

# Exercising the Upper Body Muscles in Water

by Katherine Preston



Last week, we focussed on exercising the lower body muscles in water. This week, let's discuss various criteria which affect the performance, demand and intensity of any upper body movement in an aquatic environment.

Note: Prior to exercising, please consult with a M.D., regarding your health status, if necessary.

**The speed of a movement** affects the performance of a water exercise. On land, the slower you perform a movement involving resistance against gravity, the greater the muscular benefit. However, slow water movements offer less resistance, due to buoyancy. Instead, greater muscular benefit results when a water movement is executed at a faster speed. For example, less muscular demand occurs when raising your arm slowly in water. By contrast, greater power, strength and force and muscular demand are needed to move your arm at an increased speed against the water's weight/ resistance.

**Suitable depth of water** is crucial for achieving the greatest muscular involvement of the upper body. When able to touch the pool's floor, water exercises should be done in chest- deep water (between elbow to armpit). The Range of Motion of all arm movements should remain below the water's surface in order to work against the water's weight, turbulence and density. Suspended movements occur in deeper water without touching the pool's floor.

**Directional change** also affects a water movement's intensity and performance. Very little turbulence results when moving your arms slowly through water in opposing directions. Here, less muscular demand occurs. However, stronger turbulence is created when changing the movement's direction often and quickly, thereby increasing the muscular demand. A good example would be when both arms are raised and lowered quickly under the water's surface.

**Arm length** employed in a water movement determines the exercise's intensity. When longer arm levers are used against the water's weight and turbulence, greater muscular demand results. When a shorter arm length is used, the movement is less intense.

**Hand and finger position** effect muscular demand in water fitness. A vertical "slice" position, covering little surface area, offers less intensity. A "fist" position provides increased resistance. A flat, horizontal palm provides the greatest intensity and resistance. Open fingers provide less resistance compared to fingers held tightly with no gaps between them.

In sum, the greatest intensity and upper body muscular involvement in water exercises occur in suitable depth with the use of flat palms, tightly- arranged fingers and long arm levers which move rapidly against the water's strong turbulence and weight. The least degree of intensity and upper body muscular demand occur when an exercise is performed slowly in shallow water with short arm levers and open fingers.

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