

# WHY AM I INJURED?

How a test can tell you what to work on to keep you on the mats!

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**H**AVE YOU EVER WONDERED WHY INJURIES OCCUR SO OFTEN IN SPORTS; PARTICULARLY BJJ? Although the research on BJJ related injuries is in its infancy, most data collection occurs at tournament-style events.

These data suggest that only upwards of 3% of all fighters who compete report injury, although questionnaire data from these same fighters suggest a higher rate of previous injury to various areas of the body. Although the cumulative incidence of injury from the research seems relatively small, what you may hear at your local Dojo or from friends who train weekly, may be much higher. Many practitioners of BJJ may miss days to weeks of class due to a sustained injury from BJJ. Some of these injuries may be acute, such as a sustained injury due to an armlock, but what about the chronic injury, i.e., low back or shoulder pain or injuries that are not consistent with resisting any type of submission hold?



## IS STRETCHING THE ANSWER?

These questions raise eyebrows as to why a person may get hurt on the mat without actually having a mechanism (cause) of injury. The first plausible answer would be, "I didn't stretch enough prior to training." While this may seem like a good answer, a systematic review of the literature by Thacker et al suggests that stretching is not significantly associated with a reduction in injuries. To many, this is mind blowing, as well as contrary to popular

thought. Over the decades we have been taught to stretch to increase flexibility, which in turn, would decrease injury risk, even though the research does not support it. Not until recently, within the past 15 years or so, have physical therapists (PTs) and certified athletic trainers (ATCs) begun to think about human movement as a way to predict risk to the body prior to exercise. Other than stretching alone, as an evaluative tool to understand joint range of

motion and potential injury risk, a larger concept of dynamic movement patterns to highlight proprioceptive awareness, asymmetries (side-to-side differences) of the body and proper neurological sequencing is now being used to precede competition or practice. A movement-based assessment has gained traction over the last decade to better appreciate potential risk factors that may highlight an athletes insufficiencies and risks prior to exercise.



# THE FUNCTIONAL MOVEMENT SCREEN

So, how do we approach the understanding of addressing our movement and fundamental inconsistencies prior to training? The most current methodology and research to identifying injury risk is the Functional Movement Screen (FMS) and Y-Balance Test. These movement screens are needed to develop a baseline score of essential movement prior to exercise. The FMS has been designed to assess mobility; how much range a certain joint has, in addition to, stability;

how well a person can balance and manage movement through motor control. The FMS screen is grounded in seven basic fundamental movement patterns that are indicative of fundamental neurological early development. The patterns consist of a squat, in-line lunge, hurdle step over, shoulder mobility, active straight leg raise, trunk stability push up, and rotatory stability test. The tests are delivered by a FMS specialist who ranks each of these movements with

a scoring system that, based on research data, puts a participant in a category of 1) risk, 2) able to train with compensation, or 3) should work on areas of motor skill development prior to training. Now, with a better appreciation of baseline musculoskeletal movement, an ATC, strength coach, or PT can design a program to suit your needs of remediating some basic movement patterns lost while aging, or in the presence of an old injury.



➤ **SHOULDER MOBILITY**



➤ **ROTARY STABILITY**



➤ **ACTIVE STRAIGHT LEG RAISE**



➤ **HURDLE STEP OVER**



➤ **INLINE LUNGE**



➤ **DEEP SQUAT**



➤ **TRUNK STABILITY PUSH-UP**



# THE Y BALANCE TEST

The Y-Balance Test (Figure 2) is also a movement screen that assesses asymmetries of the lower extremity. It requires three basic movements of standing on one leg and reaching in various directions, suggestive of a Y pattern. Once the test is completed, an equation of total reach distance compared to

the person's leg length is computed. Suggestive of the research, a percentage of less than 94% of total reach distance compared to your total leg length is considered a risk factor of lower extremity injury. Additionally, a side-to-side reach difference of greater than four centimeters is also considered an increase

in risk of injury. The Y Balance Test is an excellent tool for pre-test/post-test return to sport. Applying the Y Balance Test prior to training, applying corrective exercises, and then reintroducing the test is a great way to show changes in functionality and requisite movement needed for all sports.



➤ POSTERIOR MEDIAL REACH



➤ ANTERIOR REACH



➤ POSTERIOR LATERAL REACH

## SUMMING IT ALL UP

Injuries can occur during any moment of training or competing. Having a baseline of movement, to better illustrate common dysfunctional patterns, is necessary to make small changes that can have a huge impact in reducing risk of injury. An acute injury may occur in BJJ, but other injuries could be minimized with prior knowledge of fundamental movement. *JJM*