

### ***Screening the Triathlete.***

Musculoskeletal screening is a series of physical tests and assessment tools used to identify possible weaknesses or tightness in the body that may lead to injury. In simple terms these tests look at posture; strength and control; flexibility; and balance.

Medical screening is different and is more looking at body functions and risks of catastrophic injury and should be undertaken by a doctor especially for the elderly, pregnant women or those with known medical conditions such as diabetes or cardiovascular health issues who are new or returning to a sport after a lay off.

This article will focus on musculoskeletal screening. Put simply the way our body moves is known as our biomechanics. Our bodies work in a “kinetic chain” to perform tasks. This involves linking one segment of the body to the next which when put all together produces movement. An efficient and injury free athlete will not only have good biomechanics but also good co-ordination and integration of these segments within their kinetic chain. Now generally speaking a person with poor biomechanics or a poorly co-ordinated kinetic chain will probably be ok if all they need to do is walk around the block or go for an easy jog round the block once a week. BUT, once loads increase or get to level where the body starts to be challenged and fatigue sets in, the triathlete may well encounter injury problems.

Musculoskeletal screening considers the kinetic chain components required within the movement or sport participated in, and uses physical tests to highlight potential deficits and possible injury risks. These risks can then be addressed in a maintenance or strengthening/stretching programme as an adjunct to your training. This is known as a prehabilitation programme. Test results can also highlight where some aspects of training may need to be changed to benefit the athlete. Whilst some triathletes will freak out at the thought of time off the bike, out of the pool, or not hitting the roads, 20-30 mins 2-3 times a week on a maintenance programme may reap serious rewards if it prevents injury and allows you to train and compete with no interferences. Whilst there is no guarantee screening will prevent injury, it is a not a bad idea for the more committed athlete. By using the findings to create a prehab programme that is aimed at improving biomechanics, with the combination of good coaching regarding training loads, injury risk theoretically should be reduced.

It is the combination of the 3 disciplines (4 if you count transition – although we don't screen for that!) that makes triathlon screening a little more complex as screening needs to incorporate tests for all aspects. That said it is based largely upon using tests we would use for swimmer and runners and to some extent cyclists. To note is that the majority of cycling injuries are avoided by correct bike set up by a suitably trained bike fitter. Screening tests used need to be specific to movement patterns required in triathlon.

Depending on detail, a full musculoskeletal screening would take anywhere from 45-60 minutes and would look at past and current history of injury, training loads, goals for the coming year, musculoskeletal tests as mentioned and then recommendations for a injury prevention programme based on these findings. This can be performed by a sports physiotherapist, doctor or coach who understands and is familiar with the needs and movement patterns required in triathlon. Depending on the level of the athlete screening should be done a few times a year but for most people pre-season screening is best advised and a good place to start. Retesting is advised throughout the

season, as a comparison to baseline measures and to see that prehab programmes are having their desired effect. Retesting is also particularly relevant in the higher level athlete to show when overload may be occurring and in the growing teenage athlete who is growing and may have a change in physical makeup during the course of the season.



Example of a swimming screening test.



Example of a running screening test.