

## Sport Medicine

The floatation tank has been used in various areas of sports medicine for a number of years now. Floating in the super saturated saline solution has numerous positive effects on the organism, in particular when recovering from the stress of intensive exercise. The following topics have been researched in depth:

- Reduced production of lactate
- Stimulation of muscle tone
- Prevention of injuries
- Recovery from injuries
- Pain reduction

### Lactate Production

#### Physiological Aspects

Lactate is a metabolic product created in the muscles when glucose is broken down during physical exertion or when energy is produced anaerobically. The consequences of high lactate levels are fatigue, pain and muscle cramps. Floating gravity free in floatation tanks allows lactic acid to be transported out of the muscles faster thereby considerably reducing muscle contractions and strain.

#### Mental Aspects

Lactate production can seriously impede the ability of the athlete to think clearly. Especially in the final phases of a game or competition, it is often particularly difficult to remain calm, quiet and concentrated. By reducing lactate levels, floating has an extremely positive effect on strength of mind, strategic thinking and mental clarity. It has been scientifically proven that floating reduces lactate levels in the blood.

### Muscle Growth

During training, muscles are stimulated with a very high intensity. Strengthening and muscle growth, however, nearly exclusively takes place when in a state of relaxation. When experiencing weightlessness, all groups of muscle can relax deeply. Using a floatation tank after intensive training is said to lead to more rapid muscle growth.

When building up muscle, the best results are achieved by stimulating muscle growth during training and then allowing for deliberate relaxation.

### Prevention of Injuries

Most sports injuries do not occur through direct physical contact, but by incorrect muscle tension, overstretching or pulled muscles. The best way to prevent injuries like this is to loosen muscles prior to exercise (warm-up exercises). In a floatation pod, general muscle tension is reduced significantly, even after just short periods of time floating. This can lead to substantially reducing the risk of such injuries.

## Convalescence and Pain Relief

Several university research projects have shown that by allowing the body lie suspended and gravity free in a floatation pod, healing processes especially of sports injuries are accelerated.

In their ongoing research on the psycho-physiological effects of floating, neurosurgeon Dr. John Turner and psychologist Thomas H. Fine of the Medical College of Ohio have discovered that a session in a floatation tank can relieve pain considerably and even create slight feelings of euphoria. Dr. Thomas Fine reports that “practically all patients suffering from chronic pain claimed that they had forgotten their pain while floating. “ Floating increases the secretion of endorphins in the body, natural opiates, which reduce pain and create pleasure.

### Sources and further reading:

Baker D.A. (1990). The Use of REST in the Enhancement of Sports Performance- Tennis. *Restricted Environmental Stimulation: Research and Commentary*. pp.181-187. Toledo, Ohio: Medical College of Ohio Press.

Bond J. (1997). “To float or not to float” ... is that the question? How to maximise your use of the Sport Psychology float tanks.

McAleney P. & Barabasz A. (1993). Effects of Flotation REST and Visual Imagery on Athletic Performance: Tennis. *Clinical and Experimental Restricted Environmental Stimulation: New Developments and Perspectives*. pp.79-86. New York: Springer-Verlag New York Inc.

Richardson S. (1997). Enhancing Rowing Ergometer Performance Through Flotation REST. 6th International REST Conference. San Francisco.\*

Stanley J., Mahoney M.& Reppert S. (1982). REST and the Enhancement of Sports Performance: A Panel Presentation and Discussion. 2nd International Conference on REST. pp.168-183. Toledo, Ohio: IRIS Publications.

Wagaman J. & Barabasz A. (1993). Flotation REST and Imagery in the Improvement of Collegiate Athletic Performance: Basketball. *Clinical and Experimental Restricted Environmental Stimulation: New Developments and Perspectives*. pp.87-92. New York: Springer-Verlag New York Inc.