Brookfield East Physical Education:  
Water Aerobics

**Health / Skill Component:** In Water Aerobics, a person is increasing the health component **Cardiovascular Endurance.** This is a fitness component where the heart, lungs, and blood vessels deliver oxygen to working muscles and tissues. When a person’s cardiovascular endurance increases, they are able to increase their intensity and duration of an activity or exercise. Water Aerobics is very similar to jogging or running because a person gets their heart rate up from the resistance of the water. The difference between jogging on land and running or moving in the water, is that in the water you are not pounding on your joints.

**History of the Aqua Jogger:**  
The Aqua Jogger water exercise buoyancy belt was originally developed as a water rehabilitation tool for pre and post surgery patients and world-class athletes recovering from injury in Eugene, Oreg. This unique flotation device soon captured the attention of other athletes around the world who not only found the Aqua Jogger valuable in recovery from injury but as a extraordinary training tool in maintaining the high levels of fitness demanded by competitive sports. The Aqua Jogger became the key that opened the door to the world of impact free deep-water exercise and soon athletes began incorporating water workouts into their regular training regiments.

**Purpose:**  
Water aerobics opens up a new world of fitness for people of all ages and at all levels of fitness. The forgiving water environment is not only effective, but it’s fun and has inspired deep and shallow water classes to start up all over the world. Water acts as a cushion for the body’s weight-bearing joints, reducing stress on muscles, tendons, and ligaments. As a result, aquatic workouts are low-impact and can greatly reduce the injury and strain common to most land based exercises.

**How it works (aqua jogging):**  
Suspended up to your neck in deep water with the Aqua Jogger, you can breathe normally like you do on land as you move through the water. Your feet don't touch the bottom of the pool so there is no impact and the water provides resistance in all directions that you can control by the speed of your movements. Since your body is submerged, the hydrostatic pressure around your body improves cardiac function, lowers blood pressure, and assists the body in tissue healing. The great thing about water aerobics is that you can basically do anything in the water that you do on land. From running and cross-country skiing to jumping and performing aerobics, the individual can be creative to get a great work out.

**Key Definitions:**

- **Buoyancy:** An upward thrust exerted by water on a body, which acts in the opposite direction of the force of gravity. Water’s buoyancy virtually eliminates the effects of gravity-supporting 90 percent of the body’s weight for reduced impact and greater flexibility. For example, a 140-pound woman weighs only 14 pounds in water.

- **Resistance:** Due to viscosity, drag forces and frontal resistance, water provides a resistance, which is proportional to the effort exerted against it. Resistance in water ranges between 4 and 42 times greater than in air, depending on the speed of movement. This makes water a natural and instantly adjustable
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Weight-training machine. Unlike most land-based exercise, water provides resistance to the movement in all directions, which allows all of these directions to be used in the strengthening process. Water’s resistance can be increased with speed and/or surface area and the resistance is proportional to the effort required to move against it.

**Working with Resistance:**

In order to choose the level of intensity in a workout, it depends on how a person utilizes the water’s resistance.

- Consciously work with resistance by finding the path of most resistance-keep all moves below the water line.
- To make easier, bend limbs and move slower. To increase resistance, straighten limbs, cup hands, and increase speed.
- Push and pull the water to work forces equally in both directions in order to achieve balanced muscularity.
- Avoid being a bobber in the water and using buoyancy assisted moves.
- Since water is forgiving, make sure not do overdo it. Listen to your body and pay attention to any injuries.

**Heart rate in the Water:**

The unique properties of water enable your heart to work more efficiently. The hydrostatic pressure of water pushes equally on all body surfaces and helps the heart circulate blood by aiding venous return (blood back to the heart). This assistance to the heart accounts for lower blood pressure and heart rates during deep-water exercises versus similar exertions on land. Consequently, a person’s heart rate is an estimated 10-15 beats lower per minute during suspended water exercise than for the same effort on land.

**Posture:**

The key to any safe, effective exercise or movement is correct body alignment.

- As a person adjusts to the buoyancy, they may find themselves hunching over the water. To adjust to this new environment and attain correct body position, lean back slightly and try a small flutter kick with feet directly under yourself.
- Aim for an even counterbalance between your arms and legs, as when you walk.
- Vertical body alignment not only protects against back strain, but also strengthens your back, abdominals, and surrounding muscles. Have head up, chest lifted, shoulders positioned directly above hips, abdominals tight, and buttocks squeezed together with pelvic tilt for proper alignment.
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