Aqua Neuro-Muscular Conditioning

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When we move, some muscles must contract while others relax. This happens automatically. The central and peripheral neurological system drives the movement command through sensory and reflex behavior. The sensory system takes information as the body moves through space; changes position, posture, speed; and responds to gravity and different forms of tactile feedback. The motor system creates and controls tension in stabilizing and moving muscles. It responds to sensory feedback with gross or fine motor control.

Motor skill training methods are applied in Neuro-Muscular Conditioning, which normally consist of adaptive physical education, movement education, and gymnastics.

So many of the injuries that occur as we age are the direct result of falls and other balance related difficulties. The Neuro-Muscular Conditioning Program improves vestibular control, balance, coordination and agility. Balance (the sensing of gravity), coordination (the harmonious functioning of muscles or groups of muscles during the execution of movements), agility (the ability of the joints to move through a full range of motion with quickness) are relied on by the brain as a baseline calibration point, and it’s also excellent at improving more complex cognitive processes generally. One of the main reasons people over the age of 60 visits a doctor is because of balance related issues.

In my view, as a physical and health educator, Health-Fitness Education is one of the most important educational subjects to influence, maintain and improve people’s (any age) physical, emotional and learning abilities (Experience your body the way it is meant to be). Consistent program use leads to better cognitive functioning which tends to decline as we age.

As a part of my doctoral thesis, I developed an educational method called the SykorovaSynchro Method. The core of this method is to apply the neurological rule: “The less muscular effort, the more enhanced sensory awareness is for learning and for physical performance.”

The purpose of the SykorovaSynchro Method is to structure an exercise program with the use of sensory integration/ mental imagery, somatic movement, and awareness exercises to enhance communication between the brain and the rest of the body. It helps to achieve positive changes in one’s life - a new sense of self awareness and control, stress reduction, revitalization of energy flow, postural alignment and flexibility, circulation, sensory-motor learning ability and creativity.

The SykorovaSynchro Method has three stages/ progressive levels which works as a training protocol that integrates our auditory, visual, motor planning, tactile, balance,
body positioning and neuro-feedback systems in order to strengthen neurotransmission and actually calibrate the brain’s functions. These systems do not act independently, even though we sometimes describe them as if they do, but are instead layered upon one another, constantly interacting and coordinating over the same pathways to share information and execute our intentions.

1. To balance function of sensory-motor cortex via mental imagery (sometimes called visualization, guided imagery), progressive muscular relaxation and control breathing. Result is relaxed but alert state of awareness.

2. To enhance sensitivity/ awareness of somatic movement (movement regulated by feeling, mental imagery, sensation). Result is ability to perform somatic/ intuitive movement.

3. Ability to perform conscious exercises – via mental imagery, sensation. Positive result is in neuro muscular conditioning/ function - postural improvement, balance, coordination, flexibility and agility.

Notes: With a self-rating method, 6 participants of the research group, who had symptoms typical of Fibromyalgia Syndrome (FMS), were evaluated on aspects of their overall health. Over the course of the 14-week study, the water exercise class, based on principles of SykorovaSynchro Method not only improved the participants’ overall health and well-being, but also helped them to control, maintain and improve their fibromyalgia symptoms.

• Structure of Water ExerciseProgram based on SykorovaSynchro Method
  Goal:
  A somatic solution to improving the body by stimulating and using the brain’s natural process of sensory motor learning. Positive result is in neuro muscular conditioning/ function - postural improvement, balance, coordination, flexibility and agility.

Vision:
When the participant is in a relaxed but alert stage of awareness (achieved by SykorovaSynchro Method), he or she is encouraged to move in an individual manner, meaning 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 further dissociation of the body and mind.
Water Exercise Program Description:

A low impact and no impact water fitness class that promotes sensory motor learning via body awareness, 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 (2 per person) EZ Grip Bouy- (2 per participant)

Format of the water exercise program

Warm up: 5 minutes. After entering the pool, the participants start to walk a comfortable pace, walking forward, backward, and sideways, highlighting proper body mechanics and balance.

Somatic Exercises exercise 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, at its center of gravity, legs, arms and neck. The primary task is to focus attention on the internal sensation of movement. (Performed with noodles -2 for participant) 35 minutes:

- 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 effects of water (assistance, resistance and support). Repetition of slow bending and extending moves, slow turns and spins are performed at a comfortable and easy pace.
- Ability to perform conscious exercises – via mental imagery, sensation. Positive result is in neuro muscular conditioning/ function - postural improvement, balance, coordination, flexibility and agility.

Warm down: 5 minutes. Water Tai-Chi moves, deep breathing exercises.

Water environment is Ideal medium for strengthening and improving sensory integration and by this brain function at any age along with physical conditioning like aerobic exercise, walking, strengthening and stretching which will enhance your chances of aging productively and gracefully.
Bibliography:


