

## **PILATES - the best kept secret in back rehabilitation**

**Dr Mary Holden** - *Sports Medicine Physician*

*Pilates is designed to give you suppleness, natural grace, and skill that will be unmistakably reflected in the way you walk, in the way you play, and in the way you work - Joseph Pilates.*

Olympic athletes, international rugby and league players, and cricketers have joined Pilates classes; which were once the domain of ballet dancers and film stars. For the club players based at the Canterbury Bulldogs and Melbourne Storm; weekly Pilates and yoga sessions are a compulsory part of the clubs' injury prevention program. For the players, Pilates offers a dramatic improvement in performance, and a sporting career much less prone to interruption through injury.

### **The importance of Pilates**

One of the most important recent changes in medicine is the recognition of the importance of self-management. The regular use of Pilates has been found to be successful in preventing recurrent back pain episodes. Recent research from the Physiotherapy Department at Queensland University by Richardson and Jull, has demonstrated that by increasing the co-ordination and strength in the deep abdominal muscles, i.e. transverse abdominals, that the lumbar spine is stabilised and protected. These are the same conclusions that Joseph Pilates arrived at in the 1920's.

Muscle imbalances that generate pain have their origins in poor posture, poor health, workplace conditions, sporting injuries and repetitive strain on structures about the shoulder girdle and low back. All of the joints in the body should be held in their optimum natural position, in mid range, when muscles of both stabilising and mobilising types work together. Mobilising muscles make things move, i.e. reaching out with your arm. These muscles tend to lie near the surface of the body, and are usually long muscles, working at 40-100% of the maximal voluntary contraction (MVC).

When your arm is moved away from your body, the muscles in the trunk have to work to stop you from falling over, i.e. to stabilise you. These muscles need to be able to work for prolonged periods i.e. endurance is required. They tend to be shorter muscles, and lie deeper within the body, working at only 20-30% of their MVC. When a person moves with good muscle recruitment and stabilising muscles working, there will be minimal wear and tear on their joints.

Problems begin when a muscle comes under stress. The injured muscle either lengthens and weakens; or becomes short and tight. The movement still has to take place, but we adopt a different combination of muscles to achieve the movement. This is far less effective, i.e. a faulty movement pattern is established, so-called "cheating" mechanisms.

Certain muscles then become overused/over-recruited as the brain selectively recruits 'strong' muscles in preference to weaker ones.

After a while, bad postural habits feel quite normal, until pain sets in such as back trouble, shoulder injuries, tension headaches, neck pain, or knee injuries. No amount of undirected exercises will help, since the "cheat mechanisms" remain unchallenged by developing the mobilising muscles and not the stabilising muscles. It is a common mistake of many training programmes to concentrate on the mobilising muscles rather than the stabilising ones. Muscles are then programmed to repeat the "movement mistakes", leading to habits which reinforce pain. Short tight muscles remain, so do long weak muscles, unless specific retraining of the weaker muscle group is undertaken.

Unfortunately the way out of this pathway is not by taking up a sport, or even by just going to the gym. Many sports actively enhance muscle imbalances, e.g. tennis. The existing bad habits are simply repeated in each situation, reinforcing the faulty movement patterns that have led to pain.

*"As small bricks are employed to build large buildings, so will the development of small muscles help develop large muscles." - Joseph Pilates.*

**Body Fit Australia provides expertise in 3 primary specialty areas:**

- **Functional Conditioning and Restoration of spinal and hip injuries,**
- **Pilates Classes, and**
- **Pilates Teacher Training.**

Established in February 2002, Body Fit Australia has become a leader in the promotion of core stability using Pilates methods on the Mat, Reformer and Fitball.

Body Fit Australia is proud of its successful rehabilitation techniques with a 93% pre injury return to work rate. Body Fit Australia is a leader in spinal and hip functional restoration techniques, returning people to work in the safest and most efficient possible manner. Body Fit Australia is the business of choice for fitness instructors.

Expert knowledge in the techniques of Pilates along with a superior level of class and individual instruction has been the primary factors in our strength.