

maximizing sports performance

by John Spoto

There appears to be a growing understanding in the world of athletics of the high incidence and long-term consequences of athletic injuries. Many healthcare professionals are advocating injury prevention assessment and specific training programs aimed at reducing the incidence of athletic injuries. A term has been coined to describe this process. It is known as "PREhabilitation."

An example of this new mindset would be the attention given to Anterior Cruciate Ligament (ACL) injuries, particularly in women's basketball, soccer, and lacrosse. Special tests are used by trained healthcare professionals to measure the body's energy systems and composition, flexibility, agility, balance, coordination, strength, power, and endurance. Other special tests are used to screen for postural or muscular imbalances and biomechanical deficiencies, which might increase the probability of sustaining an ACL injury. Specific training techniques are then taught to minimize risk factors.



It should be noted that only highly trained, qualified professionals should provide this type of service. The testing should always be valid, reliable, and objective. What are each of these points?

Validity

The degree to which a test measures the characteristic it is intended to measure. A vertical jump test is a highly valid test to measure lower leg power, an important criterion in basketball.

Reliability

This is the degree of measurement consistency with repeat testing. Proper training should lead to consistent, incremental increases in vertical jump scores.

Objectivity

The degree to which test results are reproducible with different trained testers. In our example of the vertical jump test, all testers should be aware of how to properly execute the test and score it accurately.

A well-designed assessment program provided by a highly trained healthcare professional can be a very important first step in minimizing risk factors in many sports. Simple examples might include finding tight hamstrings on a rower. Not only will this limit his or her reach with the oar, but in an attempt to extend the reach to gain more power, they may set themselves up for a back injury. A swimmer's repeated shoulder rotations often lead to over-development of the muscle groups used to pull him or her through the water, and subsequent weakness or imbalance in the opposing muscles. This can lead to chronic strain or develop into an impingement syndrome.

Once a comprehensive evaluation is completed and the results are analyzed, an individualized program can be designed to address any problem areas and enhance overall sport specific fitness and performance.

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