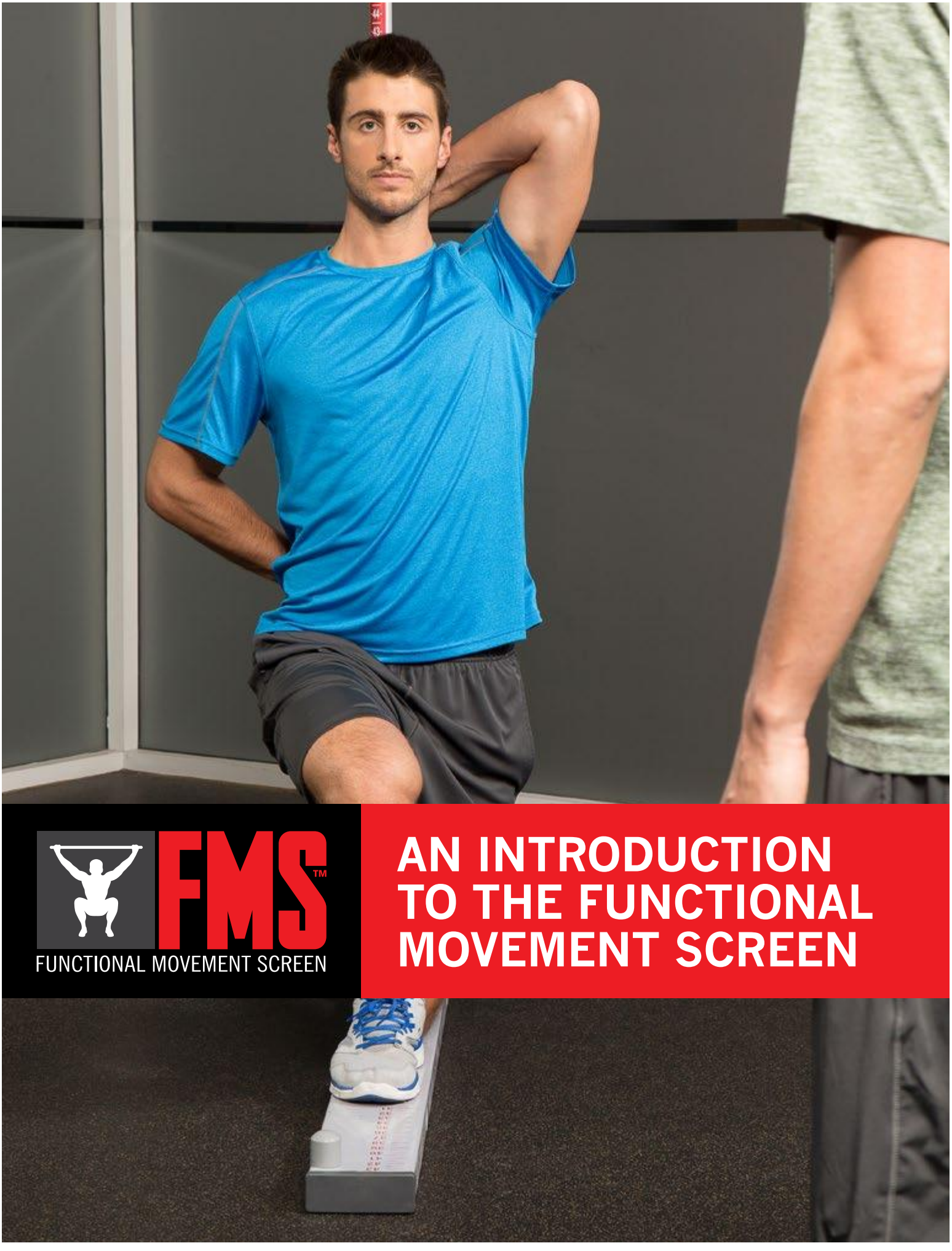

FMS™

FUNCTIONAL MOVEMENT SCREEN

AN INTRODUCTION TO THE FUNCTIONAL MOVEMENT SCREEN

The Functional Movement Screen

The Functional Movement Screen (FMS) is a screening tool used to evaluate seven fundamental movement patterns in individuals with no current pain complaint or musculoskeletal injury. The FMS is not intended to diagnose orthopedic problems but rather to demonstrate opportunities for improved movement in individuals.

The screen is designed to place an individual in extreme positions where movement deficits become noticeable if appropriate stability and mobility are not used. Even though individuals are performing an activity or sport at a high level, it has been observed that many of these same individuals are limited in fundamental movement. This leads to the use of compensatory movements in order to achieve or maintain the level of performance needed for the activity. The inefficient use of compensation during movement will lead to poor biomechanics that limit gains in performance and reduces the body's ability to remain adaptable and durable against the risks of being involved in the activity or sport.

The 7 Movement Patterns

1. DEEP SQUAT

The Deep Squat pattern challenges total body mechanics and neuromuscular control. We use it to test bilateral, symmetrical, functional mobility and stability of the hips, knees and ankles. The dowel overhead requires bilateral symmetrical mobility and stability of the shoulders, scapular region and the thoracic spine. The pelvis and core must establish stability and control throughout the entire movement to achieve the full pattern.

2. HURDLE STEP

The hurdle step pattern is an integral part of locomotion and acceleration. This movement challenges the body's step and stride mechanics, while testing stability and control in a single-leg stance. The hurdle step requires bilateral mobility and stability of the hips, knees and ankles. The test also challenges stability and control of the pelvis and core as it offers an opportunity to observe functional symmetry.

