

## Water Exercise as a Tool for Chronic Pain & Chronic Stress Management By Dr. Maria Sykorova Pritz and Dr. Tomas Gregor, PhD

Chronic Pain is a condition where pain has been persistent for more than three months, well past the time needed for normal healing, and it is a complex synergy of physical, social, behavioral, emotional and environmental influences (Engel, 1977). Physicians and medical schools worldwide now recognize chronic pain as a serious problem. According to the Arthritis Foundation, by 2030 it is projected that over 64 million people in the USA alone will suffer from some form of arthritis pain.

Our mission and role as aquatic health and fitness professionals are to help individuals in chronic pain to achieve the highest possible fitness level through healthy lifestyles and aquatic exercise. But first, we have to establish some specific goals for change in the following parameters:

- Physical

Exercise, in many different forms, is the most important part of the treatment and healing regimen for chronic pain and fights its debilitating effects in many ways. Water is probably the oldest medium of physical treatment with both physiological and psychological benefits. Water – especially heated pools - provides an environment where one can move and exercise with little or no pain. As a benefit of buoyancy, the chronic pain population has the ability to move with lower energy effort (energy preservation). The resistance will help increase muscular strength and endurance because the resistance of water is significantly greater than air. The assistance of water will allow for comfortable passive stretches.

- Activity

With chronic pain too much avoidance of physical activity can cause health problems, such as muscle atrophy. Inactivity can lead to diminished quality of life and negative mood, which may increase the fear of pain, leading to an increase in discomfort and suffering. Water exercise programs represent pleasant activities. Most people in chronic pain find water exercise programs positive, rewarding and useful for enhancing mood. This builds hope and provides the motivation to continue activity.

- Mood

The many losses that can follow the onset of chronic pain contribute to depression, anger and anxiety. Many individuals with chronic pain experience intense, persistent periods of negative emotion (such as fear, grieving and helplessness) combined with a difficulty to feel or think like one's former self. Water provides an environment where one can focus on his or her abilities, not disabilities. One can exercise with little or no pain while experiencing more freedom in movement. This can restore self-confidence, which, in turn, can reduce depression, anger and anxiety.

- Interpersonal

When participating in a group, the social interaction serves as a tremendous benefit in gaining emotional confidence and developing sociability. This can provide an additional support group outside of family and friends.

- Relaxation

Tense muscle, racing thoughts and worry are common symptoms reported by people in chronic pain. Learning to relax is a useful skill and one that has shown significant health benefits. It involves active concentration on thoughts, feeling and bodily sensations. The water provides a stimulating and playful environment for a state of overall well-being. It is relaxing for the nervous system, strengthens the respiratory system and enhances blood circulation and the immune system. Water exercise promotes muscle relaxation, therefore, enhancing relief of pain.

- Reducing Use of Medication (if not medically contraindicated)

Water exercise will enhance the healing process of the entire body by:

1. Increasing blood flow to the muscles, which enhances the transport of oxygen and nutrients to the muscle fibers, helping to restore and maintain the health of the muscle tissue.
2. Enhancing production of T cells. It has been validated by research that with exercise, the thymus gland releases a greater abundance of “killer T cells” to boost the immune system and fight foreign cells in the body.
3. Increasing the level of serotonin and growth hormone, which are the exact pain reducing and muscle repair hormones that people with chronic pain may lack.
4. Increasing the production and flow of synovial fluid into and out of the cartilage in the joints. The consistent movement of synovial fluid in and out of the cartilage keeps it healthy and well nourished. Healthy joints are a great benefit to chronic pain sufferers.

