

## Therapeutic Noodle Progressions

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Aquatic therapy provides a unique option for those who are experiencing difficulty with their exercise program on land. The buoyancy of the water reduces the effect of gravity on the body, thereby minimizing painful compressive forces throughout joints.

Since the body can perform improved movements in water versus on dry land, rehabilitation begins more rapidly in the water by increasing the range of motion, flexibility and muscle strength of the joints. It is important to recondition/stimulate the patients' entire body and nervous system to allow the healing process to initiate and function.

To make the patient feel more comfortable with their buoyancy, balance and motor control while performing water therapy exercises, the depth of the water (shallow to deep), the floating equipment, such as aqua noodles, will assist. An aqua noodle is made from high-density foam and with its multipurpose use it provides an excellent choice of buoyant support for the patient. The standard measurement for the aqua noodle is 3 x 54 inches.

To benefit from the "Therapeutic Noodle Progression" concept the following needs to be adhered to:

First, the focus needs to be on exercises which will equally develop all muscles (200 muscles in our body work in pairs). Patients will experience poor coordination and balance if muscular balance is not equally developed. Water exercises with assistance of an aqua noodle and its logical progression will develop muscular strength in both directions, it will increase range of motion in joints along with improving overall body harmony.

All exercises with the assistance of aqua noodles have to be done in a guided pain-free movement zone.

The therapeutic noodle progression is:

1. Exercises to improve and maintain balance

By definition balance is a state of equilibrium or equipoise; equal distribution of weight, amount, etc. Components of water exercise with assistance of aqua noodles have this therapeutic progression for balance improvement and maintenance:

- Equilibrium: orientation to the vertical position via nerve signals from the inner ear
- Body alignment: a kinesthetic sense of how body segments are linked
- Pelvic stability: a consistent pelvic angle during activity

- Coordination between the upper or lower body: an interval awareness of their relationship
- Muscle tone: the use of muscles to accomplish all of the above components with the least amount of effort

2. Exercises to achieve coordination.

The physiological definition of coordination is the harmonious functioning of muscles or groups of muscles during the execution of movements. During a state of pain or tension, muscles are always contracted. Coordination is also the capacity of the human organism for rhythm and interconnection. Lack of coordination creates tension leading to a cycle of activation-relaxation being replaced by high activation- low activation. Uncoordinated people are tense. Water resistance slows down the movement and increases reaction time, which will give time within the exercise to relax specific muscles. Coordination is the practice of effort and relaxation at the same time. The aqua noodle with its buoyancy can create gentle muscular effort, which helps to improve the sensory motor learning ability of patients as well.

3. Exercises to achieve flexibility.

A person's flexibility refers to the ability of the joints to move through a full range of motion. Having muscular flexibility allows for more movement around the joints and it can be achieved with therapeutic progression of aqua noodle passive and active stretch sequences, which are a great way to increase flexibility and keep body protected from injury.

4. Exercises to increase muscular endurance.

Muscular endurance is the ability of a muscle or muscle group to do repeated contractions against a less-than-maximum resistance for a given period of time. Therapeutic noodle progressive exercises are an ideal and fun way to achieve this functional muscular ability.

5. Exercise for strength to tone and condition muscle.

Muscular strength is an ability of muscle or muscle groups to exert a single effort. The buoyancy of aqua noodles serve as resistance and create load or tension for extended periods of time to strengthen tone and condition involved muscles. Conditioning must always be a component of healing. In water strengthening, healing begins sooner, impact is adjusted and progressive. Clinical results show that patients who have had rehabilitation and post conditioning in water have better and longer lasting results.

When patients adapt to a movement pattern, which often becomes rigid, their performance efficiency deteriorates. However, patients quickly can adjust to aqua noodle exercise programs.

Recommended are new and different movements to be used and personalized in every session. This is called “neochoreography”.

Water by nature is an ideal medium for neochoreography because water stimulates sensory motor input, a sense of balance & resistance. The body center is relocated from the center of gravity to the center of buoyancy. Movement can be performed in any angle and direction. This creates natural therapeutic progression of changes in the exercise prescription to be more challenging and effective by adjusting weight, repetitions, intensity, speed, duration, resistance and/or exercise selection.

In the “Therapeutic Noodle Progressions” workshop, participants will learn how to form water exercises into personalized sequences of therapeutic progressions. These will allow the restoration of the patients’ mobility and freedom of movement with improved balance via slow passive stretches, and suspended water exercises with increased resistance for enhanced upper, core and lower body conditioning and agility (neuromuscular conditioning).

The water's natural resistance and buoyancy can assist with recovering from surgeries, illnesses and injuries; can minimize pain and post-operative swelling. Until recently, claims for the psychological and physical benefits of water exercise for people in chronic pain tended to precede supportive evidence. Results showed that a population with chronic pain condition (arthritis, fibromyalgia, pregnancy- especially low back relief) experienced reduced pain, improved functionally better emotional health (anxiety, depression, and self-reported physical impairment). All studies reported long-term benefits from water exercise (the number of days they felt good).

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