3. INLINE LUNGE

The Inline Lunge pattern places the body in a position to simulate stresses during rotation, deceleration and lateral movements. The inline lunge places the lower extremities in a split-stance while the upper extremities are in an opposite or reciprocal pattern. This replicates the natural counterbalance the upper and lower extremities use to complement each other, as it uniquely demands spine stabilization. This test also challenges hip, knee, ankle and foot mobility and stability.

4. SHOULDER MOBILITY

The Shoulder Mobility pattern demonstrates the natural complementary rhythm of the scapular-thoracic region, thoracic spine and rib cage during reciprocal upper-extremity shoulder movements. This pattern also observes bilateral shoulder range of motion, combining extension, internal rotation and adduction in one extremity, and flexion, external rotation and abduction of the other.

5. ACTIVE STRAIGHT-LEG RAISE

The Active Straight-Leg Raise pattern not only identifies the active mobility of the flexed hip, but looks at the core stability within the pattern, as well as the available hip extension of the alternate hip. This is not so much a test of hip flexion on one side, as it is an appraisal of the ability to separate the lower extremities in an unloaded position. This pattern also challenges the ability to dissociate the lower extremities while maintaining stability in the pelvis and core.

6. TRUNK STABILITY PUSH UP

The Trunk Stability Push-Up pattern is used as a basic observation of reflex core stabilization, and is not a test or measure of upper body strength. The goal is to initiate movement with the upper extremities in a push up pattern without allowing movement in the spine or hips. The movement tests the ability to stabilize the spine in the sagittal plane during the closed kinetic chain, upper body symmetrical movement.

7. ROTARY STABILITY

The Rotary Stability pattern is complex, requiring proper neuromuscular coordination and energy transfer through the torso. This pattern observes multi-plane pelvis, core and shoulder girdle stability during a combined upper and lower extremity movement. The movement demonstrates reflex stabilization and weight shifting in the transverse plane, and it represents the coordinated efforts of mobility and stability observed in fundamental climbing patterns.

Scoring Criteria

The FMS uses a simplistic grading system. Each individual movement pattern has certain criteria that must be accomplished in order to obtain a high score. The scoring is broken down into four basic criteria:

3 Three is given if the individual can perform the movement without any compensations according to the established criteria

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2 Two is given if the individual can perform the movement but must utilize poor mechanics and compensatory patterns to accomplish the movement

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1 One is given if the individual cannot perform the movement pattern even with compensations

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0 Zero is given if the individual has pain during any part of the movement

There are five movement patterns which require bilateral testing; this will result in two scores for those patterns. The lowest score is recorded for the final score; however, for assessment and data collection purposes, both scores are needed. Three tests: Shoulder Mobility, Trunk Stability Push-Up and Rotary Stability have clearing test associated with them that are scored as pass/fail. If a person fails this part of the test, then a 0 is given as the overall score.

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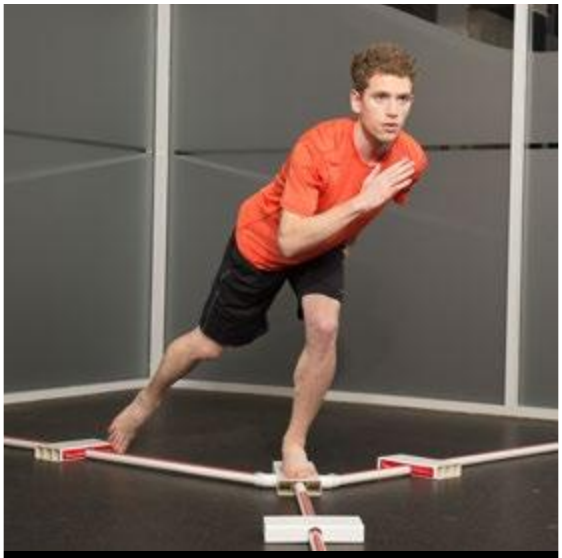

YBT™
Y BALANCE TEST

SFMA™
SELECTIVE FUNCTIONAL MOVEMENT ASSESSMENT

Interpreting Screen Results and Intervention

Within the FMS there is an algorithm or procedure for addressing the asymmetries and restrictions found in the screen. The algorithm allows us to quickly identify and prioritize deficient movement patterns. Once the priority movement pattern has been identified, this allows for targeted intervention using corrective exercise. If an individual has no areas of concern within a movement pattern then they would be cleared to train and load that pattern. This provides an appropriate movement baseline for further physical capacity and performance testing, such as the Y-Balance Test.

If an individual has pain during the screen, the individual should be referred out to a healthcare professional for a Selective Functional Movement Assessment (SFMA). The SFMA is a total body diagnostic system designed to provide an efficient method for systematically finding the cause of the patient's pain, not just the source.

When to use the FMS

Ideally the FMS would be introduced as a part of a pre-placement or pre-participation examination to determine deficits that may be overlooked during the traditional medical and performance evaluations. Muscle flexibility, strength imbalances or compensation due to previous injury are all acknowledged as significant risk factors for injury. In many cases, the FMS will pinpoint these issues that may not be identified in other standard evaluations. The functional movement screen will identify functional deficits related to proprioceptive, mobility and stability limitations. If these risk factors can be identified and addressed using the FMS, then decreases in injuries and improved performance should follow.

The FMS can also be used to re-screen for feedback every 4-6 weeks or when an improvement is seen in the priority movement pattern. Re-screening provides feedback into the effectiveness of the current program design and provides insight on how and when to move to higher level progressions or a new priority movement pattern.


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