Injury Recovery – The Missing Step (Neuromuscular Training)

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Neuromuscular training focuses on the quality of movement of functional activities to ensure that joints and muscles are used efficiently and optimally. For example, a dancer needs to land jumps gracefully with exceptional balance. Alternately, in the case of many people with sore knees, climbing or descending stairs can be a painful and daunting experience. Many studies indicate that adding these exercises to your routine can be very beneficial, particularly for lower extremity problems.

How do we know it works? FIFA 11+ is a program from Germany used to warm up soccer players. It has a large neuromuscular training component with specific exercises targeted at proper movement patterns, balance and agility. The British Journal of Sports Medicine published that teams performing the "11+" at least twice a week had 37% fewer training injuries and 29% fewer match injuries. Severe injuries were reduced by 50%. Further research demonstrated that elite male basketball players that followed the same program also had a reduced rate of injury.

Further studies suggest that adding neuromuscular training to the treatment protocol of patellofemoral pain syndrome would reduce pain and disability. Patellofemoral pain syndrome is common in young women and teenagers and is described as knee pain around and under the kneecap. Recently, OA of the knees and hip has been found to respond positively to treatment. Patients state that they have decreased pain, increased stability and balance and increased confidence to complete activities of daily living.

Getting started. It is becoming clear that neuromuscular training is beneficial to treat and prevent injuries of the knee and hip. But how do you get started? Find the activity that causes you pain, or that you would like to improve in. As mentioned before, someone with knee pain may want to improve their ability to climb stairs or a dancer may want to improve the landing of their jumps so they can transition to the next element quickly and smoothly.

Have a trained professional watch you do the movement. At times, you will need to be recorded so the movement can be slowed down for a more complete analysis. The therapist will watch from the all sides. Suggestions will then be made on how to improve the movement to maximize muscle and joint efficiency. Our patient with sore knees may be coming too far forward with relation to the toes. The dancer may be bracing her knees together on landing. The functional activity is broken down to correct the movement pattern and then practiced – a lot. This will create a new blueprint in the brain of how to do this activity properly. Repetitions are stopped when you are unable to continue in the new pattern. Exercises are progressed not by adding weight, but by increasing the difficulty of the movement. The knee patient may start on a 4 inch step, but then progress to higher and higher steps. The dancer may need to start with a controlled squat, then speed and power can be added.

Is this the missing element? It is important to remember that neuromuscular exercises do not replace traditional strengthening and stretching, but can be added to maximize the benefit of your programs. Healthy and strong muscles are needed to perform the elements that you need for optimal movement.

We all have different goals. Some people want to maximize athletic performance. Others want their joints to stop creaking and aching after squatting. Many feel that they have tried therapy, and although pain is reduced, they are not quite where they want to be. Perhaps neuromuscular training is the element that is missing.

For a complete movement analysis, call Physio Sport Med and book and assessment.