



EQUIPMENT OVERLOAD

Adding equipment to your workout is of great benefit to your participants and their training results. Simply stated water fitness equipment provides the opportunity to overload the musculature of the body or to challenge the musculature to benefit with a training effect. Additionally, equipment provides variety and added enthusiasm to the workout and it may even attract new participants to the workout (because it looks like more work!).

That being said many facilities are reluctant to purchase aquatic fitness equipment for a number of reasons and the primary one being cost. One piece of cardio equipment for the gym could cost over \$3,000 yet that would be facilitate purchasing enough water equipment for 25 -30 people (and still have some left over). Why do land gyms have equipment? They need it to attract the clientele to the facility and equipment is understood as being part of a good program design.

The primary or key reason to want equipment is to provide optimal results. Simply stated equipment will yield more results in a lesser time. Generally speaking, if a participant can do more than 25 repetitions of an exercise and not "feel" the muscle – then they are not working enough to benefit the muscles in terms of strengthening. Therefore the client will not change shape.

Muscular Strength is the ability of a muscle group to generate force in a single maximal effort. In order to increase muscular strength, programs must use high resistance and low repetitions and have equipment to provide enough intensity to stimulate a training effect. .

Let's Review the **Principles of Muscular Strength to Design more Purposeful Programs.**

- (1) The Principle of Specificity says that the exercise should target the specific muscle or group that want to strengthen. Large muscle groups like the quadriceps and latissimus dorsi of the back require a large surface area and resistance to really fatigue (or benefit with training). Kickers and boxers help immensely for targeting these muscles.
- (2) The Principle of Overload says that a muscle needs to have progressive stress or greater workload applied over a period of time to increase strength. Therefore if a client is only working with one piece of equipment or no equipment they will never train the musculature enough to benefit with a training effect.
- (3) The Principle of Adaptability states that a muscle will adapt to a particular stress or workload after repeated training, so therefore there are no further gains achieved if you plateau or continue with the same intensity of training. Therefore until the workload is changed or increased there are no further benefits. .
- (4) The Principle of Progression says that the goal of exercise is to gradually increase the workload so that there is a training effect. An example may be for an individual to start with mitts (slice, fist then web) and then add flex paddles with vents open (there are

many options here) and then close one or both vents of the paddle and finally to increase to Boxers held at the end like a kettle jug.

- (5) The Principle of Reversibility states that any strength training adaptations made will gradually decline without a maintenance strength training program. "If you don't use it, you lose it!" The research says that taking the summer off (or missing 8 weeks of training) will indeed atrophy (or shrink) your muscles.

GUIDELINES FOR STRENGTH TRAINING

"The single force a muscle can exert in a single all out effort. To train for strength on land we use on average 50-70% of the weight that a person may lift once."

BLUEPRINT DESIGN:

A) Program needs to reflect:

- (1) Water Depth Preference
- (2) Water Temperature
- (3) Muscle Fiber Type
- (4) Body Composition
- (5) Strength Level
- (6) Motivation & Interest Level
- (7) Equipment Availability

B) REPETITIONS: 8-25 or RPE of 8-9!!!

C) SETS: 1-2

D) INTENSITY: Highest level of Perceived Exertion (RPE) or until they can no longer execute the movement with proper technique.

E) MONITOR INTENSITY: RPE or asking how muscle group feels

F) PROGRESSION VARIABLES – not in exact order as it so very much depends on muscle group targeting:

Enhance overload by adding:

- (1) Add more Force /Acceleration
- (2) Resistance (Change Surface Area and Lever Length)
- (3) Change Working Position
- (4) Assist Buoyancy with Travel
- (5) Resist Buoyancy with Travel
- (6) Go Suspended
- (7) Add equipment (Buoyant, Resistive)

EQUIPMENT EVALUATION

- (1) Purpose of the Equipment and Objective of the Exercise being performed
- (2) What exercises can be performed with this equipment? Are the exercises functional and effective?
- (3) What properties of the water are used?
- (4) Can the equipment be used through various exercise progressions, making it suitable for participants of all ages and fitness levels?
- (5) What are the potential risks?
- (6) What skills are needed to use the equipment?
- (7) How much does the equipment cost? What is the longevity?
- (8) Is the equipment easily stored, replaced, and transported to poolside for use?