underwent 7 type of FMS movements consists of (1) Deep Squat, (2) Hurdle Step, (3) Inline Lunges, (4) Shoulder Mobility, (5) Active Straight Leg Raise, (6) Trunk Stability Push-up and (7) Rotary Stability to screen muscle weakness and imbalance. Three trained sports therapists score the subjects with "0" to "3" range values. Score given based on the quality of movement where score "0" if the subjects fail or pain and the score "3" if subjects perfectly done. The FMS score showed that the deep squat (mean score 1.93 ± 0.704) and rotary stability (right 2.6 ± 0.51 ; left 2.47 ± 0.52) was the most difficult movement performed by the subjects. Score of shoulder mobility and rotary stability (right-left difference 0.13) indicated right-left muscle imbalance. The results showed that muscle weakness especially core and lower extremity muscle occur on the subjects. Right-left side imbalance also detected by FMS test. Corrective intervention using strengthening exercise program is needed to prevent injuries of the athletes.

Kata Kunci: *FMS; cedera; muscle imbalance; baseball; injury*