Aquatic programs that follow the SykorovaSynchro Method will help stabilize and harmonize emotional, social, physiological, spiritual and intellectual aspect of health. Additionally, these programs will enhance body awareness through somatic exercises, breathing exercises, slow passive stretches and easy movements. Movements are performed at a low impact aerobic pace. This SykorovaSynchro Method is accomplished by applying the neurological rule:

***The less muscular effort, the more enhanced is sensory awareness for learning and for physical performance.***

By enhancing communication between the brain and the rest of the body, we bring about positive changes in our life. A new sense of self awareness and control, reduction in stress, revitalization of energy flow, enhanced postural alignment and flexibility, improved circulation and enriched creativity can all be experienced. The SykorovaSynchro Method will help to identify which muscles and/or movements are involved in particular discomfort and teach the most efficient way to relieve the excess tension.

SykorovaSynchro is a therapeutic body and mind balancing method that integrates techniques in mental health treatment, physical conditioning, rehabilitation and pain management. It is a somatic solution to living under stressful demands and still remain healthy – both physically and emotionally.

## **Structuring a Water Fitness Class Based on the SykorovaSynchro Method**

- **Goal**

A somatic solution to improving the body by stimulating and using the brain's natural process of sensory motor learning.

- **Vision**

When the participant is in a relaxed but alert stage of awareness (achieved by Total Body Synchronization Method), he or she is encouraged to move in an individual manner. This means that there is no right or wrong technique, simply a personal expression of movement regulated by personal ability and the "window of comfort/discomfort zone". With this new found awareness, the participant can ultimately perform better and the foundation is set to avoid further injury and/or dissociation of the body and mind.

- **Class Description**

A low impact and/or no impact water fitness class that promotes body awareness through somatic exercises, breathing exercises and exercises performed at a low impact aerobic pace.

**Duration of Class:** 45 minutes

**Class Size:** 20-25 participants preferred

**Equipment:** Noodles (two per person)

**Format of the Class:**

**Warm Up:** 5 minutes. After entering the pool, participants walk at a comfortable pace moving forward, backward and sideways. Highlight proper body mechanics and balance.

**Somatic Exercises:** 35 minutes. These exercises are self-sensing. These internalized perception ("feels like") movement patterns work the brain as well as the body. They change the muscular system by changing the nervous system through a gradual and progressive program, which trains participants in the sensitivity and control of the muscles in the middle of the body, legs, arms and neck. The primary task is to focus attention on the internal sensation of movement. (Performed with two noodles per participant.)

- Breathing Exercises are modified by shallow and deep breathing. Participants concentrate on feelings within and on visualizing the sound of exhaling air.
- Progressive Muscle Relaxation starts by relaxation of both middle and lower body and of upper extremities (fingers, wrists, elbows, arms.) Participants slowly move their legs in all directions by using the drag effect of water. This passively enhances pelvic moves.

- Body Alignment Exercises are maximized by the water's assistance, resistance and support. Repetition of slow bending and extending moves, slow turns and spins are performed at a comfortable and easy pace.
- Low-Impact Aerobic Exercises focus on improving balance, coordination and flexibility. Include water walking, cross-country walking, dance steps, and walking in different directions with closed eyes.

**Warm Down:** 5 minutes. Include water Tai-Chi and deep breathing exercises.

The effectiveness of the SykorovaSynchro Method was documented in a research study, "The effect of water exercise on selected aspects of overall health on a fibromyalgia population." The objective of this study was to determine the effect of a water exercise class on the overall health of a study group diagnosed with fibromyalgia (FMS). The conclusion from results based on self-screening, established that the structure and method of teaching the water class benefited the FMS population by relieving symptoms. All participants in the study improved overall health. After 14 weeks, the participants experienced better sleeping habits, less pain, stiffness and soreness, as well as reporting more energy/strength. They reported feeling less tired and at an emotional level, reported feeling more fulfilled. The researchers believe this study indicates an improvement in the quality of participant's life as well as their capacity to cope with this health condition.

Editor's Note: Maria has developed a home study CDROM course, "Application of Water Exercise for Health-Fitness Professionals Specializing in Pain Management," with Fitness Learning Systems (FLS). The course is available at [www.fitnesslearningsystems.com](http://www.fitnesslearningsystems.com) <<http://www.fitnesslearningsystems.com/>> and provides AEA CECs.